

PATIENTS' DEMOGRAPHIC VARIABLES AND HEALTHCARE DELIVERY IN PRIVATE HOSPITALS IN NIGERIA

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Abstract

Increased competition among the private health care providers has shifted more attention on marketing strategies. Segmentation strategies are now found as appropriate tools to gain competitive advantage in the healthcare industry. Literature around the world established demographic segmentation as the most common method of marketing segmentation but there seem to be limited empirical evidences on the relationship of the demographic variables and healthcare delivery. In order to broaden the intellectual horizon of the smaller hospitals who are interested in adopting demographic strategies, the paper was set to investigate the influence of patients' demographic factors on healthcare delivery in Oyo State private hospitals. Out of the population of 337 private hospitals under secondary healthcare, Questionnaires were administered randomly among medical doctors, pharmacists/nurses and hospital administrators of 30 private hospitals in Oyo State, 10 hospitals from each from the three senatorial districts that make up the State. Analysing the data using multiple regression, with healthcare delivery as dependent variable against the selected independent demographic variables, the results revealed that the significant positive coefficient value of demographic segmentation based on income indicates that an additional unit of it increases healthcare delivery of private hospitals by 1.236 units and vice versa. Similarly, the significant positive coefficient value of demographic segmentation based on occupation indicates that an additional effort to segment the patients based on occupation leads to improvement in healthcare delivery of private hospitals by 1.319 units and vice versa. By implication, even though all other demographic factors show positive effect on healthcare delivery of private hospitals, each of their effects are not significantly felt. Only the positive influence of demographic segmentation based on income and occupation are significantly felt on healthcare delivery of private hospitals. The study concluded that the adoption of demographic segmentations based on income and occupation are critical to the healthcare delivery. It was therefore recommended that hospitals should make effort to analyse and understand demographic differences especially in areas of income and occupational profiles of their patients for efficient and need-based services.

Keywords: Demographic Variables, Healthcare Delivery, Healthcare Marketing, Hospital Patients, Private hospitals.

Introduction

The highly competitive dynamic environment of the healthcare industry in the recent years have made private hospitals to put extra effort in carving a brand image of the hospital and improving hospitals' viability through marketing strategies that could help to determine and provide the peculiar

needs of certain patients. Healthcare industry have realised that consumer behaviour is affected by factors such as income, sex, age, education, marital status among others because, preferences, choices and decision making pattern change with changes demographic factors. With the understanding that strong patient relationships exist between segmentation variables and customers' loyalty, healthcare providers kept searching for variables that suit their businesses. Kotler and Armstrong (2014) highlighted segmentation variables as Geographic, Demographic, Psychographic and Behavioural. McDaniel, Lamb and Hair (2011) pointed out that marketers often like to segment market on the basis demographic information because it is widely available and often related to customer buying behaviours. Kotler and Armstrong (2014) also stated that no matter basis of segmentation, the marketers need to know the segment demographic characters to assess the size of the target market and reach it effectively. Given the numerous factors associated with the segmentation strategies, and in an effort to gain competitive advantage, smaller hospitals who do not have the skills and resources to serve larger segments adopt demographic basis as a starting point. Private healthcare providers who do not have the financial muscle to go through all the available variables in segmentation strategies, continued their search for closest factors influencing the behaviours of patients. However, factors such as sex, age, occupation and marital status have been found to have great impact on health care decisions in private hospitals.

These demographic factors are therefore the common areas considered by hospital businesses as several socioeconomic traits that could be used to categorize customers for efficient allocation of resources and valued based services. Since demographic variables have been linked to sale of many products and services in other sectors due to their ability to describe the target customers, and Literature around the world established demographic segmentation as the most common method of marketing segmentation but there seem to be limited empirical evidence on the relationship of the demographic variables and healthcare delivery. Arising from this, the paper was set to investigate the influence of patients' demographic factors on healthcare delivery in Oyo State private hospitals. Specifically, the study seeks to examine the influence of selected variables of patient's demographic which constitute critical factors in the healthcare delivery. Demographic segmentation divides the market into segments based on variables such as age, life cycle stage, gender, income, occupation, region. Ethnicity and generation. Due to the available data, the study considered gender, income, occupation and family status among available demographic factors and their influence on healthcare delivery.

Literature Review

Recent developments across the world shows that competition in the healthcare industry is constantly becoming more challenging, and various competitive constraints made hospitals to now realize that they need to identify unique areas of opportunity and match these niches with their valued skill set it, therefore requiring marketers to become more proactive in their approach to marketing by effectively targeting potential clients with messages and facilities designed to increase awareness of their services and to meet specific needs. Literatures including Kurts and Boone (2006); Kotler and Armstrong (2014); Keegan and Green (2008) confirmed that most common method of market segmentation is Demographic Segmentation, but there seem to be limited information on how demographic variables influence health care delivery. Rosecollette, Hoabeb and Karodia.(2014) explained that the core fundamentals of medical practice management are the same today as they were 30 years ago, but what has changed is that the market has become so saturated that the most successful medical practices have now learned to distinguish themselves from their competition by using more modern marketing ideas for medical practices. Durgham and Barghash (2015) pointed that Marketing concept in the hospital is now becoming important for the survival and the prosperity of the health service and at the core is the identification of the existing and potential customer base, an understanding of underlying heterogeneity and the evolving needs and wants of target segments to ensure the development of products and services, coupled with proper positioning to meet the evolving needs of the target segments.

The Concept and Benefit of Demographic Segmentation

The relevance of Demographic Segmentation lies in the fact that demographic segmentation is deeper approach and easily applied because they are easily recognised among set of people. The demographic factors often looked for are: age, gender, race, income, occupation, family cycle etc. Kotler and Armstrong (2006) identified Demographic segmentation as dividing the market into groups based on variables such as age, gender, family size, family life cycle, income, occupation, education, religion, race, generation and nationality. Keegan and Green (2008) stated that demographic Segmentation is based on measurable characteristics of populations such as income, population, age distribution, gender, education, and occupation. Kurtz & Boone (2006) explained that the most common method of market segmentation is demographic segmentation which defines consumer groups

according to demographic variables such as gender, age, income, occupation, education, household size, and stage in the family life cycle. This approach is also called socio-economic segmentation. Marketers review vast quantities of available data to complete a plan for demographic segmentation. According to Kotler and Armstrong (2012), demographic factors are the most popular. Another is that demographic variables are easier to measure than most other types of variables. Vilčeková and Sabo (2013) concluded from the available literatures, that demographic characteristics, such as gender, age, income level, educational level, etc. play an important role in consumer's purchase decision process and can cause deviation from general patterns of consumer decision making and it was agreed that demographic variables need to be incorporated in a model of consumer behavior. He acknowledged that factors such as income, ethnicity gender, and age, have emerged as good predictors of consumer behavior and other market related issues. Demographics are used to identify customers, where they live, and how they like to purchase their products

Demographic Variables in Customer Segmentation

(i) Gender:

Kumar (2014) classifies sex into two categories—male or female. Gender is an obvious variable that helps define the markets for certain products. Man and women have been found to behave differently, as in most cases they want different products and they are likely to have different ways of liking and obtaining these. Gender has an important role in consumer behaviors due to the differences between men and women about expectation, want, need, life He stated that women in our society purchase most of the goods items and other household goods, independent of the decisions of their husbands. But men still make most purchasing decisions relating to automobiles, TVs, refrigerators, cameras and other consumer durables and services. Larsen (2010) explained that gender segmentation is used to differentiate the needs and wants between men and women due to the fact that men and women have different attitudes toward a product. The gender segmentation has long been applied in connection with clothing, hairstyling, cosmetics and magazines and now its been considered for healthcare.

(ii) Age:

Age is another variable that marketers use to segment their markets. As with gender, age seems like an easy distinction to make-baby food for babies,

retirement communities for seniors. But also like gender, the distinctions become blurred as consumers' roles and needs change and as age distribution shifts and projected changes in each group take place. Some personal traits have more importance in market segmentation than others. Age is often a very integral element in homing in on customers. Kumar (2014) explained that Infant, child, adolescent, young adults, matures adults, senior citizens, are different categories. Our wants, needs, desires and aspirations all change with age. Furthermore, the age and life-cycle segmentation are associated with behavioural characteristics and buying patterns.

(iii) Household Type

Kumar (2014) small family, big family and joint family etc. If size of the family is small, it will purchase essentials in small quantity, but if the size of the family is large it will purchase essential products like food, clothes, etc. in large quantity to fulfill the necessity of every member of the house.

Larsen (2010) found that single people have tendency of purchasing new fashionable items due to the fact that they have no other economic obligations. This is opposed to married people, who have a large economic obligation and thereby they prioritize their economy different (Gunter and Furnham, 1992).

(iv) Income and Expenditure Pattern

Marketers often target geographic areas known for the high incomes of their residents. Or they might consider age or household type, when determining potential buying power. Income, Education and occupation. these three factors are closely related in that income is often related to person's education and professional background because they can afford the product or service. Discount retailers tends to focus on middle income earners emphasizing values, affordability or low cost products or services for the people on the budget. Kumar (2014) identified categories of people based on income as Low, low middle, middle, upper middle, upper etc. An individual's income determines to a very great extent the type and quality of products he buys. People with low income are forced to spend most of their money for food, rent, clothing and other essentials. As they become more affluent, they tend to purchase higher quality items and buy more non-essentials. Of course, people earning the same amount of money may spend it in different ways depending upon other personal factors.

(v) Education

Depending on the peculiarity of a given country and education system, the common categories usually are illiterate, primary education, high school education, college education, university education, professional education, etc. researchers have shown that preferences in music, art, entertainment, food, clothing, automobiles etc. are influenced by the extent, kind and quality of one's education. Generally speaking, the more educated a person is, the more discriminating he is.

(v) Occupation

This is categorized into Unskilled, semiskilled, skilled, bureaucrats, professional, businessmen etc. The product preferences of white collar workers tend to be quite different from that of blue collar workers. Their preferred health environments and needs are none widely lobe different the study and prediction of the behaviour of a consumer is eased if we know exactly his occupation.

(vi) Family Status/ Family Life-Cycle

According to Mc Daniel, Lamb, Hair (2011), the demographic factors of gender, age and income often do not sufficiently explain why consumer buying behaviors varies. Frequently, consumption patterns among people of the same age and gender differ because they are in different stages of the family life cycle. The family life cycle (FLC) is a series of stages determined by a combination of age, marital status, and the presence or absence of children. The life-cycle stage consisting of the married-couple household used to be considered the traditional family in the United States.

Concept of Healthcare Delivery

Healthcare can be defined as the maintenance of health via the diagnosis, treatment, and prevention of disease, illness, injury, and other physical and mental in human beings. Healthcare is delivered by health professionals (providers or practitioners) in allied health professions, chiropractic, physicians associates, dentistry, midwifery, nursing, medicine, optometry, audiology, pharmacy, psychology, and other health professions. It includes the work done in providing primary care, secondary care, and tertiary care, as well as in public health. Access to health care may vary across countries, groups, and individuals, largely influenced by social and economic conditions

as well as the health policies in place. Countries and jurisdictions have different policies and plans in relation to the personal and population-based health care goals within their societies. Healthcare systems are organisations established to meet the health needs of target populations. In all cases, according to the World Health Organization (WHO), a well-functioning healthcare system requires a robust financing mechanism; a well-trained and adequately paid workforce; reliable information on which to base decisions and policies; and well maintained health facilities and logistics to deliver quality medicines and technologies. However, health care services in Nigeria can be categorized into the following:

(i) Primary HealthCare

Primary health Care refers to the work of health professionals who act as a first point of consultation for all patients within the health care system. Such a professional would usually be a primary care physician, such as a general practitioner or family physician, a licensed independent practitioner such as an organization and sometimes at the patient's discretion, they may see another health care professional first, such as a pharmacist, a nurse (such as in the United Kingdom), a clinical officer (such as in parts of Africa). Primary care is often used as the term for the health care services which play a role in the local community. It can be provided in different settings, such as urgent care centres which provide services to patient's same day with the appointment or walk-in basis, Primary care involves the widest scope of health care, including all ages of patients, patients of all socioeconomic and geographic origins, patients seeking to maintain optimal health and patients with all manner of acute and chronic physical, mental and social health issues, including multiple chronic diseases.

(ii) Secondary Health Care

Secondary care includes acute care: necessary treatment for a short period of time for a brief but serious illness, injury or other health condition, such as one that a hospital emergency department. It also includes skilled attendance during childbirth, intensive care and medical imaging services. The term "secondary care" is sometimes used synonymously with "hospital care". However, many secondary care providers do not necessarily work in hospitals, such as psychiatrists, clinical psychologists, occupational therapists, most dental specialties or physiotherapists (physiotherapists are also primary care providers, and a referral is not required to see a physiotherapist), and some primary care services are delivered within hospitals. Depending on the

organization and policies of the national health system, patients may be required to see a primary care provider for a referral before they can access secondary care.

(iii) **Tertiary Health Care**

Tertiary Health Care is specialized consultative health care, usually for inpatients and on referral from a primary or secondary health professional, in a facility that has personnel and facilities for advanced medical investigation and treatment, such as a tertiary referral hospital. Examples of tertiary care services are cancer management, neurosurgery, cardiac surgery, treatment for severe burns, advanced neonatology services, palliative, and other complex medical and surgical inventions.

Nigeria Healthcare System

As a basic framework for defining the sector, the United Nations' International Standard Industrial Classification categories health care as generally consisting of hospital activities, medical and dental practice activities, and "other human health activities". The last class involves activities of, or under the supervision of nurses, midwives, physiotherapist, scientific or diagnostic laboratories, pathology clinics, residential health facilities, patient advocates, or other allied health professions, e.g. in the field of optometry, hydrotherapy, medical massage, yoga therapy, music therapy, occupational therapy, speech therapy, chiropody, homeopathy, chiropractics, acupuncture, etc.

The Nigerian healthcare System is organised into primary, secondary and tertiary healthcare levels. The Local Government (LGAs) are responsible for primary healthcare, the State Governments are responsible for providing secondary care while the Federal Government is responsible for policy development, regulation, overall stewardship and providing tertiary care. The 2008 Demographic and health survey showed that the private sector provides over 65% of healthcare services.

Demographic factors and Health Care Delivery in Private Hospitals

For corporate marketing goals, demographic data is collected in order to build a profile for the organization's customer base. The common variables that are gathered in demographic research include age, sex, income level, race, employment, location, home ownership and level of education. Most

large companies conduct demographic research in order to determine how to market their product or service and best capture the target audience. It is valuable to know the current customer and where the potential customer may come from in the future. Demographic trends are also important, since the size of different demographic groups changes over time as a result of economic, cultural and political circumstances. This information helps the company decide how much capital to allocate to production and advertising. Hatten (2009) indicated that, to be successful in business you have to offer your customers more value than your competitors do. That value gives the business its competitive advantage. The stronger and more sustainable your competitive advantage, the better your chances are of winning and keeping customers. Dolinsky and Stinerock (1998) have argued in their study that cultural differences within the consumers lead to different importance being accorded by them to various health care attributes.

Theoretical and Empirical Evidences

The theory of Reasoned Action (TRA) was developed by Martin Fishbein and Icerk Ajzen in 1967. The theory of Reasoned Action (TRA) explains the relationship between attitude and behaviour within human action. The theory describes the integration of the components of attitude as a whole into a structure that is intended to produce a better explanation and better forecasting of the behaviour.

Ramdahni and Alamanda (2012) stated that Attitude theories illustrate that consumer attitudes towards a product will affect consumer behavior or action against these products, marketers need to know the attitude of consumers towards the products it markets, and then formulate strategies to influence consumer attitudes. Market research or consumer research is one important activity to determine consumer attitudes toward an object. The study was hinged this theory because it centers its analysis on importance of pre-existing attitude in the decision making process. The core of the theory posits that consumers act on a behaviour based on their intention to receive or create a particular outcome. It explains the need for businesses to study what makes consumers to produce desired behaviour towards their products, as it noted that consumers are rational actors who choose to act in their best interest.

The study considered some relevant studies including Adaramaja and Tijani (2014) and Vilčeková and Sabo (2013). Adaramaja and Tijani (2014) in a study investigated whether demographic factors could be taken as correlates

of health-seeking behaviour of the people of Oyo State, Nigeria. The result revealed that gender makes no difference because every individual needs to strive for a healthy life. In addition, marital status and religious affiliations were found to have influence in determining different ways by which individual access health behaviour or lifestyle like alcohol consumption, smoking, sexual behaviour and drug habit. Vilčeková and Sabo (2013) studied brand buying behavior of Slovak consumers and their attitudes toward brands across gender, age and education. Demographic characteristics play an important role in consumer's purchase decision process and can cause deviation from general patterns of consumer decision making.

Methodology

The study examined patients' demographic factors and healthcare delivery.. The study employed descriptive research design. Primary data were sourced through a structured questionnaire adapted from Komal, Kurukshetra University on marketing practices. The research was limited to private hospitals in Oyo State due to availability of data and business like nature of private hospitals. The population for the study was the Private hospitals in Oyo state. Information about the available hospitals was extracted from the records of the Ministry of health, State Secretariat, Agodi, Ibadan, Oyo State. The sampling frame indicated the list of registered hospitals under four major categories namely: i. Tertiary Hospitals, ii. Secondary Hospitals, iii. Clinic and maternity, and iv. clinics. The respondents for the study comprised of Doctors, Nurses/Pharmacist, and hospital directors of selected private hospitals whose operations qualify as secondary healthcare across the state. The study found the secondary healthcare providers most appropriate due to their specialists focus on specific system of the body or conditions. Out of the population of 337 private hospitals in the state under the category of secondary healthcare provider as at the time of gathering the information, even though the required sample size of 19.76 suggested by Taro yamen formula at 0.05 precision level, Sample of 30 hospitals were examined across the three senatorial districts in the state. Due to obvious constraints and the need to ensure even spread, the researcher selected ten hospitals from each of the senatorial district on convenient sampling basis. Multiple regression analysis was employed to compute the effect the combined independent variables on the Healthcare delivery.

Data Presentation and Analysis

The study stated the following hypotheses:

- Ho1: There is no significant relationship between Patients' Gender and Healthcare Delivery
 Ho2: There is no significant relationship between Patients' Income and Healthcare Delivery
 Ho3: There is no significant relationship between Patients' Occupation and Healthcare Delivery
 Ho4: There is no significant relationship between Patients' Family Status and Healthcare Delivery.

To examine the effect of demographic factors on healthcare delivery of private hospitals, an econometric model is expressed below showing healthcare delivery as the dependent variable and demographic segmentations based on gender, income, occupation and family status as independent variables

$$Hlth_i = \alpha_0 + \alpha_1 Gen_i + \alpha_2 Inc_i + \alpha_3 Occ_i + \alpha_4 Fam_i + \varepsilon_i \dots\dots\dots (1)$$

Where:

Hlth_i is Healthcare delivery of individual private hospitals

Gen_i is Gender Demographic Variables of individual private hospitals

Inc_i is Income Demographic Variables of individual private hospitals

Occ_i is Occupational Demographic Variables of individual private hospitals

Fam_i is Family Status Demographic Variables of individual private hospitals

ε_i is error term of individual private hospital

α_0 is the constant term

$\alpha_1, \alpha_2, \alpha_3, \alpha_4$ are parameter estimates of each of the demographic segmentation strategies respectively

Table 1:Model Summary

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	.753 ^a	.567	.524		1.748

pa. Predictors: (Constant), gender, income, occupation, family status

Source: Authors' Computation, 2019

Table 1 presents the model summary of the effect of demographic variables on healthcare delivery of private hospitals. The table shows R-squared and Adjusted R-squared to be 0.567 and 0.524 respectively, which indicates that

demographic segmentation strategy based on gender, income, occupation and family status jointly explain about 56.7% (and 52.4% after adjusting for loss of degree of freedom) of variations in healthcare delivery of private hospitals.

Table 2: ANOVA^a

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	95.907	4	23.977	7.847	.000 ^b
Residual	73.334	24	3.056		
Total	169.241	28			

a. Dependent Variable: healthcare delivery

b. Predictors: (Constant), gender, income, occupation, family status

Source: Authors' Computation, 2019.

Table 2 presents the analysis of variance (ANOVA) of the model. With F-statistic having a value of 7.847 and probability value 0.000 (which is less than 0.05 significance levels), it indicates the reported F-statistic is significant thereby suggesting demographic factors significantly affects healthcare delivery of private hospitals. The outcome supports the findings of Kumar (2014) a study on Impact of Demographic Factors on Consumer behaviour towards Four-wheeler of Maruti, Mahindra and Tata Motors, which concluded from the findings that Consumers behaviour doesn't remain the same or constant in every situation; they change time to time as there are so many demographic factors like age, sex, income, occupation, education, marital status and family background which significantly affects the behaviour of consumers.

Table 3: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	3.483	.325		10.729	.000
Gender	.389	.330	.158	1.177	.251
1 Income	1.236	.330	.503	3.743	.001
Occupation	1.319	.330	.536	3.992	.001
Family status	.081	.330	.033	.246	.808

a. Dependent Variable: healthcare delivery

Source: Authors' Computation, 2019

Result in the **table 3 above** shows that each of demographic factor based on gender, income, occupation and family status has positive signs. The probability value (Sig.) shows the significance of each variable. Since the result indicates that only demographic factors based on income and occupation have significant effect on healthcare delivery of private hospitals. This is evident from each of their p-values being 0.001 which is less than 0.05 significance level. The result further implies that only demographic segmentation based on income and occupation truly influence healthcare delivery of private hospitals positively. The significant positive coefficient value of demographic segmentation based on income indicates that an additional unit of it increases healthcare delivery of private hospitals by 1.236 units and vice versa. Similarly, the significant positive coefficient value of demographic segmentation based on occupation indicates that an additional effort to segment the patients based on occupation leads to improvement in healthcare delivery of private hospitals by 1.319 units and vice versa. The implication of the result is that, even though all other demographic factors show positive effect on healthcare delivery of private hospitals, each of their effects are not significantly felt. Only the positive influence of demographic segmentation based on income and occupation are significantly felt on healthcare delivery of private hospitals in Oyo state. This invariably means that improving the level of segmentation based on income and occupation results to improvements in healthcare delivery of private hospitals in Oyo State. Vilčeková and Sabo (2013) in a similar study found that Demographic characteristics play an important role in consumer's purchase decision process and can cause deviation from general patterns of consumer decision making.

Conclusion

From the available literatures, it was established that there are four major demographic segmentation strategies available to businesses. Demographic variables appear to be the easiest in terms of its ability to allow the marketers to get more specific with marketing strategies. It was noted that Nigeria private hospitals are constrained in the implementation of wide range of segmentation variables when compared to the developed countries. Demographic strategies based on gender, income, occupation and family status were considered to be the easy parameters for the smaller hospitals who are trying to adopt segmentation strategies to gain competitive advantage.. As to the effect of each of the demographic factors on healthcare delivery of Nigeria private hospitals, the analysis indicated that although all of selected variables show positive effect on healthcare delivery

of private hospital, but only income and occupation showed significant effect on healthcare delivery of private hospitals. This implies that the adoption of demographic segmentations based on income and occupation are important in the healthcare delivery of Nigeria private hospitals as a starting point or as a basis for a comprehensive segmentation and positioning programmes. The findings support the view of Adaramaja and Tijani (2014) that says gender does not significantly affect consumers' opinions because men and women do not differ in their decision concerning domestic and foreign brands.

Recommendations

Arising from the conclusion of this study, the following recommendations were made:

There is the need for new entrants into the health industry to approach the issue of marketing strategies with good understanding of the variables and its effect on the patients' behaviours. In view of the findings implies that the adoption of demographic segmentations based on income and occupation are important in the patients' choices and buying decision pattern, it is therefore recommended that the healthcare marketers should pay proper attention to the income and occupation of their target markets to ensure a profitable offering.

It is also recommended that hospitals should make effort to incorporate the demographic factors, especially the Income and Occupational profiles of their patients, into their marketing programme for an efficient and need-based services.

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