Customers' Prescription of Foreign versus Local Brands in the Pharmaceutical Industry of Peshawar (Pakistan)

Review of Integrative Business & Economics Research

Saira Tajdar*
Faculty of Business Administration
Preston University, Pakistan

Sajad Ahmad
Faculty of Business Administration
Preston University, Pakistan

Jawad Ahmad
Department of Business Administration
Institute of Management Sciences, Pakistan

Abdullah Khan
Department of Business Administration
Iqra University, Pakistan

ABSTRACT

The pharmaceutical market of Pakistan showed a mixed trend since 1947. During seven decades competitive market has been created by local and foreign pharmaceutical companies. However, the competition does not dictate frequent prescriptions of medicinal brands by customers (Doctors). This research objective are to explore that what factors are influencing doctor's prescription decision, whether medicinal brands are prescribed due to Country of Origin (COO) or some other factors and to explore important factors for increasing effectiveness of medicinal brands. Previous research has done in various markets for different brands preferences; however, pharmaceutical industry has limited research in this context. This study is conducted in two pharmaceutical departments by selecting top recommended formulas/brands. Secondary data about COO, ethnocentrism and factors influencing brands preferences was collected. Primary data was collected through 100 self-administered questionnaires. The results show that COO is important in some categories of pharmaceutical products but not for all.

Keywords; Customer prescription; Country of origin; empirical study**;** Foreign versus local brands; Pharmaceutical Industry; Pakistan

I. INTRODUCTION

Background of the Study

In this dynamic era of marketing revolution and impact of marketing activities on the life of a common man, people became more brand conscious in most of the products. Before deciding to purchase a product, customers associate product with some particular factor including quality, performance, features and at times to country of origin (COO). Consumers analyze a

ISSN: 2304-1013 (Online); 2304-1269 (CDROM)

product with two aspects of variables, some are the integral part of product as intrinsic variables which provide basis for intangible product personality (e.g. taste, design, performance, etc.) and some are the external part of product as extrinsic variables (e.g. price, brand name, warranty, country of origin) which are tangible attributes or physical characteristics and potential sources of information to customers as well (Bilkey and Nes, 1982; Cheron and Propeck, 1997). Previous studies shows that in case of limited information about intrinsic cues, customers are generally relying and using the extrinsic cues such as COO effect for evaluating products; however, these also act as an alternative variable in the absence of the knowledge about intrinsic cues of a product (Olson and Jacoby 1972; Szybillo and Jacoby 1974; Johansson 1988; Heimbach et al. 1989; Hong and Wyer 1989; Maheswaran 1994). Major customer opinion is that a product made by the country for the first time will always be preferred by consumers, even if the others are making better one. Therefore, the decision is based on an extrinsic factor which is country of origin or "Made in" label.

Some specific countries are famous for certain products like Japan is highly preferred for electronics and watches, Finland for mobile phones and Pakistan for fabrics (Ghani, Jan & Imran, 2007). But in pharmaceutical industry it's very difficult to associate medicines of all categories and diseases to any one country. In Pharmaceutical industry, it varies based on in-depth research that a country did for the treatment of one disease and the invention of one country related to a specific category of medicine.

In Pakistan, the pharmaceutical industry was growing consistently from 1947-1971 but in 1972 it came on decline due to the Drug Generic Act which imposes some discriminatory and restrictive policy on local providers. However, it again started growing in 1999 due to huge investment by Government of Pakistan in the industry with the establishment of two units named, Khurram Chemical Limited and Antibiotics Private Limited under Pakistan Industrial Development Board (PIDB) (Parab, 2005). The total registered pharmaceutical companies in Pakistan are 316, out of which 90% are local and 10% are Multinational. According to their provincial share, Sindh province has been dominated by MNC's operated with 23 units out of total 30 units followed by the Punjab and Baluchistan dominated with 5 and 2 respectively. In the context of local companies, Punjab has highest share of local companies with 165 out of total 286 units. Then, Sindh has 76 units, Khyber Pakhtoon Khwa (KPK) has 37 units, Baluchistan has 5 units and Azad Jammu and Kashmir has 3 units of local companies operated in the country (Parab, 2005).

According to Industrial Pakistan (1994), total market of pharmaceutical industry has been broadly divided into three heads;

1. Multi National Pharmaceutical Companies
2. National Pharmaceutical Companies
3. Exporters of drugs

However, this research study is based solely on the comparison of prescription based medicines made by MNC's or National/Local companies in Pakistan, ignoring the imports and exports in Pakistan.

Objectives of the Study

1. To explore that what factors are influencing Doctor's prescription decision for medicinal brands of different categories in Pharmaceutical industry?
2. To explore that whether medicinal brands are prescribed due to COO or some other factors take precedence?

ISSN: 2304-1013 (Online); 2304-1269 (CDROM)

3. To explore important factors for increasing the effectiveness of different brands of medicines for different companies?

Significance of Study

The study confirms findings of previous research by providing managerial implications may be taken for local market in which market intermediaries (retailers, wholesalers, agents etc) merchandisers and importers may prevent importing goods from those countries that are not favorably perceived by customers (Shin, 2001) as well as they may take a chance to support "buy domestic campaigns" (Garick Kea, Ian Phau; Klein et al, 1998; Shimp & Sharma, 1995).

The study also confirms previous research studies by an implication that it may propose strategies for new entrants in the market for promoting and presenting their products in local and global markets for expansion. (Klein et al, 1998; Klein, 2002; Jung et al., 2002).

The study endeavors to analyze the efficiency and effectiveness of the drug selection and its performance, preferences in brand selection in terms of foreign versus local brands. Anything learned, will ensure contribution to the process of better health care services to the clientele and problem resolution in health care sector. Several different ingredients in this perspective will be welded together to develop efficient health care system.

The study also confirms managerial implication in the study of Maheswaran (2006), in which he argues that his research on COO provides a structured framework based on which managers can design and evaluate different communication strategies aimed at managing corporate brands across national borders. Investigation in emerging markets has received considerable attention during the last few decades in all sectors of economy; therefore, this study is also exploring market potential represented in pharmaceutical industry.

The research suggests promotional strategies for different local and MNC's to modify their advertising strategies based on research findings in emerging pharmaceutical market of Pakistan to accommodate larger share of market.

The study will be useful for awareness creation among the general people, medical practitioners, and policy makers of the state.

II. LITERATURE REVIEW

In the current marketing revolution, customers associate some "goodwill" or positive feelings with brands/companies, known as "equity" that results in highest brand loyalty and potential image for the target brand and company (Maheswaran 2006). Various studies were conducted for proposing strategies for establishing highest brand and corporate equity (Gurhan-Canli and Maheswaran 1998). Literature shows that countries also have some equity associated with them like brands, termed as "country-of-origin effects" that is considered more important in product evaluations. Sometimes customers purchase products not for its performance but for the country from where it originated or "Made in" label.

ISSN: 2304-1013 (Online); 2304-1269 (CDROM)

Elliott and Cameron (1994) has defined country of origin (COO) effect, known as "Made in" concept, as the positive or negative persuasion that a product's country of made/manufacture has on customer's decision making processes or succeeding behavior. In the perspective of customer's decision making, country of origin is defined as an extrinsic cue that come into an action as a risk mitigate or quality cue for customers (Cordell, 1992). In contrast, the concept of country of origin is still going to be a complex one. Therefore, due to globalization and the expansion of multinational firms, organizations sell the same products/formulas under identical brand names in all over the world (Nakra, 2008).

Bilkey and Nes (1982) found that international product life-cycle model identifies only supply side variables like product rivalry, complexity of invention and relative invention costs, ignoring demand side variables, like the result of country sourcing on the demand of the product. Thus, the importance of the location of manufacturing on demand may be traced as an important question. Empirical research shows that COO has a substantial pressure on the quality perception of a product. (Bilkey & Nes, 1982) and favorable (vs. unfavorable) evaluations of a country or positive (vs. negative) perceptions of a product related with that product directs to a resultant favorable (vs. unfavorable) evaluations of the product (Hong and Wyer 1989, 1990; Maheswaran 1994; Gürhan-Canli and Maheswaran 2000 b; Agrawal and Maheswaran 2005). Various studies proved that COO strongly affects customer's perception for evaluating products (Rierson 1967; Anderson and cunningham 1972; Gaedeke 1973; Bannister and saunders 1978; Yong Zhang 1997; Maheswaran 2006; Ghani & Imran, 2007; Ghazali, Othman, Yahaya & Ibrahim, 2008).

Generally, developed countries products tend to be more positively evaluated as compared to developing countries (Schooler 1971; Gaedeke, 1973; Bilkey and Nes, 1982 ;). Contrarily, for customers in developed nations, research has constantly proved that there is a tendency of preference for their home made products (Rierson, 1967; Bilkey and Nes, 1982; Samiee, 1994 ;). Simultaneously, some studies showed that customers prefer products of those countries that appear culturally similar to their home country comparatively to culturally dissimilar countries (Crawford and Lamb, 1981; Wang and Lamb, 1983; Heslop et al., 1998). However, different countries are preferred for different product categories and it is evident that customer's perceptions for products of different countries are related to judge product quality, which is both product and country specific. (Dornoff, Tankersley & White 1974; Festervand, Lumpkin & Lundstran 1985; Bullard & Croning 1988; Guiseppe Marelli,Alan B. Flaschner and Catherine Goodwin; Han 1989; Prema Nakra, 2006; Ghani & Imran, 2007).

Research on COO have used a single cue loom to this concept which means to use country-of-origin as a sole option and did not giving more choices to the respondents that exaggerates the influence of country-of-origin effect. Furthermore, single cue approach ignores other marketing factors influencing customer's preferences for products such as brand name, quality, price and after sale services, which also prejudice outcome in support of proving considerable country-of-origin effect (Han and Terpstra, 1988).

Literature showed that customers' response initiated by country of origin and brand name is alike (Kleppe et al., 2002). However, O'Shaughnessy et al. (2002) argued that a brand is a convenient unitary image, and Papadopolous (2002) found that the image triggered by a country of origin is contextual, i.e., impacted by times, civilization levels, and audience characteristics. Some studies focuses that liking for local versus foreign products is linked

ISSN: 2304-1013 (Online); 2304-1269 (CDROM)

with the country of origin, product group and the interface of country of origin and the exact product group (Balabonis et al, 2004).

Literature showed that in the analysis of foreign versus local brands; consumer ethnocentrism is also linked with optimistic perception of the local brand and has negligible effect on the perception of foreign brands (Supphellen et al. 2001). Shimp & Sharma (1987) defined consumer ethnocentrism as, the attitude possessed by customers about the suitability and honesty of buying foreign imported products because they argued further that highly ethnocentric customers believe that it is very unpatriotic, immoral and unsuitable to buy foreign products because it will damage one's own economy; that's why they are preferring local products over foreign and disagree to buy foreign products (Shimp & Sharma, 1987; Netemeyer et al., 1991; Sharma et al., 1995). Therefore, ethnocentrism directs towards more optimistic evaluations of home made products (Sharma, Shimp, & Shin, 1995). However, if domestically some products are not manufactured, then even ethnocentric customers will buy foreign products (John J. Watson, Christchurch, Katrina Wright 1999).

Research showed that in several circumstances COO is used as a key factor in evaluating new products as Han (1989) and Maheswaran (1994) proved that country of origin has been considered as an important cue in product evaluation especially when customers are unknown to product group or according to Hong & Wyer (1989) less motivated to use product information. Some studies showed that low-knowledge customers with little use of intrinsic information will utilize conventional information regarding COO for product evaluations and vice versa (Petty and Cacioppo 1981; Hong and Toner 1989; Maheswaran, 1994; Byeong, 2004 ;). In contrast, some other researchers proved that high-knowledge customers are most probably using COO information in product evaluations and vice versa (Johansson et al. 1985; Johansson and Nebenzahl 1986; Johansson 1988; Heimbach et al. 1989).

Nakra (2006) found that the nature and power of origin effects is due to some factors including product group, product incentive in use for a research, respondent demographics, pre-knowledge of customers and familiarity with the product group as well as customers information processing approach. In addition, country image and opinions that effect customer's evaluation of product quality and perceptions that influence consumer evaluation of product quality, threat, willingness to buy and other related moderating variables are shaped during countless experiments and observation gathered from customers. Experience with a country's products categories, buying behavior, demographic and psychographic conditions effect the customer's perceptions.

Research on COO effects examined that how a country's image, e.g. workmanship, innovation, and technological advancement, (Bilkey & Nes, 1982; Johansson et al., 1985; Johansson, 1989), or some complex and ambiguous issues, such as hybrid/bi-national products (Han & Terpstra, 1988, Chao, 1993, 2001) or customer's animosity (Klein et al., 1998; Shin, 2001; Nijissen & Douglas, 2004) is expected to influence the products of one country. Literature showed that other product attributes take priority, especially product quality, technological prowess, brand name and price (Ghani & Imran, 2007; Ghazali, Othman, Yahya & Ibrahim; 2008). Another study also identified that factors like, Economy, Technology, Wealth index, Regulatory mechanisms, Government and Business history also contributes to country image for the specific categories of products (Roll, 2008). Research also found that country stereotyping is also effecting product evaluations (Bilkey & Nes, 1982).

ISSN: 2304-1013 (Online); 2304-1269 (CDROM)

Some researchers emphasized to provide relevant product information to customers rather than the COO for making product evaluations that may affect their judgments such as respondent personality, nationality and knowledge about the product category may be evaluated (Johanson, Douglas, and Nonaka 1985). In contrast some current studies verified the significant effect of COO on attitudes towards different product categories, purchasing behavior and willingness to purchase different products, often representative aspects that are much stronger than other intrinsic variables (Okechuku, 1994; Ahmed and d'Astous, 1996; Lantz and Loeb, 1996).

Nakra (2006) argued on the price setting of companies that some marketers have an attitude to reduce prices of brands which results negative country of origin. This approach always goes wrong because it reemphasizes the conventional unfavorable belief that if a product is cheap then it would have low quality. That's why researchers suggests that it is good to make a brand with a reasonable price rather than a brand with a lower price, which will also reduces negative COO. Moreover, maintaining strong relationship with market intermediaries also reduces negative COO effect. Various aspects influence the COO effect as at times the country itself or the product type or the brand image or the company image produce positive or negative response by customers. However, it is evident that negative/unfavorable COO image does not vanish overnight and perceptions about different countries changes with the passage of time. Therefore, the key of success is to develop such marketing strategies which reemphasize favorable COO effect and deemphasize the negative.

Despite of the factor number of researchers agreed on the effect of COO on product evaluations but insufficient proofs exists that in what particular situations the COO effect is very important to consider because it will suggest marketers to build more effective and efficient marketing strategies for their products abroad (Zhang, 1997).

Samiee (1994) researched that one key limitation of current research on COO is the a priori assumption that all the respondents would be informed and are using the COO as a major cue for evaluating products, however, this is reasonably biased and exaggerate the COO effect size as all customers response cannot be same for preferring products in different categories. Due to this factor, the available literature gave scanty importance to the differential levels of customers in their consciousness and perceived value of country of origin.

Research in international marketing proved that country affiliations lead towards customer's bias, based on the image of that country in the minds of customers (Martin Roll, March 2008). Country of origin biases were found for both developed and developing countries. In the other hand, some researchers had questioned the priority of COO effect for most customer's decision making process in product evaluations (Schooler and Wildt, 1968; Hugstad and Durr, 1986; Mitchell and Greatorex, 1990; Elliott and Cameron, 1994). In the perspective of Pakistan, after independence in 1947 Pakistan has adopted an import oriented culture which finally results in a critical foreign debt level of $39 billion for Pakistan (Bokhari, 1997). Due to this reason, public and economic policies are directed towards strengthening domestic industries in Pakistan which will reduce the highest level of unemployment and trade deficits. Since last many years customers in Pakistan are more enthusiastic to purchase home made products which is evident from their high ethnocentrism (4.20) in Pakistan market which also shows their increasing sentiment for "buy domestic" campaign among customers in Pakistan (Bandyopadhyay and Anwar, 2002).

ISSN: 2304-1013 (Online); 2304-1269 (CDROM)

The information cue on which this study is based is the customer's preferences/prescription of products on the basis of its local or foreign origin. In depth research has been conducted by researchers on COO and on the relevance of the stated concept on consumer decision making process but limited contributions was made by the researchers for studying Pakistan market for analyzing these factors in different product categories. The study is conducted for the nature of its important contribution that it may add to the general body of knowledge that what are the different cues that are influencing the decision making of customers in Pharmaceutical industry of Pakistan. As the nature of product used in this industry is that it should be prescribed by the experts .i.e. Doctors. Therefore, only prescribed medicines are taken for the study and doctors are customers for this type of product.

III. METHODOLOGY

Problem Statement

What are the factors influencing customers' (doctors) prescription decision for foreign versus local brands?

Due to the use of advance techniques in research and development, there are hundred formulas available for curing one disease as well as there are thousands brands of different leading companies that are being prescribed by doctors for curing a disease. Thus some questions arises that;

1. What factors are influencing the prescription decision of customers' (doctors) for foreign vs. local brands?
2. What dimensions are important to consider for preferring one brand in the specific product category on another?
3. What criteria are maintained for the efficiency and effectiveness of a medicine?

Theoretical Framework & Hypotheses

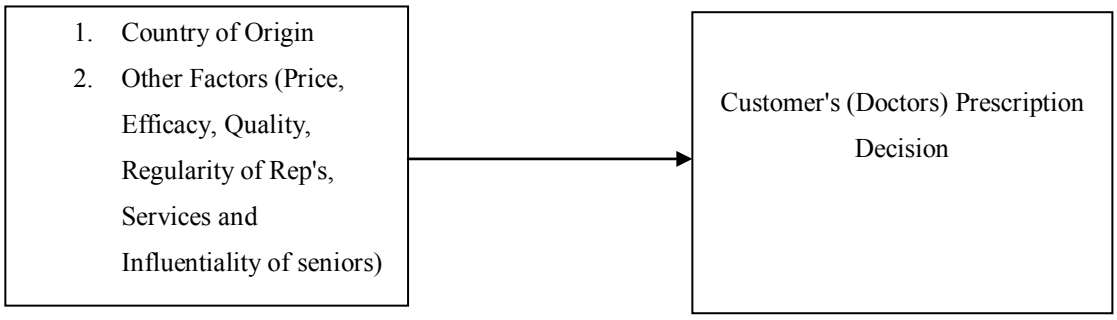
Literature shows that country of origin seems as a key variable influencing customer preference for foreign versus local brands. Various studies proved that COO strongly affects customer's perception for evaluating products (Rierson 1967; Anderson and cunningham 1972; Gaedeke 1973; Bannister and saunders 1978; Zhang 1997; Maheswaran 2006; Ghani & Imran, 2007; Ghazali, Othman, Yahaya & Ibrahim, 2008). Most of the studies were indicating the relationship of product evaluations based on COO as a major factor, giving less importance to other factors with the conclusion of a positive association between COO and evaluation of product (Han, 1989; Hong & Wyer, 1989; Maheswaran, 1994; Beyeong 2004). The study is conducted to evaluate the relationship of COO and other factors like, price, efficacy, quality, regularity of representative's (Rep's), services (Academic/Personalized) and influentially of seniors, on customer preferences (prescription in case of Doctors) for foreign versus local brands.

Based on favorable relationship between country of origin and product evaluations in different markets, the proposed model indicating the role played by COO and other factors for influencing the prescription decision of customers (Doctors) in Pharmaceutical industry of

ISSN: 2304-1013 (Online); 2304-1269 (CDROM)

Peshawar, Pakistan. Figure # 1 demonstrates the important variables of the model. The model contains the direct/positive relationship of COO and other factors (Price, efficacy, quality, regularity of representatives (rep's), services (academic/personalized) and influentiality of seniors) with the customer's prescription decision.

Figure 1: Theoretical Framework



Based on literature and proposed model, the study hypothesizes a direct association/relationship between COO and other factors (Price, efficacy, quality, regularity of rep's, services and influentiality of seniors) with Customer's (Doctors) Prescription Decision. These hypotheses are:

Ho*: Country of origin is considered most important factor in prescription decision of customers for medicinal brands.*

Ha*: Country of origin is not considered most important factor in prescription decision of customers for medicinal brands.*

Target Population

Target population for the research was doctors in the main five hospitals of Peshawar including Hayatabad Medical Complex (HMC), Lady Reading Hospital (LRH), Khyber Teaching Hospital (KTH), North West Hospital (NWH) and Rahman Medical Institute (RMI). The scope of research is to analyze Chest and ENT departments of these five main hospitals. In each department of these five hospitals there are approximately 315 registered doctors, which is population framework. Thus the total population of the study is approximately 1600 doctors.

Sample Size

A total sample of 100 was surveyed in the study in which 50 were selected from each department

Sampling Procedure

The simple random sampling was used for reaching maximum number of target population. The questionnaires were filled from doctors of these two different departments' from the top

ISSN: 2304-1013 (Online); 2304-1269 (CDROM)

five hospitals of Peshawar. The data collection period was four months due to the number of questionnaires in two different departments and from five hospitals. The questionnaires were distributed almost evenly in men and women doctors in their specialized fields with minimum education level of MBBS.

Research Instrument

A direct survey was conducted like previous studies through a self-administered questionnaire with drop off method (Ghazali, Othman, Yahya & Ibrahim, 2008) In the drop off method, questionnaire were given to subjects to respond conveniently and after few days filled questionnaires were collected back.

Selection of Products

For such type of studies, research supported to select those products categories in which domestic alternative/substitutes are available (John J. Watson and Katrina Wright 1999). Therefore, those product categories were selected for which domestic alternatives were available. The frequently prescribed formulas for general diseases in two categories of health treatments like ENT and Chest were selected based on expert's opinion.

Data Collection & Data Analysis Techniques

Both primary and secondary data was collected. Statistical Package for Social Sciences (SPSS) was used for data analysis (Ghazali, Othman, Yahya & Ibrahim, 2008). Nominal scale was used in questionnaires. Non-parametric statistical test .i.e. Chi-Square test has been applied for the empirical testing of the study. Literature shows that chi-square test has been adopted by various researchers in their studies because of two key reasons; 1) Due to its appropriateness for the nature of data collected in such non-parametric and nominal data research. 2) The implementation of this test does not need those preventive measures which were generally linked with other statistical tests in parametric study. The use of this non-parametric chi square test has also a positive point that it does not require implementing any specific functional form as compared to parametric models; however, the limitation is that it cannot compute any error term (Farrell, 1957).

Data was analyzed separately for each of two departments. All pharmaceutical departments have different top recommended formulas for some general health treatments. Therefore, in every department 3-4 top recommended formulas were selected based on experts/doctors opinion and the prescriptions were analyzed with their response in questionnaire. Therefore, all these departments are presenting different results for each category of top recommended formula.

IV. ANALYSIS

Results

Results are analyzed and discussed separately for each department as follows:

- ***Chest Department Results***

ISSN: 2304-1013 (Online); 2304-1269 (CDROM)

Table 1 to 11 shows different responses of Chest Department for the four selected formulas including 1) Anti-asthma 2) Antibiotic 3) Anti-TB and 4) Steroid and the customers preferences about these top recommended formulas.

Table 1 Anti-asthma

Factors	Highly Important	Important	Least Important	Chi-square	Asymp Sig
Price	10	13	27	24.960	0.000
Country Of Origin	20	25	5		
Brand Name	20	12	18		

The result in Table 1 shows importance of factors .i.e. Price, country of origin and brand name which are influencing prescription decision of customers'(doctors) for different product categories in Chest Department. COO is the highly important and price is least important factor for Anti-asthma.

Table 2 Antibiotics

Factors	Highly Important	Important	Least Important	Chi-square	Asymp Sig
Price	6	23	21	17.880	0.001
Country Of Origin	21	17	12		
Brand Name	23	10	17		

In case of Antibiotics, (Table 2) highly important factor for Antibiotics is brand name, showing highest frequency and least important is price.

Table 3 Anti-TB

Factors	Highly Important	Important	Least Important	Chi-square	Asymp Sig
Price	4	25	21	30.360	0.000
Country Of Origin	21	19	10		
Brand Name	25	6	19		

In case of Anti-TB, (Table 3) highly important factor for Anti-TB is brand name, showing highest frequency and least important is price.

Table 4 Steroids

Factors	Highly Important	Important	Least Important	Chi-square	Asymp Sig
Price	17	13	20	3.360	0.499
Country Of Origin	15	21	14		
Brand Name	18	16	16		

In case of Steroids, result is insignificant (Table 4). There is no difference between all these three factors in prescription decision for brands.

ISSN: 2304-1013 (Online); 2304-1269 (CDROM)

Table 5 Reasons for Country's Brand Preferences of Anti-asthma

Factors	Frequency	Percentage
Price	5	10
Efficacy	13	26
Quality	10	20
Regularity of Rep's	9	18
Services	2	4
Influentiality of seniors	1	2
All of these	10	20
Any Other	0	0
Total	50	100

Chi-square value= 17.200 df= 6 Asymp. Sig= 0.009

Table 5 shows reasons for brand preferences for Anti-asthma. The customers' (Doctors) are prescribing different country's brands based on efficacy in Anti-asthma products.

Table 6 Reasons for Country's Brand Preferences of Antibiotics

Factors	Frequency	Percentage
Price	4	8
Efficacy	10	20
Quality	9	18
Regularity of Rep's	7	14
Services	4	8
Influentiality of seniors	4	8
All of these	12	24
Any Other	0	0
Total	50	100

Chi-square value=9.080 df= 6 Asymp. Sig= 0.169

Table 6 shows reasons for brand preferences for Antibiotics. Result is insignificant which shows there is no difference between all these factors in prescription decision of customers' (Doctors) in case of Antibiotics.

Table 7 Reasons for Country's Brand Preferences of Anti-TB

Factors	Frequency	Percentage
Price	4	8
Efficacy	9	18
Quality	11	22
Regularity of Rep's	6	12
Services	3	6
Influentiality of seniors	7	14
All of these	10	20
Any Other	0	0
Total	50	100

Chi-square value= 7.68 df= 6 Asymp. Sig= 0.262

ISSN: 2304-1013 (Online); 2304-1269 (CDROM)

Table 7 shows reasons for brand preferences for Anti-TB. Result is insignificant, which means that there is no difference in all these factors in prescription decision of customers' (Doctors) in case of Anti-TB.

Table 8 Reasons for Country's Brand Preferences of Steroids

Factors	Frequency	Percentage
Price	5	10
Efficacy	9	18
Quality	11	22
Regularity of Rep's	4	8
Services	5	10
Influentiality of seniors	7	14
All of these	9	18
Any Other	0	0
Total	50	100

Chi-square value= 5.72 df= 6 Asymp. Sig= 0.455

Table 8 shows reasons for brand preferences for Steroids. Result is insignificant, which means that there is no difference in all these factors for prescription decision of customers' (Doctors) in case of Steroids.

Table 9 Increased Price effect on the brands

Recommended Formulas	Switch	Don't Switch	Chi-square	Asymp Sig
Anti-asthma	19	31	2.880	0.090
Antibiotics	12	38	13.520	0.000
Anti-TB	13	37	11.520	0.001
Steroids	16	34	6.480	0.011

Result in Table 9 shows the increased price effect on the brands of different top recommended formulas in Chest Department. In Anti-asthma case, result is insignificant and there is no difference in the behavior to switch or don't switch. In Antibiotics case, there are more tendencies for not switching to other brands due to increased price change. In Anti-TB case, there is greater frequency of not switching due to increased price change. In Steroids case, there is greater frequency of not switching due to negative price change for Steroids.

Table 10 Reduced Price effect on the brands

Recommended Formulas	Switch	Don't Switch	Chi-square	Asymp Sig
Anti-asthma	28	22	0.720	0.393
Antibiotics	23	27	0.320	0.572
Anti-TB	15	35	8.000	0.005
Steroids	15	35	8.000	0.005

Result in Table 10 shows reduced price effect on the brands of different top recommended formulas in Chest Department. In Anti-asthma and Antibiotics case, results are insignificant that means there is no difference in the behavior to switch or don't switch with reduced price

ISSN: 2304-1013 (Online); 2304-1269 (CDROM)

change. In Anti-TB and Steroids case, there are greater frequencies for not switching due to reduced price change.

Table 11 Preferences in case of deciding to switch over to other brands

Recommended Formulas	Foreign(MNC)Country Brand	Local Country Brand	Chi-square	Asymp Sig
Anti-asthma	29	21	1.280	0.258
Antibiotics	10	40	8.000	0.005
Anti-TB	28	22	0.720	0.393
Steroids	16	34	30.760	0.000

Table 11 shows preferences in case of deciding to switch over to other brands that mean once if customers'(doctors) wants to switch then whether they prefer foreign or local brands in Chest Department. In Anti-asthma and Anti-TB case, results are insignificant that means there is no difference that whether they would prescribe foreign or local brands. In Antibiotics and Steroids case, there are greater frequencies of prescribing local country's brands as compared to foreign.

- ***ENT Department Results***

Table 12 to 20 shows different responses of ENT Department for the four selected formulas including 1) Antibiotic 2) Anti-allergic and 3) Pain Killers and the customer's preferences about these top recommended formulas.

Table 12 Antibiotics

Factors	Highly Important	Important	Least Important	Chi-square	Asymp Sig
Price	8	17	25	26.400	0.000
Country Of Origin	24	22	4		
Brand Name	18	11	21		

In Antibiotics, COO is highly important and Price is least important factor. (Table 12)

Table 13 Anti-allergic

Factors	Highly Important	Important	Least Important	Chi-square	Asymp Sig
Price	7	11	32	34.080	0.000
Country Of Origin	23	21	6		
Brand Name	20	18	12		

In Anti-allergic, COO is highly important and Price is least important factor. (Table 13).

Table 14 Pain Killers

Factors	Highly Important	Important	Least Important	Chi-square	Asymp Sig
Price	30	10	10	30.000	0.000
Country Of Origin	5	25	20		
Brand Name	15	15	20		

In Pain killers, Price is highly important and COO is least important factor. (Table 14).

ISSN: 2304-1013 (Online); 2304-1269 (CDROM)

Table 15 Reasons for Country's Brand Preferences of Antibiotics

Factors	Frequency	Percentage
Price	4	8
Efficacy	10	20
Quality	9	18
Regularity of Rep's	8	16
Services	3	6
Influentiality of seniors	4	8
All of these	12	24
Any Other	0	0
Total	50	100

Chi-square value=10.200 df= 6 Asymp. Sig= 0.116

Table 15 shows reasons of country's brand preferences for Antibiotics. Result is insignificant that means there is no difference in all these factors for prescription decision of customers' (doctors).

Table 16 Reasons for Country's Brand Preferences of Anti-allergic

Factors	Frequency	Percentage
Price	4	8
Efficacy	9	18
Quality	10	20
Regularity of Rep's	8	16
Services	5	10
Influentiality of seniors	4	8
All of these	10	20
Any Other	0	0
Total	50	100

Chi-square value= 6.280 df= 6 Asymp. Sig= 0.393

Table 16 shows reasons of brand preferences for Anti-allergic. Result is insignificant that means there is no difference in all these factors for prescription decision of customers' (doctors).

Table 17 Reasons for Country's Brand Preferences of Pain Killers

Factors	Frequency	Percentage
Price	10	20
Efficacy	7	14
Quality	8	16
Regularity of Rep's	8	16
Services	6	12
Influentiality of seniors	7	14
All of these	4	8
Any Other	0	0
Total	50	100

Chi-square value= 2.920 df= 6 Asymp. Sig= 0.819

Table 17 shows reasons of brand preferences for Pain killers. Result is insignificant that means there is no difference in all these factors for prescription decision of customers' (doctors).

ISSN: 2304-1013 (Online); 2304-1269 (CDROM)

Table 18 Increased Price effect on the brands

Recommended Formulas	Switch	Don't Switch	Chi-square	Asymp Sig
Antibiotics	21	29	1.280	0.258
Anti-allergic	41	9	20.480	0.000
Pain Killers	41	9	20.480	0.000

Result in Table 18 shows increased price effect on the brands of different top recommended formulas in ENT Department. In Antibiotics case, result is insignificant that means there is no difference to switch or don't switch with increased price effect. In Anti-allergic case, there is greater frequency to switch due to increased price change. In Pain killer case, there is greater frequency to switch due to increased price change for Pain killers.

Table 19 Reduced Price effect on the brands

Recommended Formulas	Switch	Don't Switch	Chi-square	Asymp Sig
Antibiotics	41	9	20.480	0.000
Anti-allergic	29	21	1.280	0.258
Pain Killers	21	29	1.280	0.258

Result in Table 19 shows reduced price effect on the brands of different top recommended formulas in ENT Department. In Antibiotics case, there are more tendencies to switch to other brands due to reduced price change. In Anti-allergic and Pain killer case, results are insignificant that means there is no difference to switch or don't switch with reduced price effect.

Table 20 Preferences in case of deciding to switch over to other brands

Recommended Formulas	Foreign(MNC)Country Brand	Local Country Brand	Chi-square	Asymp Sig
Antibiotics	21	29	1.280	0.258
Anti-allergic	16	34	6.480	0.011
Pain Killers	20	30	2.000	0.157

Table 20 shows preferences in case of deciding to switch over to other brands that mean once if customers'(doctors) wants to switch then whether they prefer foreign or local country's brands. In Antibiotics and Pain killer, results are insignificant that means there is no difference that whether they would prescribe foreign or local brands. In case of Anti-allergic, there is greater frequency to prescribe local country's brands in case of switching over to other brands.

V. CONCLUSION

Results indicate different patterns for different top recommended formulas in both departments. The trend of prescription of customers' (doctors) depends not only on COO but it also depends on other factors. Both departments have separate discussion, discussed below.

ISSN: 2304-1013 (Online); 2304-1269 (CDROM)

Results in Chest department indicate different trends for all four categories of top recommended formulas. For Anti-asthma, COO is highly important and Price is least important factor influencing customers' (doctors) prescription. In the rest of the factors, efficacy is also impacting prescription decision significantly. Due to increase and decrease in prices of anti-asthma products, customers' did not make any significant difference to switch or don't switch to other brands and if once they decided to switch over then there is also no significant difference in prescription of foreign versus local brands. Therefore for Anti-asthma, null hypothesis has been accepted and alternate hypothesis is rejected that proved that for brands of Anti-asthma COO effect prescription decision of customers.

For Antibiotics, brand name is highly important and price is least important factor influencing customers' (doctors) prescription decision. There is no difference between all other factors in prescription decision for antibiotics. In case of increase in prices, customers' don't switch to other brands but in case of decrease in prices customers' show significant differences. However, if customers' decided to switch over to other brands then they significantly prefer to switch to a local brand. In this case, null hypothesis is accepted and alternate hypothesis is rejected and it proved that for antibiotics COO does matter in prescription decision.

For Anti-TB, brand name is highly important and price is least important factor influencing customers' (doctors) prescription decision. There is no difference in all other factors for prescription decision. In case of both increase and decrease in prices, customers' don't switch to other brands but if once they decided to switch over to other brands then they are not making any difference to switch to either foreign brand or local brand. In this case, null hypothesis is accepted and alternate hypothesis is rejected and it's proved that COO does effect brand prescription for anti-TB.

For Steroids, there is no difference between all three factors including Price, COO and brand name in prescription decision for brands. There is no difference in all other factors for brand prescription. In case of both increase and decrease in prices, customers don't switch to other brands, however, if once they decided to switch then they prefer to switch to a local brand. In this case, null hypothesis is rejected and alternate hypothesis is accepted that customers' prefer other factors rather than COO in prescription decision.

Results in ENT department indicate different trends for all three categories of top recommended formulas. For Antibiotics, COO is highly important and Price is least important factor influencing customers' (doctors) prescription. There is no difference in all other factors for prescription decision of customers' (doctors) for Antibiotics. Due to increase in prices there is no difference to switch or don't switch, however, due to decrease in prices they switch to other brands. In addition, once they decided to switch over to other brands then there is no difference to switch to foreign or local brand. In this case, null hypothesis is accepted and alternate hypothesis is rejected proving that for Antibiotics customers' (doctors) decide based on COO.

For Anti-allergic, COO is highly important and Price is least important factor influencing customers' (doctors) prescription. In all other factors there is no difference in any factor for prescription decision of customers' (doctors). In case of increase in prices customers' switch to other brands but in case of decrease in prices there is no difference to switch or don't switch for other brands. However, once customers' decide to switch over to other brands then they significantly prefer to switch to a local brand. In this case, null hypothesis is accepted

ISSN: 2304-1013 (Online); 2304-1269 (CDROM)

and alternate hypothesis is rejected proving that COO is important for prescription decision of anti-allergic.

For Pain killers, price is highly important and COO is least important factor influencing customers' (doctors) prescription decision. In all other factors, there is no difference in any factor that may influence prescription decision. In case of increase in price customers' significantly switch to other brands but in case of decrease in price there is no difference, however, once they decided to switch over to other brands then again there is no difference that whether they will switch to foreign brands or local. In this case, null hypothesis is rejected and alternate hypothesis is accepted that customers' don't prefer COO for prescription decision but price is considered as an important factor.

Therefore, it is concluded that for medicinal brands in Pharmaceutical industry, COO is considered an important factor in prescription decision for Anti-asthma, Antibiotics and Anti-TB in Chest department and for Antibiotics and Anti-allergic in ENT department. For Steroids in Chest Department and for Pain killers in ENT department other factors are considered important in prescription decision as compared to COO.

REFERENCES

[1] Ahmed, S. and d'Astous, A. (1996), ``Country of origin and brand effects: a multi-dimensional and multi-attribute study", *Journal of International Consumer Marketing*, 9 (2), 93-115.

[2] Bandyopadhyay, S. and Anwar, S. (2002), Consumer Ethnocentrism and its Effects in Two Emerging South Asian Markets, Journal of Global Competitiveness, 10 (1): 476-487.

[3] Bilkey, W. and Nes, E. (1982), ``Country of origin effects on product evaluations", *Journal of InternationalBusiness Studies*, 13(Spring/Summer), 89-100.

[4] Bokhari, F. (1997). Shifting the Economic Emphasis. *AsiaMoney (Pakistan Survey Supplement)*, 3-9.

[5] Bullard, W.R. and Croning, J. J. (1988), Country-of origin effect in international customer service. *Southern Marketing Association,* 384-388.

[6] Cheron, E., and Propeck, J. (1997). "The Effects of the Country-of-origin on the Evaluation of Products; A State of the Art Review and Research Propositions". IAE de Paris (University Paris 1. Pantheon-Soronne) –GREGOR,7

[7] Crawford, J. and Lamb, C. (1981), ``Source preferences for imported products", *Journal of Purchasing and Materials Management*, 17(Winter), 28-33.

[8] Cordell, V. (1992), Effects of consumer preferences for foreign sourced products", *Journal of International Business Studies*, 23(2), 251-69.

[9] Dornoff, R. J., Tankersley, C. B. and White, G. P. (1974). Consumer perception of imports. *Akron Business and Economics. Review*, 5 (2), 26-29.

[10] Elliott, G. and Cameron, R. (1994), ``Consumer perception of product quality and the country of origin effect", *Journal of International Marketing*, 2(2), 49-62.

[11] Farrell, M. J. (1957), The measurement of productive efficiency, *Journal of the royal statistics society*, Vol 120

[12] Ghani, U., Jan, F. A. and Imran, M. (2007), Country-of-origin effect on consumer purchase decision of durable goods in NWFP (Pakistan).

ISSN: 2304-1013 (Online); 2304-1269 (CDROM)

[13] Gaedeke, R. (1973). Consumer attitudes toward products "Made in" developing countries. *J. Retailing,* 49(2), 13-24.
[14] Han, C. M. and Terpstra ,V. (1988). Country-of-origin effects for uni-national and bi-national products. *J. Int'l, Business Studies,* 19(2), 235-256.
[15] Hugstad, P. and Durr, M. (1986), A study of country of manufacturer impact on consumer perceptions, *Developments in Marketing Science, Academy of Marketing Science, Miami, FL.*
[16] Heslop, L., Papadopoulos, N. and Bourke, M. (1998), An interregional and intercultural perspective on subculture differences in product evaluation, *Canadian Journal of Administrative Sciences*, 15(2), 113-27.
[17] Han, C.M. (1989). Country image: Halo or summary construct? *J. Marketing Res*. 26(2), 222-229.
[18] Johansson, J. K., (1988), Determinants and Effects of the Use of "Made in" Labels, *International Marketing Review*, 6(1), 47-58.
[19] Johansson, J. K., Douglas, S.P. and Nonaka, I. (1985), Assessing the Impact of Country of Origin on Product Evaluations: A New Methodological Perspective, *Journal of Marketing Research*, 22(November), 388-396.
[20] Johansson, J. K. and Nebenzahl, I.J. (1986), Multinational Production: Effect on Brand Value, *Journal of International Business Studies*, 17(Fall), 101-126.
[21] Jung, K.., Ang, S., Leong, S., Tan, S., Pornpitakpan, C. & Kau, A. (2002), A typology of animosity and its cross-cultural validation, *Journal of Cross-cultural Psychology*, 33(6), 525.
[22] Kea, G. and Phau, I., (Un dated), A Conceptual Framework Examining the Effects of Consumer Animosity on Willingness to Purchase Foreign and Hybrid Products.

[23] Klein, J., Ettenson, R. & Morris, M. (1998), 'The Animosity model of Foreign Product Purchase: An Empirical Test in the People's Republic of China', *Journal of Marketing*, 62 (1), 89.
[24] Klein, J. (2002), 'Us versus them or Us versus Everyone? Delineating Consumer Aversion to Foreign Goods', *Journal of International Business Studies,* 33 (2), 345.
[25] Lumpkin, J., Crawford, J. and Kim, G. (1985). Perceived risk as a factor in buying foreign clothes - implications for marketing strategy. *Int'l J. Advertising*. 4 (2), 147-157
[26] Lantz, G. and Loeb, S. (1996), ``Country of origin and ethnocentrism: an analysis of Canadian and American preferences using social identity theory", *Advances in Consumer Research*, 23, 374-8.
[27] Ghazali, M., Othman, M.S., Yahya, A. Z. and Ibrahim, M. S. (2008). Products and Country of Origin Effects: The Malaysian Consumers' Perception. *International Review of Business Research Papers*; 4(2), 91-102.
[28] Moon, B. J. (2004), Effects of Consumer Ethnocentrism and Product Knowledge on Consumers' Utilization of Country-of-Origin Information, *Advances in Consumer Research*, 31, 667-684
[29] Mitchell, V. and Greatorex, M. (1990), ``Consumer purchasing in foreign countries: a perceived risk perspective", *International Journal of Advertising*, 9 (4), 295-307.
[30] Maheswaran, D.(2006), Country of Origin Effects: Consumer Perceptions of Japan in South East Asia, *Center for Japan-U.S. Business and Economic Studies, The Leonard N. Stern School of Business, New York University.*
[31] Marelli, G., Flaschner, A., Goodwin, C. (2008), an exploratory study of the influence of ethnocentrism, self-efficacy, and involvement on perceived reliability of technology.

ISSN: 2304-1013 (Online); 2304-1269 (CDROM)

[32] Okechuku, C. (1994), ``The importance of product country of origin: a conjoint analysis of the USA, Canada, Germany, and The Netherlands", *European Journal of Marketing*, 28(4), 5-19.
[33] Nakra, P. (2006), Should You Care About Country of Origin Impact?
[34] Parab, K., (2005), Pakistan Pharma - is it on the right path? http://www.i-b-t.net/anm/templates/trade_article.asp?articleid=218&zoneid=3
[35] Rierson, C. (1967), ``Attitude changes toward foreign products", *Journal of Marketing Research*, 4(November),. 385-7.
[36] Roll, M. (2008), Branding: The Country of Origin Effect" http://www.brandingstrategyinsider.com/2008/03/branding-the-co.html
[37] Schooler, R.D. (1971), "Bias Phenomena Attendant on the Marketing of Foreign Goods in the USA", *Journal of International Business Studies,* 2(1), 71-80..
[38] Samiee, S. (1994), "Customer evaluation of products in a global market", Journal *of International Business Studies,* 25(3), 579-604.
[39] Schooler, R.D. and Wildt, A.R. (1968), ``Elasticity of product bias", *Journal of Marketing Research* ,5 (February), 78-81.
[40] Shin, M. (2001), The Animosity Model of Foreign Product Purchase Revisited: Does It Work in Korea?, *Journal of Empirical Generalisations in Marketing Science*, 6, 1.
[41] Sharma, S., Shimp, T. A., and Shin, J. (1995). Consumer ethnocentrism: A test of antecedents and moderators. *Journal of the Academy of Marketing Science*, 23 (1), 26-37.
[42] Tai, H.S. and Toner, J. F. (1989), Are There Gender Differences in the Use of Country-of-Origin Information in the Evaluation of Products?, *Advances in Consumer Research*, 16, 468-472.
[43] Wang, C. and Lamb, C. J. (1983), ``The impact of selected environmental forces upon consumers' willingness to buy foreign products", *Journal of the Academy of Marketing Science*, 11(2), 71-84.
[44] Watson, J. J. and Wright, K., (1999), Consumer ethnocentrism and attitudes toward domestic and foreign products, *European Journal of Marketing*, 34(9/10, 2000), 1149-1166.
[45] Zhang, Y. (1997) Country-of-origin effect; The moderating function of individual difference in information processing, *Journal of International Marketing Review*, 14(4), 266-287.

ISSN: 2304-1013 (Online); 2304-1269 (CDROM)