WHY ARE NATIONAL PHARMACEUTICAL BRANDS MORE CONSIDERED THAN MULTINATIONALS? A CASE OF PAKISTAN'S PHARMACEUTICAL INDUSTRY

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Abstract: *The aim of study to empirically evaluate the health care professional attitude towards the pharmaceutical products in context to the Pakistan pharmaceutical market current situation, that why are national companies' brands more consider than multinationals, based on primary data collected through self-administered questionnaire by field visits to 250 health care professional. Results of explanatory sequential method indicates that product efficacy is the primary factor to considered, followed by sales representative, promotional material and price factor including; some influence of new launches, packaging and availability of the products are reported. However the bio equivalence report and patient demands are rarely considered by HCP.*

Key Words: *Generic brands, Research brands, Promotional mix, Health care professionals.*

Introduction

Pharmaceutical industry is among the most scientific industries of the world. It is estimated by the intercontinental marketing services prognoses (2016) that the pharmaceutical market around the globe in terms of revenues is approximately 1.2 trillion US dollars. In which the majority of revenues about 50% are generated by western markets. However, it is forecasted by IMS (2016) future growth trends of pharmaceutical industry favor the Asia Pacific market. According to IMS health (2013) this economic shift of growth from western markets to Asian markets is indeed, due to the shift of global spending on pharmaceutical products from branded to generic based brands (copy product). It is expected that generic products shares will achieve 63% of the market share by the end 2017, which was 58% in the year 2012. Further this growth trend of generic brands is bigger than research brands, which seems uniform regardless of the markets either pharmerging or merged markets (developing or developed markets).

According to business monitoring international (2015) Pakistan pharmaceutical industry is the part of pharmerging markets. Its market size is approximately 2.3 billion US dollars. This is expanding with 12% cumulative annual growth rate (CAGR). According to research and markets (2016) national companies in Pakistan holding 60% of the market shares, the rest of 40% are with multinational companies, which was 40:60 in late 90's. National companies businesses primarily depends on generic products (copy product), while multinational mainly depends on their research products (branded). Hence Pakistan pharmaceutical market current situation makes the problem

under investigation**,** that why are national pharmaceutical companies brands more consider than multinationals in case of Pakistan's pharmaceutical?

Pharmaceutical companies in Pakistan promote their products to the health care professional (HCP) through direct and indirect marketing activities. The HCP get informed and influenced from the pharmaceutical companies in different manners to prescribe any product. Thereby; this study mainly documents the HCP perspective in context to marketing activities of pharmaceuticals, that how HCP consider the pharmaceutical marketing practices, while prescribing any product (Generic/Branded) to treat their patients.

Literature Review

Worldwide literature on pharmaceutical industry marketing is widely available, however, in Pakistan prospects are that research work can be further expanded regarding pharmaceutical marketing practices. Below are some relevant published papers on pharmaceutical marketing practices As Tajdar *et al* (2015) HCP prescribing behavior can be influenced by many factors e.g. Medical representative, product price and efficacy of the drug including companies' indirect marketing activities. They have investigated that the product price, medical representative and country of origin of the product significantly impact on the HCP prescribing behavior. It has seen in study of Ahmed *et al* (2014) promotional material also can influence over the prescribing behavior of HCP. They have also highlighted the importance of other factors that HCP generally consider like patient demands, new launches and sales representative of the pharmaceutical companies. According to Shamim *et al* (2014) new drug launches and the promotional materials, which are being used by pharmaceutical companies, have differentiating impact over the HCP. Jamshed *et al* (2011) stresses on HCP to prefer generic brands for patient's affordability, he further suggested HCP should consider equally important bio equivalence or clinical reports, before to prescribing any generic product (copy product) directly into patients. Below **(Appendix C)** comprehend a summarized form of relevant literature specifically highlighting methodology, variables and key findings of the studies.

Literature Gaps

The above mentioned and (Appendix C) published studies have their own attributes and contribution towards the development of literature for pharmaceutical marketing practices. However there is need to fill the gaps of some studies and their effects on HCP prescribing behavior. For example, the term promotional material is being used by authors for pharmaceutical promotional materials as a broad term. There is need to define the term promotional material that; what actually it consist or what sort of material comes under this definition? It is important to know that what factors actually stimulates the HCP to consider any product, in context to the 4 P's of marketing mix. More importantly, from the literature it has been observed that the studies have identified many variables and has established their influencing role over HCP prescribing/considering behavior. For example; product price, country of origin of the product, sales representative, new launches and bio equivalence or clinical reports including patient demands. However, it is important to give an ordinal sequence to all

those identified variables, to know the preferences of HCP among these identified variables that how HCP will rate these variables on ordinal scale on the basis of their importance, while prescribing/considering any product (generic/branded) to treat patients.

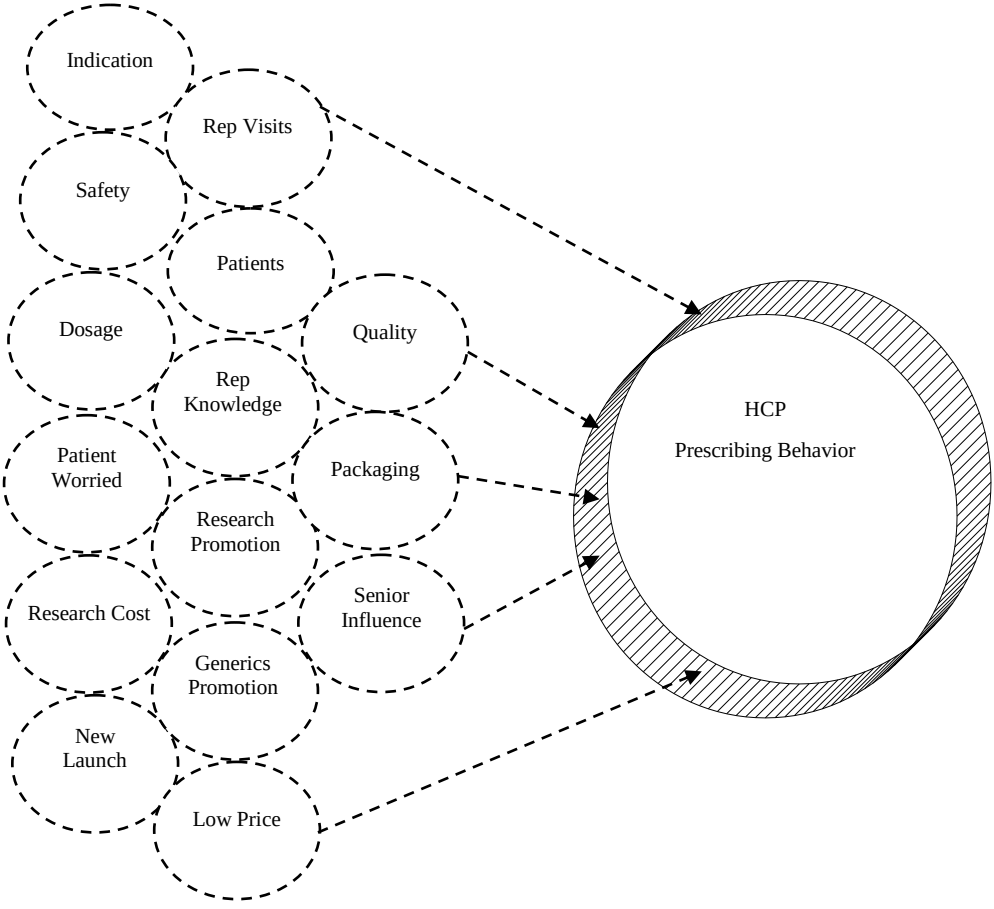

Figure 1. Pre Conceptual Framework

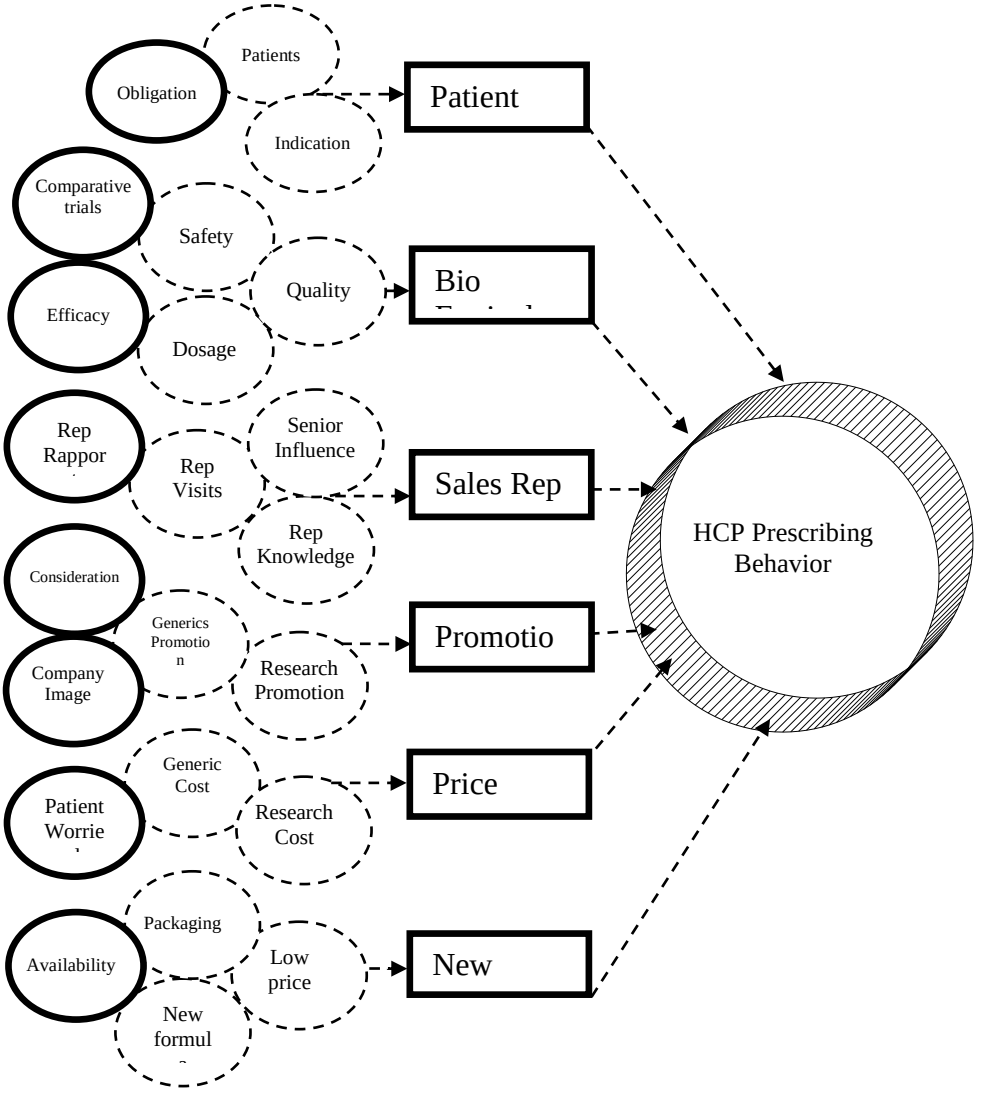

Figure 2 Post Conceptual Framework

From the literature review, it has been revealed that there are many factors that can possibly stimulate health care professional to prescribe a product. However, for better understanding and confirmation of these variables, few interviews were conducted with pharmaceutical industry experts. Some variables are identified after conducting interviews (see figure 1.2 bold circled items) that can possibly stimulate the health care

professional to prescribe a product. On the basis of literature review and interviews with industry experts, the conceptual frame work has been classified as pre-conceptual framework (figure 1) and post-conceptual frame work (figure 2). Pre-conceptual frame work primarily depends on the factors that were identified during a literature review. While the post-conceptual frame work consists of the literature review as well as interviewed-identified variables. After a thorough review of literature and interviews, these identified variables were reclassified (see appendix A) on the basis of their nature and scope of marketing in the context of 4 - Ps of the marketing mix. This classification has helped to draft questionnaire theme based on six variables. The variables are sales representative, price factor, promotional material, new launch, bioequivalence and patient demands; that possibly can stimulate HCP to prescribe a product.

Besides through interviews the term 'promotional material' is explained in detail which means that there are 35 types (see appendix B) of different goods and services, which pharmaceutical companies are using named as promotional material/mix

Hypotheses

According to Ahmed *et al.* (2012), the importance of generic products cannot be denied due to the affordability of generic products as compared to multinational brands. Therefore, generic products should be more preferred than multinational brands. However, the bioequivalence report of the generic brands is equally important and should be considered by the HCP in same manners like affordability is considered for generic brands. It has also endorsed by the Ahmed and Saeed (2014) that the qualities of national companies' products have been remarkably improved. National companies' products are providing clinical results to the HCP for their patients. However, the clinical trials are essential for generic products before using generic brands directly into patients. This direct use of generic products cannot be allowed only on the basis of pharmaceutical equivalence (physical resemblances). This study has selected the bioequivalence or clinical reports (interchangeably use words) variable to test the practices of HCP and pharmaceutical companies about bioequivalence or clinical reports. To know how well HCP are aware and consider these important reports during practice below hypothesis is being set to establish the fact about bioequivalence reports and, its ordinal number among other identified variables.

H_1: Generic brands are prescribing because of bio equivalence (BE)

Moreover, in views of different authors like Lanjouw (2005) and Ahmed *et al*. (2012), the role of new launches either in the form of new packaging or new molecular formula has got importance to influence the HCP prescribing behavior. According to Shafiq *et al.* (2011), new product launch "marketing campaigns messages" are being exaggerated by the pharmaceutical marketers to influence the HCP. In views of Baig (2016), to exaggerate the brand campaign messages, they draft it in an emotional context by using the words like "halal" and "free from alcohol" targeting spiritual beliefs and values to influence the HCP prescribing behaviors towards the new product launch. This is also endorsed by the Chandra sekaran (2013). However, there is need to identify the amount of influence of the new product launch on HCP prescribing behavior. Therefore; the following hypothesis has been designed to find the ordinal number and the impact of

new product launch either in the form of new packing or a new molecular formula on the prescription behavior of HCP;

H_2: Generic brands are prescribing because of new launches (NL)

According to Narendran and Narendranathan (2013), pharmaceutical companies' promotional material significantly influences the HCP prescribing behavior. In views of Tahir *et al*. (2013), HCP generally takes different kinds of gifts from pharmaceutical companies including expensive goods like perfumes and wrist watches. HCP also demands different types of goods and services which could be anything either of ethical or unethical nature. According to Siddiqi *et al.* (2011), "HCP prescription is significantly influenced by the scientific tools than all other things", which is contrary to what Ahmed *et al.* (2011), maintains. According to Kremer *et al.* (2008) "direct to HCP promotional material has very high elasticity than direct to price elasticity in studies where the price has been taken as an independent variable". Thus, to investigate the relationship between HCPs prescribing behavior and the promotional materials used by the pharmaceutical companies, the following hypothesis is being set to establish the ordinal number of promotional material among the other identified variables.

H_3: Generic brands are prescribing because of promotional mix (PM)

Ahmed and Sattar (2014) have found that "medical representative plays an important role while developing a relationship with HCP on behalf of pharmaceutical company". Similarly, Fugh and Ahari (2007) has provided the evidence that how pharmaceutical representatives scripted and trained to make a relationship with customers in order to influence them for prescription. This is also explained by Tajdar *et al.* (2015) that "a medical representative's has a very influencing role over HCP prescribing behavior. According to Shetty & Gujarathi (2013), the employee personal branding has got very much importance while branding the organization or organizational brands to the market. In this ongoing trial, the below hypothesis is being set in order to know the sequential order of 'medical representative' as an influencing factor among all other selected factors?

H_4: Generic brands are prescribing because of sales representative rapport SR)

According to Najmi *et al.* (1998), most of the time HCP feels neither under-pressure nor monitored by the country health system, that whether HCP prescribe the product in an appropriate way or not, to treat the patients. Even lack of demand and knowledge is observed in patients to ask about medicines from HCP. This shows that the sole decision maker is HCP to prescribe any product. While contrary to the findings of Nejmi *et al*., Ahmed *et al.* (2012) stated that the importance of 'patient demand' for particular products usually is well entertained by the HCP. Therefore, to hypothetically test the situation and establish the ordinal sequence following hypothesis has been set,

H_5: Generic brands are prescribing because of patient demands (PD)

Furthermore, 'affordability' is the key factor while treating patients with medicines. According to Chintagunta and Desiraju (2005), pricing has a strategic importance all over the world. This is aligned with research results of Tajdar *et al.* (2015) which has

demonstrated high importance of the role of price on HCP prescribing behavior. It is also mentioned by Ahmed *et al.* (2012) and Jamshed *et al.* (2011). In views of Vogler (2012), medicines prices are kept low for generic products to increase the accessibility and affordability for those patients who pay out of their pockets. However, in the reimbursement cases, theprice is notmandatory concern for stakeholders. Kremer *et al.* (2008) maintains that price does impact on HCP prescribing behaviors as an independent variable. In this investigation, the below hypothesis has been set to testify and know the ordinal number of price factors on the sequential ladder that can possibly influence or not the HCP prescribing behavior.

H_6: Generic brands are prescribing because of price factor (RS)

Methodology

This research is based on mixed method of research adopted from Creswell (2014) explanatory sequential design. The primary data was collected from HCP by dividing them into two broad categories; practicing physicians and practicing surgeons from the 3 teaching hospital of Peshawar (lady reading hospital, Khyber Teaching Hospital and Hayatabad Medical Complex) each category has 20 units on an average and 5 consultants in each unit along with 10 residence medical officers as well 8 house officers. 50% of sample size of the total population (Approx 220 respondents) was conveniently selected, besides 30 top class general practitioners (GPs) who had participated as freelancers. Data was collected through self-administered questionnaire composed of 19 closed ended questions and one open ended question, questionnaire theme was based on post conceptual frame work. Initially through literature review one preliminary questionnaire was developed which later restructured according to the local practices and industry experts opinions. The reliability of the questionnaire was equal to "Cronbach Alpha 0.71". For the analysis of data multiple regressions were applied through SPSS. In second phase, for qualitative analysis the follow up explanation model was conducted. In which randomly visited to 20 physician, 20 surgeons and 10 general practitioners to validate the quantitative interpretations in view of market practices.

Results

Table 1 *Regression Model Summary*

Model	R	R Square	Adjusted	Std. Error of the Estimate
1	0. 647[a]	0.418	0.404	0.56642

a: (Constant) Predictor: PM, SR, RS, NL, BE, PD.

Result of R-square suggests that approx. 42% (0.418) of the variation is explained by the independent variables in the dependent variable**,** representing the amount of change occurring in HCP prescription behavior due to the predictors / marketing activities of pharmaceutical companies (Table 1).

The ANOVA test values (Table 2) are indicating that the overall model is statistically significant (0.000).

Table 2 *ANOVA*

Model		Sum of Squares	Df	Mean Square	F	P-value.
1	Regression	56.062	6	9.344	29.12	0.000[a]
	Residual	77.963	243	0.321		
	Total	134.025	249			

Table 3 *Coefficient*

	Un Std		Std Coefficients		
Model	B	Std. Error	Beta	T	P-value.
(Constant)	0.946	0.273		3.469	0.001
Promotional Mix (PM)	0.242	0.067	0.208	3.61	0
Sales Rep (SR)	0.354	0.055	0.386	6.454	0
Product Price (RS)	0.171	0.075	0.144	2.265	0.024
New launch (NL)	0.098	0.049	0.104	2.011	0.045
Patient Demand (PD)	-0.047	0.046	-0.05	-1.014	0.312
Bio Equivalence (BE)	-0.035	0.04	-0.043	-0.869	0.386

b: (Dependent variable): HPB.

Findings of the coefficient results (table 3) indicated that the HCP prescribing behavior has a direct dependence on investigated variables which are sales representative (SR), promotional mix (PM) and price factor (RS) including new launches (NL) of the products (significant at 5% confidence interval). However, bioequivalence (BE) and patient demands (PD) are immaterial to health care professionals and has no dependence (insignificant at 5% confidence interval). The significant along with insignificant results have been re-confirmed in qualitative analysis, that were follow-up visits to HCP, in which it has been revealed through open-ended questions that in practice, health care professionals do not ask from pharmaceutical companies to provide bioequivalence or clinical reports. The HCP emphasize on pharmaceutical equivalence or empirical results of the generic products instead of bioequivalence or clinical reports. HCP also mentioned that they do not entertain patient demands for particular product. Because HCP generally follow the prescribing protocols approved by the food and drug administration (FDA) or health regularity entities. Moreover, the availability of the product in nearby pharmacy or institution has somewhat influence over the prescription of HCP.

Discussion

Previous studies show that the prescribing behavior of HCP depends on many factors. Pharmaceutical companies are using different tools to influence the prescribing behavior of health care professionals in order to increase their business shares. The aim of the research study was to understand that why national companies are more prescribing than multinational companie incase of Pakistan pharmaceutical industry. For this research purpose, 250 participants' responses were analyzed on the basis of identified variables and set hypothesis. The overall result of the study was significant and aligned with previous literature diagnosis in regards to the marketing practices of pharmaceutical companies. Further, it has been inferred why national companies are more growing than multinationals on the basis of results that give an ordinal sequence which is product efficacy on priority followed by a sales representative, promotional mix and price factor including new launches in terms of new packaging or advancement in formula and availability of the products.

On the basis of ordinal sequence, we can say that quality of national companies' products has been improved to compete with multinational products. Therefore, HCP are prescribing national companies' brands more as stated by Ahmed & Sattar (2014). National companies' sales representatives are more successful in building a good rapport with customers. They are more frequent to provide and remind the right information about their products as compared to a multinational sales representative. Theresearch study results are contrary to Siddiqi *et al.* (2011) who mentioned that scientific tools are more influencing than other promotional tools. Although scientific tools come under the umbrella of promotional tools because any type of investment on HCP with objectives to yield prescription comes under the marketing expenditure for companies. National companies are spending more on the promotional mix (tools) to support sales representatives to aggressively promote their brands in the market. While on other hand, multinational companies having limited promotional tools list pre-approved from international federation of pharmaceutical manufacturer association (IFPMA) and the central office of the company. Beside this, the national companies' products are more economical than multinational brands. This is another reason for getting more prescriptions from national brands than multinationals. Another very important aspect for the organization prosperity is organic growth that is also favoring the national companies. Because national companies new launching are at a higher side with advancement in drug molecule, manufacturing technique and product packagings for patient's compliance. These are the factor that goes into national companies favor. Therefore, their market expansion rate is higher than multinationals. The two factors go probably into multinational favor which is bioequivalence and patient demands, unfortunately, are immaterial for HCP in Pakistan pharmaceutical market.

According to Tajdar (2015) who has proven that the price and medical reps having significant influence over HCP prescribing behavior. The research study results are in line with additional explanation that is the degree of significance of these variables on HCP prescribing behavior in terms of the ordinal sequence. Moreover, Ahmed *et al.* (2014) also found that medical reps and promotional tools have significant influence on HCP prescribing behavior. In this regard, this study has provided a detailed list of

promotional tools that pharmaceutical companies are using in Pakistan market (Appendix B). Apart from this, Jamshed *et al.* (2011) have stated that the price and medical reps play an important role in influencing the HCP prescribing behavior. This research results show alignment with above findings with further explanation of HCP preferences. It has also been proved that patient demand and bioequivalence has a very limited role in influencing the HCP prescribing behavior as described by Ahmed *et al.* (2012).

Conclusion

The results of this study witnessed that in Pakistan pharmaceutical market, national companies products are more considered than multinationals by the HCP. On the basis of results it can be inferred that help to give an ordinal sequence to all those factors which have been tested. According to the ordinal sequence, at 1st, there is the product efficacy to cure the disease or disease symptoms, followed by the sales representative role on 2nd and at 3rdthe promotional mix are highly influencing factors for the health care professionals. Besides these, the product price is at 4th and new launches are at 5th either in the form of new packing or new molecules, including product availability (nearby institution/formulary) at 6th have low influencing effects on HCP prescribing behavior.

Contribution of the Study

The study will have a practical impact based on conclusion presented, which could help to give an ordinal sequence (see conclusion for ordinal sequence) to all those pharmaceutical marketing factors, which can possibly influence the HCP. This ordinal sequence will help to understand HCP preferences in terms of ordinal number, when HCP prescribe product (generic/branded) to treat patients.

Policy Recommendations

Pharmaceutical multinationals in Pakistan can resume their contribution shares by adapting the national companies marketing approach. In which national companies are more HCP centric than patients. While multinational companies are more patients centric than HCP. Earlier this study has proved that patient demands are rarely consider by HCP. The sole authority to prescribe a product is with HCP. Hence shifting the centre of activities can help to resume the market shares. In case of constraints to adapting national companies approach, as contingencies; multinational should outsource (give marketing rights) their products to the national companies can help to achieve the productivity of business operations in Pakistan market.

Limitation of the Study

There are some factors which are beyond the scope of the study. For example, Pakistan's political, economic and law order situations. These factors can impact the businesses in either way as barrier or driver. Besides companies standard operating procedure (SOP) can also affect the decision-making process of business operations in Pakistan.

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Appendix: A

Stimulation factors from marketing prospects:

4 - P's	**Attributes**	**Categories**
Product	1. Product Efficacy 2. Product Quality 3. Product Safety 4. Product dosage 5. Comparative trials	1. Bio Equivalence (BE)
	6. New Molecule 7. New Packing 8. Availability	2 New Launches (NL)
Price	9. Affordability	3. Product Price (RS)
Promotion	10. Type of material 11. Type of campaign 12. Company image	4. Promotional Material (PM)
	13. Sales representative 14. Senior influence	5. Sale Representative (SR)
Place	15. Patient Need 16. Patient Disease 17. Patient obligation	6. Patient Demand (PD)

Appendix B

Promotional materials named as promotional mix

Promotional Mix (Tools)	
1. Drug samples.	*18. Product pens.*
2. Product brochures.	*19. Paper pads / Slips.*
3. Medical books.	*20. Table organizers.*
4. Clinical reports.	*21. Office equipments.*
5. Brand presentations.	*22. Personalized gifts.*
6. CME: Local / Int.	*23. Stationary.*
7. Foreign trips.	*24. Free drug camps.*
8. Events, celebrations.	*25. Free diagnostics camps.*
9. Events are sponsored.	*26. Food, refreshments.*
10. Medical journals.	*27. Free hotelling / Picnics.*
11. Special events	*28. Cash donations.*
12. Family events.	*29. Office renovation / Decoration.*
13. New Year calendars.	*30. Ward renovation / Decoration*
14. Diagnostic equipments.	*31. Free registration for events.*
15. Magazines Add.	*32. Trade schemes / Bonuses.*
16. Instruments.	*33. Printings.*
17. Round table discussions.	*34. Speaker presentation.*
	35. Personnel relationship

Source: *Literature review and industry expert interviews*

Appendix: C

Summary of Previous Studies

Research	***Methodology***	***Variable***	***Findings***
Tajdar et al, (2015)	*Self-administered questionnaire, Samples Size 100 from local Peshawar hospitals. Technique - Chi Square, frequency tables.*	*Country of origin (COO), Price, and medical representative.*	*Prescription of physician can influence by many factors, including price, medical rep, and country of origin along with companies senior management.*

Ahmed et al, (2014)	*1. Self-administered questionnaires, Samples size 100, all were doctors. Technique - Multiple Regressions.*	*Physician Prescribing Behaviors- Product samples, Literatures, Gifts / Give-away & CME (continue medical education) Round table discussion.*	*The researcher concluded that all the promotional material can influence the prescribing behavior of physicians. Medical rep's knowledge and personal relationship.*
Shamim et al, (2014)	*Primary data via questionnaire (Likert Scale: 1 to 5) Samples size 263, Technique – Regression and Factor analysis*	*Physician Prescribing Behaviors. New drug Brand prescriptions ponsorship Promotional Tools Drug samples*	*Result suggested that new drug, promotional tools and drug samples significantly affect the prescribing behavior of physicians.*
Ahmed & Sattar, (2014)	*Secondary data on current pharmaceutical marketing Mix (Tools) using by companies in Pakistan to promote their Products.*	*Strategies & approaches. 1. Product Chain 2. Prescription Chain 3. Products Types 4. Types of mix (Tools): Samples/Literatures Gifts/Giveaways Symposium/CME (continue medical education E-Marketing/table discussion Personal Relations*	*The quality of medicines and effectiveness of marketing teams has remarkably improved to compete the multinationals. Direct to consumer marketing is yet to gain ground in Pakistan.*

Ahmed & Saeed, (2014)	*Primary data via questionnaire, Samples size 300 from Karachi. Technique - Multiple Regression*	*Unethical practices in pharmaceutical industry. Pharmaceutical companies Doctors Hopitals Pharmacies Govt. Officials Patients*	*Pharmaceutical companies and doctors both are responsible for unethical practices. However the levels of unethical practices are higher at rural area than the urban area of Karachi.*
Narendran & Narendranathan, (2013)	*Primary data via questionnaire Sample size 50 Doctors & 53 sales persons. Technique - Regression analysis, graphical presentation*	*Physician Prescription Behavior: 36 different independent variables in context to: Direct Marketing Personal Selling Advertisement Public Relationship Sales Promotions*	*Pharmaceutical marketing significantly nfluencing the physician prescription behaviors.*
Khan et al, (2013)	*Primary data via. Self-administered questionnaire, samples size 400. Technique - Regression Analysis*	*Emergence of unethical practices and influencing factors like Doctors, Companies, sales promotion officer and Patients*	*35% doctors believe that doctors are responsible for the emergence of unethical practices while 46% replied that pharmaceutical companies are responsible.*
Akhtar et al, (2013)	*Primary data via questionnaire. Sample size 20 GP 200 patients. Technique - Spearman, non-parametric.*	*Generic prescription, price and drug prescribing protocol.*	*Result suggested that 0% generic prescription and no single prescription was prescribed in accordance with national drug prescribing policy or FDA – WHO*

Ahmed et al, (2012)	*Primary data via questionnaire. Samples size 250 doctors from Karachi area GP & Physicians. Technique-Chi-Square, Mega state software.*	*Physician prescription behavior: Patient demand, where does a patient get information, Condition where the Physician prefers to prescribe generic drug, pharmaceutical companies influence, Unbiased drug data.*	*General practitioner & Physician prescribe generic drugs mainly because of drug representative regular visits & cheaper drugs.*
Jamshed et al, (2011)	*Primary data semi structured long interviews. Sample size 11 dispensing doctors 9 males& 3female. Technique - descriptive analysis.*	*Level of knowledge about generic, attitude towards generic, perception about generic and marketing practices of companies for generics.*	*The generic should be more prefer. However bio equivalence testing and rigorous guideline are required before prescribing generic.*
Zaman, (2011)	*Secondary data from IMS and PEC. Technique - descriptive analysis.*	*Current pharmaceutical marketing strategies and future pharmaceutical marketing strategies.*	*Right marketing strategy can bring results for companies, Like: Digital marketing, internet and multi channels.*

Siddiqi et al, (2011)	*Cross sectional survey. Sample size 200 doctors and 200 medical representatives. Primary data via questionnaire adapted from Girish et al Technique - Regression analysis.*	*Physician Prescription Behavior:Influencing factors on physician prescribing behavior.*	*Physician prescription more influenced by scientific tools than any other promotional tools. Medical representative had similar perception.*
Ahmed et al, (2011)	*Sample size 400 doctors and 100 pharmaceutical companies. Primary data via self-administered questionnaire. Technique - Graphs, Frequency tables.*	*Physician perception about marketing tactics using by pharmaceutical companies in ethical contexts.*	*58% of doctors believe that pharmaceutical marketing practices are unethical.*
Hakonsen, (2011)	*Sample size 83 Pakistani with an average age of 58 years.*	*Branded medicines, Substitute medicines with different names and the satisfaction of patients.*	*Substitute or generic medicines may have negative effects on Pakistani immigrants in Oslo.*
Masood et al, (2009)	*Secondary data,to provide a detailed basis to understand pharmaceuticals marketing practices.*	*Types of tools using by pharmaceutical companies and their abuse used.*	*All the codes of conduct, self-regulations and laws developed to control pharmaceutical promotion and marketing seem ineffective.*

Lanjouw, (2005)	*The descriptive and explanatory research, Secondary data, Sample size 22 countries by dividing on the basis of income classes. Technique (s) - Regression analysis.*	*Patents, Price Control, New Drug, Market entry and affects the patient access to the medicines*	*Patents and price can affect the patient access to new molecules in poor countries; however, in high income earning countries does not matter.*