A Study of the Factors Militating against the Distribution of Family Planning Products in Oyo State of Nigeria

Abdul-Azeez, Ibraheem Adegoke
Department of Business Administration and Management Technology
Lagos State University, P.M.B. 0001, Lasu Post Office OJO, Lagos, Nigeria
E-mail: ibforson@yahoo.com
Tel: +234(0)7036555582

Aworemi, Joshua Remi
Department of Management Science, Ladoke Akintola University of Technology
P.M.B. 4000, Ogbomoso, Nigeria
E-mail: aworemi_remi@yahoo.com
Tel: +234(0)8033967307

Ajiboye, Araoye Olarinkoye
Department of Management Science, Ladoke Akintola University of Technology
P.M.B. 4000, Ogbomoso, Nigeria
E-mail: rinkoyemii@yahoo.com
Tel: +234(0)8034287013

Abstract

This paper examines the factors militating against the distribution of family planning products in Nigeria. The study was carried out in Saki-west local government area of Oyo state, Nigeria with the aid of structured questionnaires which were administered on 200 respondents in the study area using simple random sampling approach. The collected data were analysed using stepwise regression model.

The study indicated that the road network in the study area is not in good condition, and there are inadequate infrastructural and transport facilities, also lack of credit facilities is among the problem bedeviling the effective distribution of the products in the study area. Based on the findings of the study, it was concluded that, road networks should be improved, rural areas should be made accessible while government should be involved in the proper distribution of the products in order to ascertain healthy condition and improve standard of living.

Keywords: Distribution, family planning, products, transportation, logistics

1. Introduction

Distribution has been an important feature of industrial and economic life for many years, but its significance has only been recognized in the late 1990s (Ajiboye, 1995). The main reason for this lapse has probably been the nature of distribution itself. It is a function that made up sub-functions and sub-system each of which can be or treated as a distinct management operation. The appreciation of the scope and importance of distribution has led to a more scientific approach being adopted towards the project.

This approach has been aimed at the individual sub-systems and especially at the overall concept of the distribution function as a whole. Rushton and Oxley (1991) held the view that in reality no true definition can be wholly applied to distribution because products differ, companies and systems differ. Distribution is a diverse and dynamic function, which has to be flexible and has to change according to the various constraints and demands that are imposed upon it.

Estimates of fertility levels have greatly portray Nigeria as one of the most fertile country in Africa, south of Sahara, with an estimated crude birth rate of 47-51 per 1000 population in 1974, 48-52 in1982 and 49-53 in 2000. Nigeria has therefore been experiencing persistent high fertility rate which has led to its increasing population from 63 million in 1963 to 88milion in 1991, with projected population of 132million in 2004 at growth rate of 2.8% and 140 million in 2006 (NPC, 2006).

Awareness of the population growth in Nigeria led to her first national population policy in February 1988. The 1988 National Population Policy amongst other things stressed the importance of reducing population growth through effective family planning and efficient use of contraceptive. An important factor in controlling the rapid population growth in Nigeria is the low rate of contraceptors (O'Hearn and Healy, 2003) and inefficient use of contraceptives among the few users. It is against this background that, this study examines the distributional problems of family planning products, so as to facilitate its usage and in the long run reduce the fertility rate of the country.

2. Family Planning and Logistics

In family planning, the term "Logistics" refers to activities concerned with selecting, financing, delivering and distributing contraceptives and other supplies (FPLM, 2000). The term "Supply Chain" describes the many organizations that are linked in the delivery of supplies from manufacturers to clients and in the flow of information about clients' contraceptive needs. Similarly the term "Pipeline" refers to the flow of supplies through storage and transportation facilities – including port facilities, central and regional warehouses, district and sub-district stores – to service delivery points and ultimately to family planning clients. In practice, the terms, Supply Chain Management and Logistics are often used interchangeably.

Family planning logistics systems are complex, many local and international manufacturers provide contraceptives to family planning programs, and a variety of donors, policy-makers, and program managers procure, finance, and deliver them. Central and regional warehouses, and local facilities store them, and transportation systems distribute them (FPLM, 2000). Effective supply chains determine the success or failure of any public health program. For example without a reliable supply of contraceptive, family planning program cannot serve its customers. Both in business and in the public sector, decision makers increasingly direct their attention to improving supply chains; because logistics improvements bring important quantifiable benefits. Logistics system meets clients' need by following the "Six Rights"; delivering the right products, in the right quantity, in the right condition, to the right place and for the right cost (Rushton and Oxley, 1991).

With better logistics and supply chain improvement, the family planning can benefits in some ways; improving family planning program result, improving quality of care, and improving cost-effectiveness.

- **Improving family planning Program results:** public health program results link directly to an effective and efficient supply chain. In family planning, for example, experiences from many countries have confirmed the relationship between improved contraceptive, logistics and higher contraceptive rates and lower fertility rates. Even in well established and successful family planning programs, contraceptive availability does not just happen – it must be supported by a carefully planned and managed logistics system. Conversely family planning programs with inadequate logistics support are plagued by irregular contraceptive availability. This can create a serious problem in rapidly expanding programs when the supply chains do not keep pace with the growing number of customers. In the

worst situation, when contraceptives are completely stocked out, services cannot be provided, regular customers go without contraceptives, and potential new customers are denied access to family planning. Customers quickly lose faith in the program and stop asking for services. Customers feel more confident about the family planning program when they have a constant supply of contraceptive, it motivates them to accept or continue a family planning method (FPLM, 2000). A positive experience with family planning services also encourages clients to use other reproductive and child health services provided with family planning, contributing to improved overall health in a community.

- **Improving quality of care:** an effective logistics system is a cornerstone of quality family planning programs. Investment in the supply chain can directly improve quality of care, not only in the family planning program, but also throughout the health care system. The supply chain connects to quality of care in two ways; quality of the products and availability of products for customers and providers. When people think of logistics and quality, they may first of all think of the quality of the products moving through the supply chain. A sound logistics system ensures the safety and efficacy of the products by routinely checking for quality throughout the procurement and distribution process. Clear and comprehensive product specifications are the first step in quality assurance, followed by routine sampling and testing during manufacture and upon receipt. Subsequently, the distribution system provides quality assurance by tracking expiration dates and ensuring good storage and handling practices. The link between logistics and product quality is clear. The link between logistics and service quality may be less obvious, but it is equally important. Family planning around the world use contraceptive availability as one of the best overall quality of care indicators for their programs. While there are many other components of high quality service, quality of care in a family planning program depends on the sustained availability of contraceptives (Bruce, 1990; Jain, 1989; Bulatao, 1995). An effective supply chain enables clients to select the contraceptive method they want. Especially in family planning when customers voluntarily decide to use contraceptives, quality of service depends on clients knowing that whatever method they choose, the contraceptive will be available.

- **Improving Cost – effectiveness:** An effective supply chain contributes to improved cost effectiveness in all parts of a program, and it can stretch limited resources. Strengthening and maintaining the logistics system is an investment that pays off in three ways. It reduces losses due to overstock, waste, expiry, damage, pilferage, and inefficiency, it protects major program investments, and it maximizes the potential for cost recovery. Every supply chain should ensure available products for customers at the lowest effective cost. Even in free family planning programs or highly subsidized contraceptives, a cost is still associated with procuring and delivering the products to customers. By cutting losses and waste, an effective supply chain can significantly reduce a program overall costs. Contraceptives commodities may account for as much as 10-20% of the total cost of a family planning program.

3. Review of Related Literature

Kotler (2000) perceived physical distribution as a task involved in planning and controlling the physical flows of materials and final goods from the point of origin to the point of use, to meet the needs of customers at a profit. Physical distribution according to Kotler is a potent tool in demand creation. Companies can attract additional customers by offering services at lower prices through physical distribution improvements. Companies lose customers when they fail to supply goods on time.

Wentworth (1981) described physical distribution service as availability, timeliness and quality. The goal of physical distribution system is to provide the aspect in the amount desired by the target customers. He went further to define these terms: availability means having the right products in the

right place at the right time, timelines implies the ability to fill order as quickly as the customers desire them and quality means delivering the product in the condition desired. He argued further that physical distribution creates utility to value by making sure that goods are available at the right place and at the right time. It is a common view that problems in the distribution of goods contribute significantly to the rate of inflation, high selling price and other socio-economic hardships (Ullman, 1941). In order to avoid these, a good distribution channels is required. Wentworth (1981), described channel of distribution as asset of institution which performs all the functions concerned with moving a product and its title from production to consumption. Every institution within the chain or channel constitutes channel level.

Okon (2002) observed that channel of distribution is a route taken by a commodity between the point of its production and the point of its sale and/or consumption. He classified channels of distribution into five stages as follows:

Manufacturer $\rightarrow$ Retailer $\rightarrow$ Consumer

Manufacturer $\rightarrow$ Own warehouse $\rightarrow$ retailer$\rightarrow$ Consumer

Manufacturer $\rightarrow$ Wholesaler's warehouse $\rightarrow$ Retailer $\rightarrow$ Consumer

Manufacturer $\rightarrow$ Retailer's warehouse outlets$\rightarrow$ Consumer

Manufacturer $\rightarrow$ Third party Distributor $\rightarrow$ Retailer $\rightarrow$ Consumer

Distribution functions best in a family planning when it focuses on getting contraceptives to users, not just move them from one point to another and keeping them on shelves. A single central warehouse cannot effectively supply thousands or even hundreds of service delivery points (FPLM, 2000). Thus, family planning programs use a tiered distribution network, with several storage and distribution levels. A typical contraceptive distribution network might have three to five levels. A five level network might include, for example central, regional, district, and community distribution points. For example in Nigeria the contraceptive supply chain is vertical system managed primarily by the Department of Community Development and Population Activities (DCDPA) of the Federal Ministry of Health. Contraceptive is being distributed from Central store in Lagos to state stores, from state stores to local government areas, and from local government areas to service delivery points (O'Hearn et al, 2003).

Today, as transportation infrastructures improve in developing countries and as family planning focuses more attention on cost-effectiveness, the trend is for contraceptive distribution network to have the minimum feasible number of levels (FPLM, 2000). Streamlining the distribution network can save money and, with fewer levels, contraceptives can reach clients faster (FPLM, 1997). Some of the family planning products include; Condoms (male and female), Pills, Injections, Intrauterine devices (IUDs), Foams, Creams, Diaphragms, etc.

4. Methodology

The study area for this study is Saki-west local government area of Oyo state, Nigeria. It was formally called Ifedapo local government, before it was splitted into three, namely, Saki-west, Saki-east and Atisbo local governments.

Saki is the biggest town designated as urban center by Oyo state government in the local government. The major settlement in the study area include; Baabo, Aba Fulani, Wasangare, Apinnite, Ayekale, Medinah area, Otun, Misra, and Saki. Oyo people that speak Yoruba as their major language, and have tradition of a common origin from Ile-Ife largely inhabit the study area.

The data on which the study is based were collected from a total of 72 service outlets for family planning products in the study area which comprise hospitals, pharmacist shops, chemist shops and primary health centres. Copies of structurally designed questionnaire were randomly distributed to the employees of the family planning service outlets in the study area. The total number of copies of questionnaires completed was 200 out of 250, which represented 80% response rate and provide a basis of discussion in the paper. The collected data were analyzed using stepwise regression estimation

technique whereby the variance in the independent variables is explained by a set of predictors and at same time indicates which of the set of predictors is the most important in explaining the variance.

5. Empirical Results and Findings

In an attempt to examine the factors militating against the distribution of family planning products in the study area in full detail, the following variables were investigated; inadequate transport facilities, inadequate storage facilities, inadequate credit facilities, poor technical knowhow or expertise, Government policy, poor road condition and high cost of transport.

The model is specified as:

$$Y = a_0 + b_1 X_1 + b_2 X_2 + b_3 X_3 \ldots + bnXn + Ui \qquad (1)$$

Where

a_0 = Constant

$Xi \ldots Xn$ = Explanatory variables

$b_i \ldots b_n$ = Parameters to be estimated (i = 1, 2, 3, - - - -- n)

Ui = Error term or disturbance term

Y = Dependent variable (distribution problem)

X_1 = inadequate transport facilities

X_2 = poor road condition

X_3 = high cost of transport

X_4 = inadequate credit facilities

X_5 = government policy

X_6 = inadequate storage facilities

The summary output of multiple regression estimation technique is shown as:

$$Y = 56.2271 + 4.1241X_1 + 0.7630X_2 + 0.4014X_3 + 0.2752X_4 - 0.2088X_5 - 0.0517X_6 + U_e \ (2)$$

Multiple Regression

Multiple R	0.8373
R Square (R^2)	0.7355
Adjusted R Square	0.7231
Standard Error	3.3782

Analysis of Variance Table				
	DF	**Sum of Square**	**Mean Square**	**F-ratio**
Regression	7	624.72	89.246	28.733
Residual	192	596.64	3.106	

Sig. F = 0.05

Variables in the Equation					
Variables	**B**	**SEβ**	**Beta**	**T**	**Sig. T**
Constant	56.2271	1.8671	-	30.1147	0.01
X_1	4.1241	0.5712	-2.2713	7.2201	0.05
X_2	0.7630	0.2572	0.0209	2.9666	0.02
X_3	0.4014	0.1089	0.2319	3.6859	0.01
X_4	0.2752	0.1851	0.1378	1.4868	0.02
X_5	0.2088	0.0438	0.3664	4.7671	0.01
X_7	0.0517	0.2167	0.3012	0.1716	0.05

Source: Data Analysis, 2009

The Multiple R is interpreted as the correlation between the independent variable and the explanatory variables as shown in equation (i) above and its value is 0.8373. The R^2 is the percentage

of variance of the dependent variable explained the seven (7) explanatory variables already in the equation (i). Its value of 0.7010 implies that 70.10% of the variance of dependent variable is explainable by the identified explanatory variables.

The significance of this value was tested with the analysis of variance (ANOVA) and the F calculated value is 28.733 which is found to be statistically significant at F=0.05.

The coefficient (β=4.1241) of X_1 implies that when the independent variable, inadequate transport facilities, changes by 1 unit and the values of other independent variables remain constant, there will be increase in the level of distributional problem being faced by the family planning products. This has greatly affected the distribution of the products by making the cost of distribution high.

The poor road condition (X_2) and high cost of transport (X_3) have positive coefficients (0.7630 and 0.4014 respectively). This shows that they are part of the factors militating against effective distribution of family planning products. This is as a result of lack of good motorable roads, seasonality of some of the roads in the study area, unavailability of vehicles as well as high cost of fuel. Also, according to the study, inadequate credit facilities for the commercial distributor of the products contributed positively (β=0.2752) to the problem of family planning products distribution and availability in the study area. All these findings corroborates earlier findings of Ajiboye (1995) that high cost of transport, poor road condition, inadequate transport facilities and inadequate credit facilities are the major problems hindering the effective distribution and availability of agricultural products in Ogun State.

However, government policy and inadequate storage facilities are negatively related to the factors affecting the distribution of family planning products. The implication of this is that presently, the policy formulated by the government is not in any way affecting the distribution of the products. In the same vein adequate or inadequate (as the case may be) of storage facilities cannot stop the distribution and the availability of the products in the sense that most of the products are fast moving commodity that do not require long storage. This is in line with the findings of Kohl and Uhl (1985) that fast moving products as well as perishable goods require less storage when comparing with slow moving articles and non-perishable goods.

6. Conclusion and Recommendation

The research work has confirmed the important role that some factors played in the distribution and availability of family planning products. Also, the inadequate consideration for these factors in the distribution of the family planning products has largely been responsible for the low usage and low contraceptive prevalent rate in the study area. Therefore in line with the research the followings are recommended;

The present condition of the road network in the study area should be improved upon and made more motorable. Also, it is pertinent to rehabilitate all the connecting roads within the town so as to connect every nook and cranny of the study area for effective and efficient distribution of the products.

The inaccessible roads in the study area especially those in the rural area should be opened up and made more accessible. This should be done through the provision of all season motorable roads and other road transport facilities.

Soft loans should be given to the distributors of the product so as to enhance their commercial nature. This will go along way in helping them to procure variety of family planning products, which will in turn reduce the case of stock out and subsequently enhance the usage and availability of the products.

Government should also involve in the distribution of the products. There suppose to be a government agency or commission saddled with the responsibility of monitoring the distribution the products. Because in the long run the entire negative consequence of inappropriate distribution will have overall effect on the socio-economic development of the country.

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