Distribution Channel Management and the Control of Fake/Counterfeit Products in Selected Pharmaceuticals Companies in Benue State.

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Abstract:
This study evaluated distribution channel management and control of counterfeit products in Nigeria with specific reference to selected pharmaceutical industries in Benue State. The study used mainly primary data obtained by the use of a well-structured questionnaire. The study used multiple regression analysis to test the two hypotheses of the study. The result shows that a negative relationship exist between distribution management and its effect on consumer's accessibility and it is statistically significant (p<0.05) and in line with a priori expectation. Also, the study found that the source of fake and counterfeit product is positively related to distribution channel management but it is not statistically significant (p>0.05). It was concluded therefore that efficient distribution channel management could help to greatly reduce the proliferation of counterfeit products in the health sector. In view of this, it was recommended that laws guiding the regulation of imported and manufactured products should be strengthened to ensure effectiveness by regulatory authorities. Hence, the distribution channels management policies should be an approach to control counterfeit products by instituting on a clear post market surveillance system that will aid the fast identification of counterfeit and other substandard drugs while consumer's access to counterfeit product should be restricted through an efficient distribution channel management.

Keywords: Distribution, Channel, Management, Benue, Nigeria.

1. Introduction:
Background to the Study:
No company can be sustainable until or unless the supplier which comprises component providers, transport and logistics, raw material producers and other connected businesses do work on the credibility (Fung, 1999). Moreover, supply chain accounts for more than 50 percent of the total cost of the manufacturing companies. Further, these chains are very fragile and are easily disrupted if some natural disaster or civil conflict takes place, which has a direct impact on the costs and consumer response. In Nigeria today, according to Ohuabunwa (2002) there is an influx into the market of fake machine parts, fake motor spare parts, fake drugs, fake chemicals, adulterated food items, amongst many others. It may appear that almost every existing product has a fake counterpart. He further stated that the era 1985-2000 in Nigeria has heralded the regime of faking and quackery, counterfeit drugs, quack doctors, illegal chemist shops and hospitals. Osibo (1998), in a similar opinion affirm the menace of fake drugs becoming prevalent in the last decade and the present situation is alarming in the West African sub-region, including Nigeria as certain observations have shown that there may be more fake than genuine drugs in circulation. For instances in the area of drug distribution a disturbing aspect of the counterfeit drug menace is that the effects of consuming such drugs go unnoticed most of the
times except in such cases where it results in mass deaths.

Empirical studies by Fung, (1999); Awino (2002); and Das, & Abdel-Malek, (2003) revealed that companies have recognized that sustainable supply chain management is now not an option but a compulsion, important for the success of any business. For many corporations, intangible assets like brands and trademarks are even more valuable than tangible assets. For example, the Coca-Cola brand name is far more valuable than the ingredients that go into a can of Coca-Cola (Hopkins 2003). Businesses expend a great deal of time, energy, and resources to protect their ideas, brands, and identities from counterfeiters and intellectual property infringers. Firms do this not only to preserve their reputations and profitability, but also to prevent the consumer from unknowingly purchasing unsafe, low-quality goods from unscrupulous dealers. A substantial number of governments have enacted laws and treaties that protect legitimate holders of intellectual property and punish infringers in order to protect their citizens and local industries from those who would attempt to usurp the brand names of successful companies. Despite these attempts to defend intellectual property rights, however, almost any product can be and has been counterfeited, including baby formula, electrical equipment, fuel, designer goods, guitars, airplane parts, and birth control pills. There exist illegal black market transactions at some point along the distribution chain, (Teresko 2008), the burgeoning counterfeit industry has resulted in lost tax revenue, an absence of regulatory control (Mallen, 2007).

According to Adelusi (2000), the product distributions channel network in Nigeria is in a state of chaos because: it consists of open markets, patent medicine stores, community pharmacies, private and public hospitals, wholesalers/importers and pharmaceutical manufacturers. It is also a common scene in Nigeria to see petty traders who sell kola nuts, cigarettes, and oranges, among other items, in market kiosks, motor parks, and road sides hawking drugs that range from over the counter items to antibiotics (popularly called “capsules”). He further stated that the medicines are usually left under the sun in such conditions that could facilitate the deterioration of the active ingredients.

Ordinarily the patent medicines should be sold in their original packs. Over the Counter (OTC) drugs are only authorized to be sold by the vendors but they generally sell all types of drugs as determined by their financial capability. Considering the knowledge base of these vendors, whose minimum academic requirement to obtain a license is the first school-leaving certificate, they are not in a good position to differentiate between fake and genuine product (Erhun and Adeola, 1995).

The Consequences of Counterfeiting pose a significant risk to consumers. Unsafe fake goods can lead to injuries, deaths, and illnesses. In cases where fake goods cause no physical harm, consumers are harmed financially when they are tricked into spending their hard-earned cash on poor functioning, low-quality products. It is against this background that this study examined the problem of Distribution Channel Management and Control of Fake and Counterfeit Products in Nigeria”. The result examined specifically the relationship between Customer's Accessibility and Distribution Channel Management and the relationship between sources of fake product and Distribution Channel Management.

2. Literature Review:

Theoretical Framework.

Consumer Behaviour Theories

Consumer decision models assume that consumers follow a rational decision-making process in which they search for product information and compare brands before making a brand choice (Howard, 1994). Brand choice depends on the degree to which brands are compared for the considered set of evaluative criteria (Nowlis and Simonson, 1997). Consumer behaviour theories propounded by Albers-Miller (1989), suggest that when comparing genuine items and counterfeits on the rational basis, consumers would show a tendency to choose genuine items rather than counterfeits. Several major marketing theories support consumers’ general preferences for genuine items instead of counterfeits.

a) Perceived risk theory: Perceived risk theory strongly indicates that consumers are more likely to prefer genuine items to counterfeit items to reduce the perceived risks related to counterfeits. Types of perceived risk include performance, physical, social, psychological, and time risk. Obviously, counterfeit fashion goods generate various types of risks, among which financial, performance, and
social risks are particularly relevant (Nia and Zaichkowsky, 2000; Wee, 1995; Wilke and Zaichkowsky, 1999). For example, the quality and materials of counterfeits are inferior to those of genuine items in most cases.

Counterfeits are unlikely to be as durable and reliable as genuine items because they are not subject to the required safety standards and responsibilities, and they are usually made of low-grade materials. They also lack certain minor details and usually have inferior packaging. Such lack of performance and perfection will disappoint consumers who intend to make a rational brand choice decision. More importantly, by consuming a counterfeit product, one risks social status. Publicly self-conscious consumers are concerned about their impression on others, physical appearance, and fashions and are sensitive to interpersonal rejections (Nia and Zaichkowsky, 2000). Therefore, a serious consumer will choose a genuine item over a counterfeit to reduce risks involved with the consumption of counterfeits. On the other hand, we admit that if a consumer seeks pleasure from a novelty item, buys it for the fun of it, and tries first before making a commitment, she or he will choose the counterfeit over the genuine item without perceiving high risks (Nia and Zaichkowsky, 2000).

b) Price-quality Heuristics Theory: Price-quality heuristics theory clearly suggests that genuine items’ high prices connote high quality, whereas counterfeits’ low prices connote low quality (Wilke and Zaichkowsky, 1999). Counterfeits are much cheaper than genuine items, about a tenth of their store price or even less (The Times, 2002). Studies consistently show that consumer heavily use price as a major extrinsic cue to heuristically judge product quality, believing that price is positively related to product quality, and such price-quality perceptions are found to be universal across countries, although actual quality has no relationship with price (Dawar and Parker 1994; Lichtenstein, Ridgway and Netemeyer, 1993).

Therefore, an unreasonably low price of counterfeits convinces consumers that the counterfeits must be of unreasonably low quality. Although consumers may enjoy economic benefits and feel values from counterfeits thanks to their low prices, they, in fact, trade the product quality of genuine items for the price advantage (Albers-Miller, 1999). This is likely to produce discomfort particularly among those who wanted to own a high quality product and use the product as a means of expressing their social status to others. Such discomfort and cognitive dissonance would make them prefer genuine items to counterfeits because of the strength associated with the brand. Brand equity is the value added to a product by its brand name and can be earned only through long-term marketing investments into the brand (Yoo and Lee, 2000). Brand name, as an important extrinsic cue for quality, makes it easy for consumers to process the information, reduce search efforts, and make a purchase decision (Aaker, 1991; Keller, 1993). When the brand is of high brand-name value, consumers tend to blindly rely on the brand name to judge objective product quality. As brand equity consists of not only brand name awareness but perceived quality, brand loyalty, and brand associations. Being labeled with a well-known prestigious brand name does not guarantee the same brand equity. Because consumers know that they are buying a counterfeit, it is hard for them to transfer specific and positive brand associations to the counterfeit.

Personal associations with a brand, a major brand equity component, are usually built through long-term personal experiences (Aaker, 1991; Keller 1993). But when the consumer considers the counterfeit to be different from the genuine item, she or he will not feel the product association for the counterfeit. Certain high-end counterfeits may have really identical physical quality (Gentry, 2001), but even in that situation the genuine item will be preferred because it owns the authenticity, the originality, and the uniqueness that counterfeits, due to their illegitimacy, can never possess (Wilke and Zaichkowsky, 1999).

Conceptual Framework: Distribution Channel:

A channel of distribution may be defined as “an organized network of agencies and institutions which in combination performs all of the activities required to link producers with users and users with producers in order to accomplish the marketing tasks.” Marketing channels play an important role in the selling of goods. Generally, a channel includes three parties: manufacturer, the middleman (wholesaler/retailer/agent middleman) and the consumer. A channel of distribution represents the path for the movement of title, possession and payment for goods and services.
Types of Channel:

- **Wholesalers and Retailer:** they buy, take title to and resale the merchandise they are called merchant.

- **Brokers:** manufacturer representatives, sales agents, they search for consumers or customers and they negotiate on the producers behalf but do not take title to the goods, they are called agents.

- **Transport Companies:** independent warehouses, banks, advertising agencies, assist in the distribution process but neither takes title to goods nor negotiates purchase or sales these are called facilitators.

Distribution Channel management:

According to Foster (1984), the world of marketing has become much more complicated as technological advances have taken hold. No longer can a business rely simply on good word of mouth to maintain or improve revenue. Possibilities for marketing a product or service grow seemingly each day, and keeping track of all of these disparate marketing avenues is not an easy chore. That is why the concept of channel management has become so prevalent in marketing.

Chopra & Meindl (2001) opined that, channel management is a term that refers to the way that a business or supplier of products uses various marketing techniques and sales strategies to reach the widest possible customer base. The channels are all of the various outlets by which the product is marketed and sold to customers. When done properly, channel management motivates those channels to sell the product and ultimately develops a better relationship between customer and product. Thus it leads to the delivery of the best products since confidence building is essential at each point in the distribution channel. This is achieved by identifying the goals for each distinctive channel and then implementing various marketing strategies to make sure that those goals are attained, all while staying consistent to the overall brand of the business. According to Bennett (1988), Channel Management, is a process by which accompany creates formalized programs for selling and servicing customers within a specific channel that can impact on a business in a positive way. Channel management is defined as the processes by which a producer or supplier directs marketing activities by involving and motivating parties comprising its channel of distribution (Kotler, 1994). Gorchels, Marien, and West, (2004) define physical distribution as all activities involved in planning, implementing, and controlling the physical flow of raw materials, in-process inventory, and finished goods from point-of-origin to point-of-consumption. The main activities include customer service.

Distribution channel according to Bennet, (1988) may be defined as “the set of firms and individuals that take title, or assist in transferring title, to a good or service as it moves from the producer to the final consumer or industrial user.” The importance of channel decisions has not always been recognised. For a long time, marketers only gave thought to appropriate channels of distribution after the product had been developed. However, Bennett (1988) claims that in today's competitive and increasingly global marketplace, manager’s plan for product distribution as they plan their products.” The same author goes on to state that: “Modern distribution systems are based on strategic planning, adherence to the marketing concept, focusing on target markets, and are consistent and flexible.”

Features of Fake and Counterfeit Products:

Despite the global nature of fake drugs, the International Community does not have a harmonized definition of fake/counterfeit drugs to reflect its global Nature and capture its entire essence (WHO, 2006).

The World Health Organization (WHO) defines counterfeit medicine as follows: “Counterfeit medicine is one, which is deliberately and fraudulently mislabelled with respect to identity and/or source. Counterfeiting can apply to both branded and generic products and counterfeit products may include products with the correct ingredients or with the wrong ingredients, without active ingredients, with insufficient active ingredients or with fake packaging.”

Fake and Counterfeit products are non-genuine goods “that copy or otherwise purport to be those of the trademark owner whose mark has been unlawfully used” (Mallen, 2007). Counterfeits may or may not be of lesser quality than the genuine goods, and they may or may not be convincing replicas of the copied good.

Shultz and Saporito (1996), stressed that in explaining counterfeit, many terms are used to
describe the fact that products are pirated: counterfeiting, brand piracy, near brands or logos, intellectual property, as well as other forms of product theft like bootlegging, reverse engineering, trade mark extortion, look-alikes, or unconvincing imitations (Jacobs, Coskun, and Jedlik 2001). The main distinction in the literature refers to the concepts of piracy and counterfeiting, McDonald and Roberts, (1994).

According to Paradise (1999), copyrights and patents can only be pirated whereas trademarks can only be counterfeited; the term counterfeiting is also used in a broader sense referring to both. More important for the analysis is the conscious act on the part of the customer to seek and purchase a fake product (Gentry, Petrevu, Shultz, and Connuri, 2001). Deceptive counterfeiting occurs when the consumer believes that he/she is buying a particular brand of a product, produced by a particular manufacturer, which in fact turns out to be a product of some other marketer. In the case of non-deceptive counterfeiting, the buyer recognizes that the product is not authentic according to specific information cues such as price, purchase location, or materials used (Nia and Zaichkowsky, 2000). Furthermore, non-deceptive counterfeits pose little or no health or safety risk to the public and the buyer, and have apparently little demonstrable impact on genuine brands (Nia and Zaichkowsky, 2000). They may even help to build brand awareness Shultz and Saporito (1996), they can also increase the snob value for both originals and counterfeits (Barnett, 2005).

Under some circumstances, non-deceptive counterfeiting can even lead to benefits for society, e.g. when necessary expensive products such as particular drugs become affordable to poor people (Green and Smith 2002) (Wilke and Zaichkowsky, 1999). While previous research has used the terms deceptive and non-deceptive counterfeiting as two quite distinct concepts (Grossman and Shapiro 1988). Bosworth (2006) has recently suggested considering a spectrum of deception that runs from “super deceptive” (branded and counterfeit goods appear identical and impossible to tell apart) to completely non-deceptive (all buyers are able to distinguish the counterfeit from the genuine article). Indeed, the quality of counterfeits has improved over the years and it is becoming more difficult for consumers to identify them (Gentry, 2006). The degree of deceptiveness apparently depends on the consumer’s awareness, knowledge, and experience. Only in cases where consumers have awareness of possible deceptiveness, can determinants of purchase intentions for counterfeit products differ substantially from determinants of purchase intentions for original brands. Hence, the purpose of this study, counterfeiting means that an original product with a remarkable brand value worth copying already exists on the market. Its characteristics are copied into another product as to be indistinguishable from the original and sold at a lower price as if it were the original, whereas consumers are well aware of the difference between the two products. This perceived difference can vary according to the quality and utility of the counterfeit in comparison to the genuine product (Gentry, 2001).

Sources of Fake and Counterfeit Products:

The production of counterfeit drugs need not occur in large infrastructures or facilities. The majority of the counterfeiters apprehended so far carried out their activities in ordinary households, small cottage industries, or in backyards (WHO, 2006). Counterfeiting of medicines is a hugely lucrative business due to the continued high demand for medicines and low production costs. The absence of deterrent legislation in many countries also encourages counterfeiters since there is no fear of being apprehended and prosecuted (Okpako, 2003).

According to latest figures released by the Organization for Economic Cooperation and Development (OECD), contrary to popular notions, India emerges as the biggest culprit in fake drug manufacture. According to this report 75 per cent of fake drugs supplied world over have their origins in India, followed by 7 per cent from Egypt and 6 per cent from China.

The BBC, along with many other news outlets, reported on the activities of the then Director-General of NAFDAC Prof Dora Akunyili, who was been appointed to deal with the problem of fake drugs in Nigeria. According to these reports, many of the fake drugs came from the same countries that make normal drugs, especially China and India. In the case of India, while it is against the law to make fake drugs for domestic use, it is not against the law to make fake drugs for export (Akunyili, 2005).

Factories in China and India are the source of most of the bulk of active ingredients used in counterfeit pharmaceuticals worldwide. It is believed that some
products are sourced in India, fraudulently labeled in the area around San Diego, California, and then shipped into Mexico for sale to unsuspecting Americans (WHO, 2006). A 1997 seizure by US customs officials of more than $60m worth of misbranded and counterfeit pharmaceuticals that were destined for drugstores in Tijuana supports this theory. The active ingredients seemed to have originated from India.

**Review of Related Empirical Studies:**

A study conducted by Poole (1989) in Nigeria indicated that 25% of samples studied were fake, 25% genuine and 50% inconclusive. A study conducted by Adeoye (1990) the former Deputy Director of WHO, in Nigeria for a pharmaceutical firm in Lagos showed that 54% of drugs in every major pharmacy shop were fake. He also indicated that the figure had risen to 80% in the subsequent year. In another study carried out by NAFDAC on 581 samples of 27 different drugs from 35 pharmacies in Lagos and Abuja (Nigeria), 279 (48%) samples did not comply with set pharmacopoeia limits, and the proportion was uniform for the various types of drugs tested. In 2001, NAFDAC carried out a baseline study to ascertain the level of incidence of fake drugs in Nigeria. The first phase of the Baseline studies by NAFDAC in six major “drug markets” across the country in early 2002, to measure the level of compliance to drug registration, revealed that 67.95% of the drugs were unregistered by NAFDAC (Erhun, et al., 2001). A repeat of this study in 2003 revealed a 67% reduction. In our latest repeat in 2004, we recorded a further reduction of over 80%. The second phase of the study is being conducted in collaboration with WHO and DFID. This involves laboratory testing and further investigation of the surveyed drug products (Erhun, 2001).

In order to achieve a competitive advantage, supply chains need to be managed appropriately (Scannel, Vickery & Droge, 2000; Salvador, Forza, Rungtusanatham & Choi, 2001; Francois & Gilles, 2005). The set of practices developed by an organization to effectively manage the functioning of a supply chain are known as supply chain management practices (Sli, 2006). An extensive literature review was carried out to identify different dimensions of the supply chain management practices construct. The rationale used in the study followed the selection of supply chain management practices which cover both the upstream and downstream sides of the supply chain (Celtek & Kaynak, 1999; Sli, 2005).

In order to be globally competitive, firms within the supply chain have started establishing extended relationships with buyers and suppliers who are part of the supply chain (Pitta, Franzak & Little, 2004; Tan & Wisner, 2003). This is essentially carried out with the sole purpose of offering lower cost products to customers with greater design and delivery flexibility (Tan & Wisner, 2003). The importance of the formation of effective supplier alliances which involve working closely for mutual benefits is well documented in literature (Fung, 1999; Shin, Collier & Wilson, 2000). Customer responsiveness has been a centre of attention for many management researchers. Customer responsiveness has been considered as a strategy which supplier, distributors, and retailers adopt to offer value to the customer by mutually agreeing to work together. In order to be competitive, firms have started integrating with other firms. In addition, the concept of cooperation has been centrally accepted as important for the success of organizational networks (Fung, 1999).

Integral dimensions of successful long term relationships include trust and commitment (Morgan & Hunt, 1994). The role of trust in the SCM literature is widely documented (Kidd, Richter & Stumm, 2003; Morgan & Hunt, 1994). Trust is essentially viewed as an important enabler of a supply chain (Moberg & Speh, 2003). In addition, trust is important for customer satisfaction and the effective functioning of a franchise system. Trust has been identified as associated with risk acceptance in an interdependence relationship (Sheppard & Sherman, 1998). In addition, commitment encourages entities to preserve...
existing relationships and to work while keeping long-term goals in mind (Morgan & Hunt, 1994). Engaging in long-term relationships with customers, and even integrating customers in the supply chain, will help meet the customer demands effectively and minimize the existing inventory.

As mentioned by Storey, Emberson Godsell and Harrison (2006), the challenge for supply chain management lies in understanding the interplay and alignment of different units of the supply chain. In addition, the potential of the supply chain can only be realized if the potential linkages between different components of the supply chain are understood (Sli, 2005, 2006; Paulraj, in Press; Min & Mentzer, 2004). Researchers have tried to understand the broad construct of supply chain management. For instance, some studies link SCM enablers such as information technology, to improved organizational performance. In addition, some consider only specific aspects such as marketing, logistics and firm culture as important to overall supply chain success (Min & Mentzer, 2000; Mentzer, Mello & Stank, 2005). More recently, others, such as Sli, 2006), explore the relationship between SCM, competitive advantage and organizational performance as a whole. To this end, researchers, so far, have failed to agree on two main aspects. First, what essentially constitutes the dimensions of supply chain management strategy and second, how does supply chain management impact SCM performance and what impact SCM performance has on overall organizational performance.

3. Research Methodology:

The population of the study comprises 172 employees of the five selected pharmaceutical companies and their distributing companies in Makurdi metropolis (80 employees), Gboko (52 employees), Otukpo (40 employees) all in Benue State. These pharmaceutical companies are; Emzor Pharmaceuticals, Essential Pharmaceuticals, May Pharmaceuticals and Baker Pharmaceuticals. The selection of both the cities and the companies was based on the metropolitan nature of the cities that housed these pharmaceutical companies with national strength. Since the sample size was less than two hundred, the questionnaire was administered to the whole population but only 120 questionnaires was returned and used for study.

In this study, the two most common types of validity, which are content and construct validity, were considered. While content validity was tested through the expert contributions, construct validity was tested with the use of Factor analytical tool that considered Kaiser-Meyer-Olkin (KMO) and Bartlett’s Test of Sphericity and the results indicated that the instrument of the study have strong construct validity and the reliability of the instrument tested using Cronbach Alpha Coefficient shows a reliability coefficient of 0.89 which is above the threshold of 0.7 for research instrument.

Modeling the relationship between the variables of the study, the implicit relationship in the model can be stated as shown below:

$$DCM = f(CUSA, SOFP)$$

Where,

- $DCM =$ Distribution Channel Mgt
- $CUSA =$ Consumer Accessibility
- $SOFP =$ Sources of Fake Product

The model can further be explicitly stated thus:

$$DCM = b_0 + b_1 CUSA + b_2 SOFP + e$$

Where $e =$ The Stochastic Term

A priori Expectation

$b_1 < 0 \ b_2 < 0$

Methods of Data Analysis:

Simple percentages and tables will be used to present descriptive data such as the demographic characteristic and responses from the respondents obtained from the research. The hypotheses will be tested by the means of multiple regressions which will be used to measure the hypothetical assumptions made in the research using the SPSS.

4. Results and Discussion:

This section presents the results of analysis and discussion of findings based on the specific objectives of the study.
Table 1: Multiple Regression Analysis

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>95.0% Confidence Interval for B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td>Lower Bound</td>
</tr>
<tr>
<td>(Constant)</td>
<td>19.105</td>
<td>9.322</td>
<td></td>
<td>2.049</td>
<td>.050</td>
</tr>
<tr>
<td>1</td>
<td>CUSA</td>
<td>-.039</td>
<td>.238</td>
<td>-.032</td>
<td>-.165</td>
</tr>
<tr>
<td>SOFP</td>
<td>.244</td>
<td>.248</td>
<td>.190</td>
<td>.983</td>
<td>.334</td>
</tr>
</tbody>
</table>

a. Dependent Variable: DCM

The regression model above, shows a negative relationship between Customer's Accessibility (CUSA) and Distribution Channel Management (DCM) and the relationship is statistically significant ($p<0.05$). The relationship is in line with a priori expectation. Therefore, using the probability value of the estimate $p(b_1) <$critical value of 0.05, thus, we reject the null hypothesis. That is, we accept that the estimate $b_1$ is statistically significant at the 5% level of significance. This implies that consumer's accessibility has a significant effect on distribution management.

A positive relationship exist between sources of fake product (SOFP) and Distribution Channel Management (DCM) and it is not statistically ($p>0.05$) and not in line with a priori expectation. Therefore, using the probability value of the estimate $p(b_2) >$critical value of 0.05, thus, we accept the null hypothesis. That is, we accept that the estimate $b_2$ is not statistically significant at the 5% level of significance. This implies that sources of fake product have no significant effect on distribution management.

Table 2: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.840</td>
<td>.794</td>
<td>.046</td>
<td>9.80464</td>
<td>2.199</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), SOFP, CUSA
b. Dependent Variable: DCM

The coefficient of determination $R^2$ for the study is 0.794 or 79.4%. This indicates that 79.4% of the variations in the model can be explained by the explanatory variables of the model while 20.6% can be attributed to unexplained variation captured by the stochastic term. The Durbin Watson statistics is 2.199, this shows that there is a minimal degree of autocorrelation in the model of the study.

The analysis of hypothesis one indicate that the null hypothesis was rejected. This implies that there exist a significant relationship between distribution management and its effects on consumer's accessibility. This result defers from the work of Min & Mentzer, 2000; Mentzer, Mello & Stank, 2005 who found different result that indicates the effect of distribution management on consumer's accessibility was not statistically significant. The analysis of hypothesis two indicates that the null hypothesis was rejected. This result implies that the source of counterfeit products affects the control of counterfeit products. This result is supported by the work of (Okpako, 2003) who maintained that because counterfeiting of medicines is a hugely
lucrative business due to the continued high demand for medicines and low production costs. The absence of deterrent legislation in many countries also encourages counterfeitters since there is no fear of being apprehended and prosecuted. The analysis of hypothesis three shows that the null hypothesis was rejected for the alternative hypothesis. That is, we accept that the estimate $b_3$ was statistically significant at the 5% level of significance. This implies that there exist a significant relationship between distribution channels management and control of counterfeit product. This result is in line with the work of Scannel, Vickery & Droge, and 2000 which found similar result for DCM and control of counterfeit product.

5. Conclusion and Recommendations:

Conclusion:
Despite the global nature of counterfeit product, distribution channel management has played a significant role in curtailing the proliferation of fake and counterfeit products in the market. In the light of the above analysis it is obvious that the role of Company Executives in Channel Management setting distribution objectives or goals, and other function aimed at motivating channel members to perform. The importance of managing relationships between the channel managers and firms performing distribution functions, which makes products and services available to customers at the right time and place at the right price is a prerequisite for achieving an efficient distribution channel management in which the health of the consumer and the economy is protected as counterfeiting poses threats to legitimate businesses as well.

The study identified that distribution channel management can be used to control the proliferation of counterfeit products. A positive relationship exit between Customer's Accessibility (CUSA) and Distribution Channel Management (DCM) and the relationship is not statistically significant. The relationship is in line with a priori expectation. A positive relationship also exists between sources of fake product (SOFP) and Distribution Channel Management (DCM) and it is not statistically and not in line with a priori expectation. The result of the study indicates that when counterfeit products eliminated in the distribution channel through efficient channel management, it will enhance the economy and protect the consumers from the deleterious effects of these products. Distribution channel management has a significant relationship with the control of counterfeit product.

Recommendation:
Based on the finding the following recommendation was made.

1. Laws guiding the regulation of imported and manufactured products should be strengthened.
2. Distribution Channels Management policies should be an approach to control counterfeit products by instituting on a clear post market surveillance system that will aid the fast identification of counterfeit and other substandard drugs.
3. Consumers access to counterfeit product should be restricted through an efficient distribution channel management.
4. Incorporate revolutionary authentication and product differentiation technologies into products packaging in other words a strong Pharmacovigilance system which goes from bottom to top should be established so that any adverse/unwanted effects and other drug related problems will be identified.

Reference:


109th Congress First Session, May 25, 2005, Washington DC.


