Global Journal of Management and Business Research: E Marketing
Volume 21 Issue 1 Version 1.0 Year 2021
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

Does Customer Perceived Satisfaction Determine Profit? Evidence from the Mobile Telecommunication Sector in Bamenda, Cameroon

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GJMBR-E Classification: JEL Code: A19

Strictly as per the compliance and regulations of:

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I. Introduction

The period after the twentieth century has seen a burgeoning interest in the nature of customer satisfaction, its antecedents and consequences - profit (Anderson and Fornell, 1994). As academic concern with customer satisfaction has increased so has business interest. For both academics and managers, the explanation for this interest is the belief that satisfaction will drive improved business performance (Oliver, 1997).

Businesses often focus on profits and revenues as the key indicators to success. This mentality can be seen before and during the industrial revolution period which was powered by manufacturing advances, focused on increasing the number of exchanges or transactions, between buyers and sellers with only limited attention to communication, cost, timing and quality of product, plus little or no on going relationships. Customers became very vital in business during the marketing era of the 1950s when companies could produce what they can sell and not just selling what they can produce as it was during the production era. Since the beginning of the consumption era in marketing, (business.business-key.com 2005) the focus on customer has increased more as the consumption era also shifts to post-consumption; where companies are obliged to render more services in addition to what they provide as offers to their customers. (Armano, 2009).

The business world of today is poised on the cusp of a new age. A significant change is taking place in the ways companies think about profits and revenues. They are realising that, if they completely focus on having the highest revenues and in turn drive more profits to their bottom line, they will be losing sight of what is the most vital and critical key performance indicator today, of any business, large or small, new or old - customer satisfaction. Customer satisfaction is a person's feeling of pleasure or disappointment, which resulted from comparing a product's perceived performance or outcome against his/her expectations. (Kotler, 2010).

In a competitive marketplace where businesses compete for customers, customer satisfaction is seen as a key differentiator and increasingly has become a key element of business strategy. Customer satisfaction is an asset that should be monitored and managed just like any physical asset. The relationship between customer satisfaction and profit maximisation is a vital one. Understanding customer needs becomes crucial, therefore companies and mobile telecommunication companies in this case, have moved from product-centric to customer-centric positions. Customer satisfaction is influenced by the type of service provided. Satisfaction is a challenge particularly in the mobile telecommunication sector as customers can easily switch from one company to another of a better service. Considering the high costs of acquiring new customers amongst others, it is very important to find out what causes customer satisfaction. (Siadat, 2008, cited Van Rie, *et al.,* 2001). High levels of customer satisfaction

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bring several positive aspects to a company; it is believed that customer satisfaction has a positive relationship with economic profit (Anderson, *et al*., 1994). Moreover, it will lower customer's price sensitivity (Fornell, 1992), and contribute to the creation of loyal customers, which in turn implies a stable future cash-flow (Matzler *et al*., 1996). Any organisation that has satisfied customers is bound to increase customer base and hence profitability. Satisfied customers may sell your organisation either consciously or unconsciously.

Complete customer satisfaction is the key performance indicator that is critical to success in business. When focus is on taking care of the customer's best interest and ensuring that delivering the most effective level of service, innovative solutions that bring value to customer base, billing them properly and timely, noting the very important role of service providers only then will all the other stuffs (profits, cash flow and anything else) automatically fall into place (McCarthy, 1990). The principal objective of organisations is to maximise profits and to minimize cost. Profit maximisation can be achieved through increase in sales with lesser costs. One of the factors that can help to increase sales is customer satisfaction, because satisfaction leads to customer loyalty (Wilson *et al..,* 2008), recommendation and repeat purchase.

The mobile telecommunication sector in Cameroon Bamenda is a highly competitive one, made up of MTN Cameroon, Orange Cameroon, Nexttel Cameroon, CAMTEL and Yomee and their partners/distributors, offering, telephones and accessories, Sim cards and accessories, airtime and airtime cards, and internet to its customers amongst others. Each company tries to gain its market share through providing value to its customers and gaining their loyalty.

Most often than not in the business world enterprises fail to plan, implement, control and gather relevant information for customer's expectations and quality of services placed before the customers but they always state their profit expectations and returns in absolute terms. If however such information is being kept, it is usually inadequate or implementation is not carried out systematically and strategically. Maximising customer satisfaction makes an important contribution to maximising profitability, although other factors such as cost control, productivity and marketing strategy also impact the bottom line. By maximising customer satisfaction, you can increase the opportunity for repeat sales to customers, while reducing the cost of sales and marketing something most businesses have turn a blind eye to.

Although customer satisfaction is increasingly seen as an important objective for many businesses, the extent to which it is taken seriously is varied, its measurement is problematic and the precise nature of its impact on financial performance and shareholder value remain the subject of debate. While the existence of a link between customer satisfaction and profit is clearly a central tenet of marketing theory, evaluating the existence, nature and strength of this relationship at the level of the firm has proved problematic. Researchers have had much greater success when focusing on individual behavioural constructs (such as quality and satisfaction and satisfaction and loyalty) and rather less success when exploring the link between behavioural outcomes and financial performance.

With these in mind, the operations of the mobile telecommunications sector in Bamenda has increasingly been running short of the entire service tabled before the customer. Customer satisfaction is the single most important issue affecting organisational survival. Despite this fact, most companies have no clue what their customers really think. They operate in a state of ignorant bliss, believing that if their customers were anything less than 100-percent satisfied they would hear about it. Then they are shocked when their customer base erodes and their existence is threatened (http://www.amazon.com 2005). The key to competitive advantage is proactively gauging customer perceptions and aggressively acting on the findings. The techniques for doing this do not have to be difficult; they just have to be timely and effective. This study is undertaken to research if customer satisfaction of customer expectation and perceived quality and price has a significant relationship with profit in the telecommunication sector in Bamenda. The study therefore seeks to produce empirical evidence addressing the following research questions.

This paper therefore seeks to examine the effect of customer satisfaction and profit of mobile telecommunication companies in Bamenda. Specifically, the paper test the following hypotheses.

H_{01}: There is no significant effect of customer expectation on profit of mobile telecommunication companies in Bamenda

H_{02}: Customers' perceived quality has no significant effect on profit of mobile telecommunication companies in Bamenda.

H_{03}: There is no significant relationship between customers' perceived value and profit of mobile telecommunication companies in Bamenda.

The remainder of the paper consists of four sections. Section two review related literature by linking key concepts together as well as reviewing existing empirical literature. Section 3 is concerned with methodological issues while section four presents and discussed empirical findings arising from the collection and analysis of data. Finally, the last section provides concluding remarks and policy recommendations.

II. Literature Review

a) *Linking Concepts*

Kotler (2016) defines customer satisfaction as a 'person's feeling of pleasure or disappointment, which resulted from comparing a product's perceived performance or outcome against his/her expectations'. Fornell et al. (1996) in their Customer Satisfaction Indicator model defined customer satisfaction as a function of customer expectations, perceived quality, and perceived value. According to Cravens (2000) customer satisfaction is the ability of a good or service meeting or exceeding buyers' needs and expectations. Boone and Kurtz (1995) say customer satisfaction indicates how well the product use experience compares to the buyer's value expectations. And reasen (1977) saw customer satisfaction as depending on the perceived performance of a product and supporting services and the standards that customers use to evaluate that performance. Horold and Rod (1998) says you cannot talk of customer satisfaction without talking about customer expectation and perceived performance of service, the two models of satisfaction. Customer satisfaction is defined by one author as "the consumer's response to the evaluation of the perceived discrepancy between prior expectations and the actual performance of the product or service as perceived after its consumption" (Tse & Wilton, 1988) hence considering satisfaction as an overall post-purchase evaluation by the consumer" (Fornell, 1992).

A customer is a stakeholder of an organization who provides payment in exchange for the offer provided to him by the organization with the aim of fulfilling a need and to maximize satisfaction. Before the introduction of the notion of an internal customer, external customers were, simply, customers. Quality-management writer Joseph M. Juran popularized the concept, introducing it in 1988 in the fourth edition of his Quality Control Handbook (Juran 1988). The idea has since gained wide acceptance in the literature on total quality management and service marketing; and many organizations as of 2016 recognize the customer satisfaction of internal customers as a precursor to, and a prerequisite for, external customer satisfaction, with authors such as Tansuhaj, Randall & McCullough 1991 regarding service organizations which design products for internal customer satisfaction as better able to satisfy the needs of external customers. Research on the theory and practice of managing the internal customer continues as of 2016 in a variety of service-sector industries.

Customer satisfaction in the mobile telecommunication sector include meeting customers' expectations of (speedy service delivery, prompt aftersales service, security, parking space, attractiveness), perceived quality, and perceived value of service provided to the customer. Satisfaction varies from one person to another because it is utility. "One man's meal is another man's poison," an old adage stated describing utility; thus highlighting the fact that it is sometimes very difficult to satisfy everybody or to determine satisfaction among group of individuals. Because of increased competition, mobile telecommunication companies are required to be more customers focused. Customer happiness, which is a sign of customer satisfaction, is and has always been the most essential thing for any organization.

b) *Development of Customer Satisfaction*

The achievement of customer satisfaction has become a good business practice that businesses strive to achieve (Szymanski & Henard, 2000 cited in Yu et al, 2005). Several studies have identified the factors that sums up customer satisfaction over the years (Fornell et al., 1996; Yu et al 2005; Zeithaml et al., 2009). These factors are mostly similar in what aspect of customer satisfaction they are measuring including customer expectation and perceived quality and perceived value

c) *Customer Expectation*

Customer expectation encompasses everything that a customer expects from a product, service or organisation. Customer expectations are created in the minds of customers based upon their individual experiences and what they have learned, combined with their pre-existing experience and knowledge. Customers will have both explicit and implicit expectations regarding the product or service which they have purchased. They will have performance expectations which include a dynamic element due to anticipated changes to the product or service over time. Importantly, they will also have interpersonal and service-level expectations which relate directly to the customer relationship and interaction with a business or organisation. Steve and Kim (2003) holds that, customer expectation is a belief about product or service delivery that serve as standards or reference points against which performance is judged. Customer expectations are a measure of the customer's anticipation of the quality of a company's products or services. Expectations represent both prior consumption experience, which includes some non-experiential information like advertising and word-of-mouth, and a forecast of the company's ability to deliver quality in the future. Critical to relation management is a thorough knowledge about customer's expectations.

d) *Perceived Quality*

Perceived quality is a perception by the customers, how they perceive the overall quality or superiority of a product or service with respect to its intended purpose, relative to alternates. It refers to the quality that customers acknowledge via the look, the touch, and the feel. For example, in a display room, the customer would first take a glance around the iPhone

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11, then touch it and check the quality of the details. Eklöf (2000) suggested that perceived quality can be distinguished into perceived product quality and perceived service quality; where perceived service quality is the assessment of recent consumption experience of associated services like customer service, range of services and products, conditions of product display while perceived products quality relates to the attributes of the core product and product. Service quality is "the difference between customer expectations and perceptions of service" or alternatively as "the customer's satisfaction or dissatisfaction formed by their experience of purchase and use of service." (Gronroos, 1984 and Parasuraman et al, 1988). Parasuraman, Zeithaml and Berry, 1988 developed the SERVQUAL tool for the measurement of service quality as a determinant of customer satisfaction. The tool is helpful in analysing service quality and describes customer satisfaction to be the gap between the customer's expectations and their actual experiences. Parasuraman (1985) therefore proposed that service quality (Q) be measured by subtracting the customer's perception scores (P) from the customer's expectations(E). Service quality is thus Q=P-E. The tool is a widely accepted standard for analysing the various dimensions of service quality (Buttle, 1994).

In order to measure service quality, the researcher must operationalize the construct (Leblanc and Nguyen, 1988) because the concept of service quality is not a one-dimensional concept but rather a multidimensional construct. In effect, Parasuraman, Zeithaml and Berry (1985, 1988) identify ten dimensions of service quality which are: reliability, promptness to react (responsiveness), expertise or competence, ease of access, courtesy, communication, credibility, security, understanding, knowledge of the consumers, and tangible features. According to these authors, these determinants permit to form expectations and to assess the performance of service. These determinants are classified by them according to a typology by Darby and Kami (1974): research, experience and beliefs determinants.

Studies by Parasuraman, Zeithamls and Berry (1986) reduced the determinants of services quality to five dimensions. These include:

Reliability: is the ability to perform the promised services dependably and accurately.

Tangibility: Is the appearance of physical facilities, equipment, personnel and communication materials. It also covers all physical products involved in service delivery and even other customers.

Assurance: The knowledge and courtesy of employees as well their ability to convey trust and confidence.

Empathy: It is the provision of caring and individualized attention to customers.

Responsiveness: This describes the willingness to be at the service of customers, provide prompt service and how fast that service is given.

Zeithaml (1988) suggested the addition of four other factors to the five dimensions already proposed by Parasuraman (1985) for a more comprehensive assessment of service quality. They included;

Communication: Is the propensity to communicate with the customer in a way they understand and deem natural as well.

Credibility: Refers to being able to trust the supplier

Courtesy: This refers to the demeanour of the supplier, that is how polite or kind they are.

Access: It is ease with which the customers can reach the supplier. It factors in business opening hours, business availability, position etc.

e) *Perceived Value*

Perceived Value is a measure of quality relative to price paid – value for money (Anderson et al., 1994). It is the customers' evaluation of the merits of a product or service, and its ability to meet their needs and expectations, especially in comparison with its peers. Marketing professionals try to influence consumers' perceived value of a product by describing the attributes that make it superior to the competition. It is asserted that price has more impact on satisfaction in a customer's first purchase experience but a lesser impact on satisfaction for repeat purchases. The factor "perceived value" is also similar to price but relates more to an aspect of pricing described as demand-based pricing (Zeithaml et al., 2009). The influence of price on satisfaction has been given a lot of attention by researchers over the years (for example Anderson et al., 1994; Salvador et al., 2006). Salvador et al. (2006) stressed that the concept of price should be expanded to include the actual cost of the service and other associated costs. They suggested that price has two dimensions: the objective price paid (monetary) and the cost of obtaining the service (how adequate the fees for the labour performed by the customer and in comparison with the cost of other services). Zeithaml (1988) provided a precise classification of price component into objective price, monetary price and sacrifice. Salvador et al. (2006) suggested that price should include value, benefit and cost, and that customer received value when the benefit from a product or service is more than the cost of buying it. Horovitz (2000) suggested that services be limited to the strategy of 'outpacing' – a service that can reduce its costs, reinvesting all or part of the savings from lowering the price to customers, and at the same time maintaining or even increasing the benefits to increase value for the customer. Bei & Chiao, (2001); Anderson et al., (1994) have found that the price paid for a product or service plays an important in influencing customers' satisfaction and loyalty to a company. Anderson et al. (1994, p. 54) "…customer satisfaction is dependent on value, where value can be viewed as the ratio of perceived quality relative to price or benefits received relative to costs incurred". Jiang & Rosenbloom (2005) postulated that customers' perception of price has a positive impact on satisfaction and behavioural intentions. According to Yieh et al. (2007) asserted that customer may use price as an extrinsic signal of service quality by a company, for example, where quality is difficult to assess.

In economic terms profit is defined as a reward received by an entrepreneur by combining all the factors of production to serve the need of individuals in the economy faced with uncertainties (Nitisha 2015). Profit describes the financial benefit realized when revenue generated from a business activity exceeds the expenses, costs, and taxes involved in sustaining the activity in question. Profit is the money a business pulls in after accounting for all expenses. Whether it's a lemonade stand or a publicly-traded multinational company, the primary goal of any business is to earn money; therefore a business performance is based on profitability, in its various forms. For understanding the profit as a business objective, you need to learn two most important concepts, such as economic profit and accounting profit.

According to Hoyer and MacInnis (2001), satisfied customers form the foundation of any successful business as customer satisfaction leads to repeat purchase, brand loyalty, and positive word of mouth. Coldwell (2001): "Growth Strategies International (GSI) performed a statistical analysis of Customer Satisfaction data encompassing the findings of over 20,000 customer surveys conducted in 40 countries by Info Quest. The conclusion of the study was: A totally satisfied customer contributes 2.6 times as much revenue to a company as a somewhat satisfied customer. A totally satisfied customer contributes 17 times as much revenue as a somewhat dissatisfied customer. A totally dissatisfied customer decreases revenue at a rate equal to 1.8 times what a totally satisfied customer contributes to a business". Zairi (2000): "There are numerous studies that have looked at the impact of customer satisfaction on repeat purchase, loyalty and retention. They all convey a similar message in that: Satisfied customers are most likely to share their experiences with other people to the order of perhaps five or six people. Equally well, dissatisfied customers are more likely to tell another ten people of their unfortunate experience. Furthermore, it is important to realize that many customers will not complain and this will differ from one industry sector to another. Lastly, if people believe that dealing with customer satisfaction/complaint is costly, they need to realize that it costs as much as 25 percent more to recruit new customers".

f) Empirical Literature and Gaps

Zhang and Pan (2009) conducted a study on customer satisfaction on profit on state owned enterprises in china. This research project was a study on customer expectation and perceived value and their impact on profit on government services of state owned enterprises in China. The study used descriptive research design. The study selected a sample of 200 through simple random sampling technique. The study collected both primary data and secondary data where a questionnaire was used as source of data. The researcher administered the questionnaires individually to all respondents. Descriptive statistics was used to summarise the data. This included percentages, frequencies, bar graphs, pie charts and tabulations while qualitative analysis was done in prose. The study concluded customer satisfaction of customer expectation and perceived quality had a significant impact on profitability. Likewise the study also suggested that, customer expectation and perceived quality was more and more top on the service providers list of engagements to assure more profit. Service providers who are the internal customers of the company have the double role of satisfying themselves and the companies' external customers.

A study by Yeung and Ennew (2001) analysed the impacts of customer satisfaction on profitability using a sectorial analysis. According to these authors, the challenges of measuring satisfaction effectively had been extensively researched and there is a growing body of evidence to support the argument that satisfied customers are more loyal. There is rather less evidence to support the proposition that satisfaction contributes to business performance, not least because of the difficulties associated with relating consumer attitudes and behaviour to financial measures of performance as well as the intervening effects of loyalty. Their study focused exclusively on satisfaction and uses aggregate measures from the American Consumer Satisfaction Index (ACSI) for companies across a range of sectors. The results from the study revealed mixed evidence for the positive, impact of satisfaction on business performance using a range of different financial measures.

Mbaneh (2016) conducted a study on effect of customer service on the growth of an organisation case of Ayaba Hotel Bamenda. She opined that the global increase in population growth in recent years has led to an upsurge in the demand for customer service in different parts of the world. The main objective of the study was to examine the effects of customers' service on the growth of an organisation using the case of Ayaba Hotel Bamenda. To achieve the objectives, the study made use of the descriptive survey research design. The population consisted of customer and staff who patronise the services of Ayaba hotel with a sample of 280 respondents who were sampled using a purposive sampling technique. Data was collected through a structured questionnaire, consisting mainly of closed ended questions. The data was analysed through descriptive statistics such as mean, percentages and standard deviation, using SPSS version 20. Hypotheses were verified using simple regression (ANOVA) and the person product moment correlation test. From the findings there is a coefficient of r(60) = .467**, p greater than .0.01 which shows a very strong positive relationship between customer care services and the growth of the company, from the regression model (R2 = 0.006; Adj R2 = 0.011; P =0.001; B= 117), a positive relationship was established between the strategies used by Ayaba hotel to enhanced customer satisfaction. The findings showed that the coefficients of all the service quality dimensions are at 0.05 levels, suggesting a positive relationship between growth and tangibles, responsiveness, reliability, assurance and empathy. The findings confirm the assumption that, improvements in service quality may be beneficial to firm as it helps promote customer satisfaction, which eventually lead to growth of the organisation. It was recommended that there is the need for in-service trainings and refresher courses for the staff of Ayaba Hotel because of the negative responses given by some of the customers about the services offered. These trainings and courses will always position the staff of Ayaba Hotel to be ready for the needs of the customers anytime.

Survey of literature reveals that very little has been done as concerned customer satisfaction and its relationship with profit in the Cameroonian context. In fact, to the knowledge of the researcher, no study of this nature has been carried out in the mobile telecommunication sector of the country despite increasing number of operators entering the sector. Furthermore, most of the existing studies failed to used robust methodological approaches in analysing data as they merely used descriptive analysis and statistical tools such as correlation and chi square techniques. The present paper move a step ahead by analysing the effect of customer satisfaction on profit in the telecommunication sector of Bamenda City using the Multiple Correspondence Analysis (MCA) to construct indexes of various variables and uses regression analysis to capture the magnitude or size of the effect of each component of customer satisfaction on profit.

III. Materials and Methods

The study seeks to investigate the relationship between customer satisfaction and profit of mobile telecommunication companies in Bamenda. The specific context of interest was the city of Bamenda, North West Region, Cameroon. The study will use primary data that will be collected from employees of the mobile telecommunication companies in the North West Region.

Bamenda is a city in North-western Cameroon and capital of North West region. Bamenda also known as Abakwa is the third largest city in Cameroon after Douala and Yaounde with a population of about 2 million inhabitants. It is located 366 kilometres north west of the Cameroonian capital, Yaounde. Bamenda is known for its cool climate and scenic hilly location. Bamenda is an English speaking city even though Cameroonian Pidgin English is the most spoken language by the population.

The Bamenda city was chosen for this study so as to have a sample to work with. Apart from being third largest city in Cameroon, the researcher also lives in the city and it was easier to carry out this study there. Also, time was also another factor that made the researcher to choose Bamenda city, as it couldn't have been easy to study the whole of Cameroon within the given time frame.

The mobile telecommunication sector Cameroon has been in existence since the 2000s. It was dominated by Cameroon Telecommunications (CAMTEL) the country's lone telecommunication company before the liberalisation of the sector by the Ministry of Post and Telecommunication by 1998, (MINPOST 2014). All the mobile telecommunication companies in Cameroon have their head offices in Douala the economic capital of Cameroon and have branches all over the other regions in Cameroon. They offer products and services like; Phones, Simcards, Laptops, Simcard services, Airtime Credit Cards, Mobile Money, Internet and After Sales. These companies are;

Cameroon Telecommunications (CAMTEL), Mobile Telephone Network (MTN) Cameroon, Orange Cameroon, Nexttel and Yomee.

The targeted population for this research was made up employees of all the mobile telecommunication companies head offices in Bamenda and some of their partners/distributors centres selected out of the convenience of the researcher. They include; CAMTEL, MTN Cameroon, Orange Cameroon, Nexttel, Yomee.

The researcher targeted the staff working in these mobile telecommunication companies in Bamenda and their partner offices. This mainly includes managers, cashiers, sales/after sales, marketing officers and field agents. There are broadly two categories of sampling methods: probabilistic methods and non-probabilistic methods, the study opted for the non-probability sampling technique. This technique relies on the personal judgement of the researcher rather than on chance to select sample elements. The type of non-probability sampling technique used is the judgemental sampling. This form of convenience sampling in which the population elements are selected based on the judgement or expertise, arbitrary or consciously decide what elements to be included in the sample because the researcher believes that they are representatives of the population of interest or are otherwise appropriate. This is due to the fact that most of these employees of the mobile telephone companies are always busy and convenient time need to be sort out to their responses. Also, non-probability sampling technique was chosen based on the workers who were deemed appropriate for the study taking into consideration the accessibility of the workers, their willingness to cooperate and their ability to provide desired information. Thus, a sample of 105 respondents was selected from the 5 mobile telecommunication companies and their partners/distributors, to represent the entire population of the study.

The instrument that was used in this research is a questionnaire that was administered to the employees of the mobile telecommunication sector in Bamenda. The questionnaires were administered physically by the researcher. A copy of the questionnaire is presented in the appendix. This questionnaire was developed on the basis of the literature proposed in the previous chapter. The questionnaire for this study is grouped into five main sections and consists mostly of closed ended questions with 5 point Likert Scale.

A profit model is specified below:

$$PROFIT = \beta_0 + \beta_1 CEXP + \beta_2 PQUAL + \beta_3 PVAL + \varepsilon$$

Where, PROFIT is the profit index, β_0 = constant term, CEXP is customer expectation index, PQUAL is customer perceived quality index, PVAL refers to customer perceived value index and β_1, β_2, β_3 are the coefficients of customer expectations, perceived quality and perceived value respectively to be estimated. The measure the magnitude or size of the effect of each of this variable on the dependent variable (profit).

This study employed the Ordinary Least Squares (OLS) technique for the estimation of the parameters of the model specified above. This is because it possesses the best linear unbiased estimator (BLUE) property and has been widely used in literature. Unbiased means that the estimated coefficients are a true representation of the population parameters and it is also said to have the minimum variance amongst all other estimators rendering it efficient. The OLS technique of estimation is used when the dependent variables varies in the range negative infinity to positive infinity. However, it is not much of a problem if in practice the dependent variable fluctuates in a restricted interval say from 1 to 20 provided the variable is continuous in nature. Problems arise only when the dependent variable can take only two values such as binary variables. In this case, the dependent variable of this study (profit index) is a continuous unlimited dependent variable.

It should however be noted that, prior to the OLS estimation, a single index (indicator) of each of the variables presented in the model specification is constructed using the Multiple Correspondence Analysis (MCA) given the nominal value of each of the items that constitute profit, customer expectation, perceived quality and perceived value. Multiple Correspondence Analysis (MCA) is an extension of Correspondence Analysis (CA) which allows one to analyse the pattern of relationships of several categorical dependent variables. As such, it can also be seen as a generalisation of Principal Component Analysis (PCA) when the variables to be analysed are categorical instead of quantitative. Technically, MCA is obtained by using a standard correspondence analysis on an indicator matrix (a matrix whose entries are 0 or 1). The percentages of explained variance need to be corrected, and the correspondence analysis interpretation of inter-point distances needs to be adapted. The constructed indexes are therefore continuous variables which renders the Ordinary Least Squares operant and suitable for the estimation of the above specified model

IV. Empirical Findings

Prior to the regression analysis, the Multiple Correspondence Analysis was sued to construct an index for each the following variables: profit, customer expectations, quality of services and perceived value. Table 1 gives a summary synopsis of the four indexes computed using the MCA.

Table 1: Synopsis of variables indicators

Dimension	Principal inertia	percent	Cumul percent
Perceived profit index (number of axes = 2)			
Dim1	0.1650157	73.01	73.01
Dim2	0.0267546	11.84	84. 85
Total	0.226007	100.00	
Customer expectation index (number of axes = 2)			
Dim1	0.1763457	64.86	64.86
Dim2	0.0536522	19.73	84.59
Dim3	0.0010474	0.39	84.97
Total	0.2719036	100.00	
Customer perception of quality index (number of axes = 2)			

Dim1	0.1228392	86.77	86.77
Dim2	0.0011131	0.79	87.56
Total	0.1415703	100.00	
Customer perception of quality index (number of axes = 2)			
Dim1	0.1658999	37.45	37.45
Dim2	0.118485	26.75	64.20
Dim3	0.050664	11.44	75.63
Dim4	0.0074711	1.69	77.32
Dim5	0.0028641	0.65	77.97
Total	0.4429974	100.00	

Source: Computed by the author from field survey, 2020

Results from the MCA indicate that there are two axes for all the four indexes constructed. Two dimensions with a total principal inertia of 0.226007 which contribution is estimated at 84.85%. The first dimension contributed 73.01% to the index with principal inertia 0.1650157 while dimension 2 contributed 11.84% to the index with a principal inertia of 0.0267546. Thus, the profit index is predicted from two dimensions. Customer expectation index on its own is predicted from three dimensions with the first dimension contributing 64.86% to the index and a principal inertia of 0.1763457 while dimensions 2 and 3 contribute 19.73% and 0.39% to the index respectively. The principal inertia for dimensions 2 and 3 are respectively 0.0536522 and 0.0010474. Two dimensions are used for the construction of customer perception of quality index while five dimensions are used to construct the perceived value index.

Table 2 provides a summary of descriptive statistics of variables used in the model specification.

Table 2: Summary of descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Profit index	105	3.19e-09	1.014599	-0.8518087	2.208668
Expectation index	105	1.92e-08	1.014599	-1.421864	1.27308
Quality index	105	1.60e-09	1.014599	-1.397917	1.802482
Value index	105	-2.24e-09	1.014599	-1.7422	1.270813

Source: Computed by the author from field survey, 2020

Results from table 2 show that the mean profit index is 3.19e-09 with a standard deviation of 1.014599 which shows that there is moderate variability of the profit index values. Profit index values evolve between -0.8518087 and 2.208668. Also, the average customer expectation index is 1.92e-08 with a standard deviation of 1.014599, a minimum value of -1.421864 and a maximum value of 1.27308. Values of customer perception of quality index range between -1.397917 and 1.802482 with a mean value of 1.60e-09. Finally, the average value of customer perception of the value of mobile telecommunication index is -2.24e-09 with values fluctuating between -1.7422 and 1.270813.

In prelude to the estimation of the model parameters, we conducted a correlation analysis in order to determine if there are strong correlations among independent variables which may be a sign of multicolinearity in the model. Table 3 presents the pair wise correlation matrix among variables.

Table 3: Pairwise correlation matrix

	Profit	Expectation	Quality	Value
Profit	1.0000			
Expectation	0.5485 (0.0006)	1.0000		
Quality	0.4244 (0.0110)	0.6143 (0.0001)	1.0000	
Value	0.4212 (0.0117)	0.7309 (0.0000)	0.6148 (0.0001)	1.0000

Note: P-values in parentheses

Source: Computed by the author from field survey, 2020

Results from table 3 reveal that there is a strong correlation among the independent variables (expectation index, perceived quality and perceived value) as the correlation coefficients among these variables all exceed 0.6. Thus, it was important to carry out a formal test of multicolinearity to ascertain that the model does not suffer from multicolinearity. Table 4 presents the results of the Variance Inflation Factors (VIF) test of multicolinearity.

Table 4: VIF results

Variable	VIF	1/VIF
Value	2.37	0.421610
Expectation	2.37	0.422050
Quality	1.77	0.563665
Mean VIF	2.17	

Source: Computed by the author from field survey, 2020

Results from the VIF test show that none of the individual VIF coefficients is greater than the critical value of 10 as prescribed by Gujarati (2004) and the mean VIF is lower than 2.5 which implies that multicolinearity is not a problem in the model. Thus the Ordinary Least square estimation can be used.

Table 5 presents the result of the Ordinary Least Squares (OLS) estimation of the effect of customer satisfaction on profit of mobile telecommunication sector in Bamenda.

Table 5: OLS results of the effect of customer satisfaction on profit

DV: profit index	Coef.	Std. Err.	t	P>t
Expectation index	0.4661351*	0.2291216	2.03	0.051
Quality index	0.4244322**	0.1576203	2.69	0.011
Value index	-0.0070353	0.2292411	-0.03	0.976
_cons	-5.98e-09	0.1488497	-0.00	1.000
R-squared	0.3132	Adj R-squared		0.2467
F(3, 101)	4.71	Prob > F		0.0080
Breusch Pagan Chi2(1)	2.09	Prob > chi2		0.1483

Source: Computed by the author from field survey, 2020

Results from data analysis indicate that the coefficient of customers' expectation index is positive (0.4661) which implies that there is a positive effect customer's expectation from mobile telecommunication on the perceived profit. An increase of customer expectation index by one unit will lead to an increase of perceived profit index by 0.47 points everything else held constant. It should also be noted that this results is significant at 10% level of significance as the probability value (0.051) is greater than 5% but lower than 10%. This result is in line with a priori expectation and permits to reject the first hypothesis of the paper which states that there is no significant effect of customer expectations on the profit of mobile telecommunication sector in Bamenda. This result also conforms to the findings of Zhang (2009) who found that customer expectation was top of the list of enterprises priority in China as it exerts a positive effect on the firm profit. When customer expectations are taken into consideration by business strategies, the customer feels a sense of belonging to the company and is likely to remain loyal to the enterprise and recommend the products of the firm to friends and relatives. This may lead to increase in sales as well as increase in profit.

Similarly, perceived quality of mobile telecommunication sector positively relate to profit given that the coefficient of perceived quality index is positive (0.4244). In effect, an increase of perceived quality index by one unit will lead to an increase in profit index by 0.42 ceteris paribus. This result is significant at 5% as the probability value (0.011) is greater than 1% but lower than 5%. Therefore, it can be concluded that there is a significantly positive effect of customer perceived quality on the profit of mobile telecommunication sector in Bamenda. This result leads to the rejection of the second hypothesis of the study which postulates that customer perceived quality has no significant effect on the profit of the mobile telecommunication industry in Bamenda municipality. Again, this finding is in conformity with theoretical expectation and conforms to the finds of Mbaneh (2016) in Cameroon and Yeung et al. (2002) in China who found that the perception customer have about the quality of services provided by the enterprises determine significantly and positively the profit of the firm. In effect, service quality may constitute a signal of the professionalism of the firm and a tool for retaining customer as it increases customer satisfaction. This can also stimulate customer loyal and encourage higher purchase by increasing customer base. This will go a long way to increase the frim profit.

Contrary to previous findings, further results reveal that the coefficient of perceived value index is negative (-0.0070353) which implies that there is a negative association between perceived value of mobile telecommunication sector in Bamenda and profit. In fact, an increase of perceived value index by one unit will result in about 0.007 points fall in profit perception index everything being equal. However, it should be noted that this outcome is statistically insignificant as the probability value of the variable (0.976) is greater than 0.1 (10%). Thus, we fail to reject the third hypothesis of the study which claims that there is no significant relationship between customer perceived value and profit of mobile telecommunication sector in Bamenda. This outcome contradicts the finding of Zeithaml et al. (2009) who found a positive effect of perceived value on profit. In fact, perceived value is a measure of quality relative to price paid which is the customer evaluation of the merits of a product or service and its ability to meet their needs. Thus, the customers of mobile telecommunication sector in Bamenda may perceive that the prices of their services are relatively higher than the quality of services provided. This may contribute in rendering the customer based unstable which may deteriorate the profit of the Bamenda mobile telecommunication sector.

In terms of validity of the results, the value of the adjusted R square shows that only 24.67% of the variation of profit index is explained by a joint variation of all the variables included in the model. Furthermore, the model is globally significant at 1% as the probability of Fischer statistic (Prob > F = 0.0080) is lower than 1%. Thus, customer expectations, customers perceived quality and customer perceived value of mobile telecommunication sector in Bamenda jointly and significantly explained the perceived profit of the sector. It should also be noted that the model is homoscedastic (has a constant variance) as results from the Breusch Pagan test permitted to accept the null hypothesis since the probability value of Breusch – Pagan Chi2 (0.1483) is greater than 10%. In a nutshell, the results are reliable and valid.

V. Conclusion and Policy Implications

The survival and performance of any company depends on the ability of this company to meet the needs of its customer satisfactorily. Thus, the perception of customer about the company and their satisfaction becomes crucial for business managers. The main objective of this paper was to investigate the effect the effect of customers' satisfaction on profit of the mobile telecommunication sector in Bamenda Municipality. A sample of 105 respondents was constituted using random sampling technique. The Multiple Correspondence Analysis was used to construct indexes of profit, customer expectation, perceived quality and perceived value and the Ordinary Least Squares estimation technique was used to test the hypotheses of the study. Results from this methodological approach indicate that there is a positive and significant effect of customer expectations and customer's perception of quality of services on profit. On the other hand, results also show that customers' perception of value has a negative insignificant effect on profit. Conclusively, there is a significant effect of customer satisfaction on profit of mobile telecommunication companies in Bamenda.

Based on the findings of this paper, the following recommendations can be formulated. First and foremost, mobile telecommunication companies of the Bamenda Municipality should carry out a customer satisfaction survey at regular interval of time, say a year in order to have a mastery of their customers perception of the company and its practices, to have a view of their needs and complaints in order to address them on time. Secondly, emphasis should be place on the value perceived by customer of the company by ensuring that the quality of the products or services rendered should be of standard in order to math with the price as this will contribute in stimulating customer satisfaction and loyalty as well as improving company profit.

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