

**THE INFLUENCES OF PROMOTIONAL TOOLS AND  
MORAL JUDGMENT ON PHYSICIANS'  
PRESCRIPTION BEHAVIOUR OF MALAYSIAN  
PRACTITIONERS**

**BY**

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## ABSTRACT

The main objective of this research is to investigate the influences of pharmaceutical promotional tools and moral judgment on physician's prescription behaviour. There are very few researches that have studied to what extent physicians' prescription behaviour is influenced by pharmaceutical promotional activities and moral beliefs. This research integrates theories from consumer behaviour and ethics to explore physicians' prescription behaviour in response to pharmaceutical advertising, sales promotion, personal selling, public relations, direct marketing and moral judgment. The aggressive promotional activities put the physicians in an ethical dilemma and triggered the need of moral reasoning for physicians even when regulatory bodies exist. Hence, this research also studied the role of moral judgment on physicians' prescription behaviour and to what extent it moderates the relationship between the behaviour and the promotions. A quantitative approach has been employed to collect data from 154 medical practitioners from private healthcare facilities located at Klang Valley, Malaysia. SPSS (version 25) and SmartPLS (version 3.2.9) statistical programs have been used to analyze the data and validate the model. This study finds that sales promotion is the most significant promotional tool for physicians' prescription behaviour, whereas personal selling is the least significant one. Public relations and advertising are the second and third most significant promotional tools. However, direct marketing is found to be not significant. Additionally, the findings also show that moral judgment is a strong predictor for physicians' prescription behaviour and acts as a quasi-moderator in the relationships between direct-to-physician promotion and physicians' prescription behaviour. The outcome from this research has contributed to new theoretical insights. The study concludes that pharmaceutical companies need to restructure their promotional practices beside educating their sales representatives in ethical decision-making principles in dealing with physicians. It also recommends specific guidelines to pharmaceutical marketers, practitioners and policy makers to achieve significant improvement in the healthcare sector.

## خلاصة البحث

الهدف الرئيسي من هذا البحث هو التحقيق في تأثير الترقية المباشرة إلى الطبيب والحكم الأخلاقي على سلوك الوصفات الطبية للطبيب. هناك عدد قليل جداً من الأبحاث التي درست إلى أي مدى يتأثر سلوك الوصفات الطبية للأطباء بالأنشطة الترويجية الصيدلانية والمعتقدات الأخلاقية. يدمج هذا البحث نظريات من سلوك المستهلك وأخلاقياته لاستكشاف سلوك الوصفات الطبية للأطباء استجابةً للإعلانات الصيدلانية وترويج المبيعات والبيع الشخصي والعلاقات العامة والتسويق المباشر والحكم الأخلاقي. وضعت الأنشطة الترويجية العدوانية الأطباء في معضلة أخلاقية وأثارت الحاجة إلى التفكير الأخلاقي للأطباء حتى في حالة وجود هيئات تنظيمية. ومن ثم ، فقد درس هذا البحث أيضاً دور الحكم الأخلاقي على سلوك الوصفات الطبية للأطباء ومدى توسطه في العلاقة بين السلوك والترقيات. تم استخدام نهج كمي لجمع البيانات من 154 ممارساً طبياً من مرافق الرعاية الصحية الموجودة في وادي كلانج ، ماليزيا. تم استخدام برامج إحصائية **SPSS** (الإصدار 25) و **SmartPLS** (الإصدار 3.2.9) لتحليل البيانات والتحقق من صحة النموذج. وجدت هذه الدراسة أن ترويج المبيعات هو أهم أداة ترويجية لسلوك الوصفات الطبية للأطباء ، في حين أن البيع الشخصي هو الأقل أهمية. العلاقات العامة والإعلان هما ثاني وثالث أهم أداة ترويجية. ومع ذلك ، وجد أن التسويق المباشر ليس مهماً. بالإضافة إلى ذلك ، تظهر النتائج أيضاً أن الحكم الأخلاقي هو مؤثر قوي على سلوك الوصفات الطبية للأطباء ويعمل بمثابة وسيط في العلاقات بين الترقية المباشرة إلى الطبيب وسلوك الوصفات الطبية للأطباء. ساهمت نتائج هذا البحث في تكوين رؤى نظرية جديدة. وخلصت الدراسة إلى أن شركات الأدوية بحاجة إلى إعادة هيكلة ممارساتها الترويجية إلى جانب تنقيف مندوبي المبيعات بمبادئ اتخاذ القرار الأخلاقي في التعامل مع الأطباء. كما توصي بإرشادات محددة لمسوقي الأدوية والممارسين وصانعي السياسات لتحقيق تحسن كبير في قطاع الرعاية الصحية.

## **APPROVAL PAGE**

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## DECLARATION

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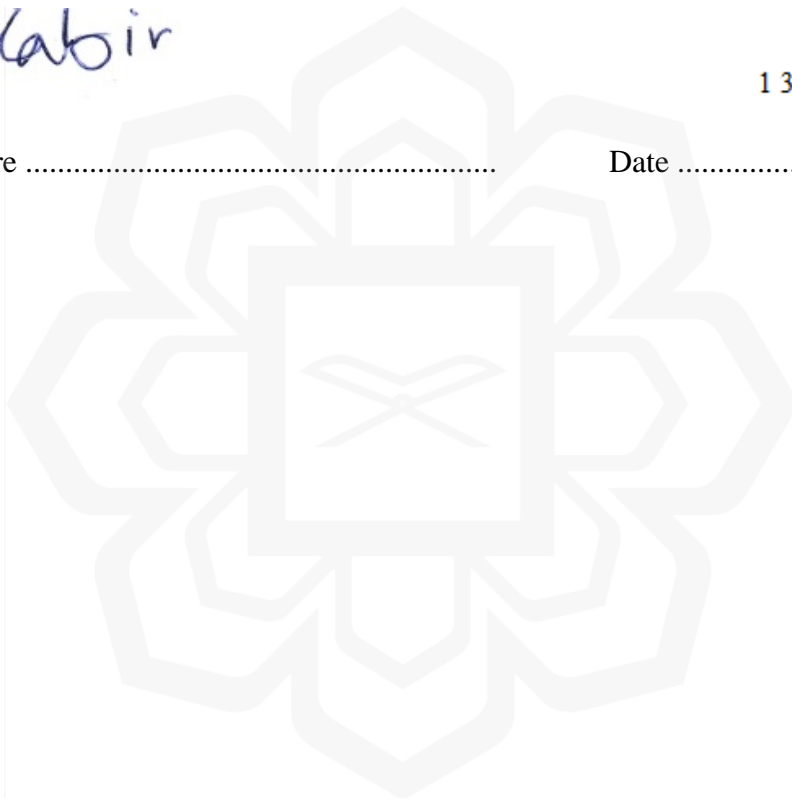
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# TABLE OF CONTENTS

Abstract .....	ii
Abstract in Arabic .....	iii
Approval Page.....	iv
Declaration.....	v
Copyright Page.....	vi
Acknowledgements.....	vii
List of Tables .....	xii
List of Figures .....	xiv
<b>CHAPTER ONE: INTRODUCTION.....</b>	<b>1</b>
1.1 Background of the Study .....	1
1.1.1 Malaysia Pharmaceutical Industry .....	5
1.1.2 Medical Regulatory Acts in Malaysia.....	7
1.2 Statement of the Problem.....	9
1.3 Research Gap .....	11
1.4 Research Objectives.....	14
1.5 Research Questions.....	15
1.6 Significance of the Study.....	15
1.6.1 Theoretical Significance .....	15
1.6.2 Practical Significance.....	16
1.7 Definition of Key Constructs.....	17
1.8 Organization of the Thesis.....	19
<b>CHAPTER TWO: LITERATURE REVIEW.....</b>	<b>21</b>
2.1 Overview.....	21
2.2 Physicians' Prescription Behaviour.....	21
2.2.1 Theories for Physicians' Prescription Behaviour.....	30
2.2.1.1 Theory of Reasoned Action (TRA) .....	31
2.2.1.2 Theory of Planned Behaviour (TPB).....	33
2.2.1.3 Persuasion Theory .....	34
2.2.1.4 Stimulus-Response Theory.....	36
2.3 Direct-to-Physician Promotion .....	38
2.3.1 Advertising.....	42
2.3.2 Sales Promotion .....	44
2.3.3 Personal Selling.....	45
2.3.4 Public Relations .....	47
2.3.5 Direct Marketing .....	49
2.4 Theories for Ethics.....	51
2.4.1 Virtue Ethics .....	52
2.4.2 Consequential Ethics.....	53
2.4.3 Deontological Ethics .....	53
2.4.3.1 Moral Judgment.....	55
2.5 Hypotheses Development and Conceptual Framework.....	57
2.5.1 Direct-to-Physician Promotion (DTPP) and PPB .....	57
2.5.1.1 Advertising and PPB .....	58



2.5.1.2 Sales Promotion and PPB .....	60
2.5.1.3 Personal Selling and PPB .....	61
2.5.1.4 Public Relations and PPB .....	63
2.5.1.5 Direct Marketing and PPB.....	64
2.5.2 Moral Judgment (MJ) and PPB.....	65
2.5.3 DTPP, MJ and PPB .....	67
2.5.3.1 Advertising, MJ and PPB .....	69
2.5.3.2 Sales Promotion, MJ and PPB .....	70
2.5.3.3 Personal Selling, MJ and PPB .....	71
2.5.3.4 Public Relations, MJ and PPB .....	73
2.5.3.5 Direct Marketing, MJ and PPB.....	74
2.5.4 Summary of Hypotheses .....	76
2.6 Chapter Summary .....	78
<b>CHAPTER THREE: RESEARCH METHODOLOGY .....</b>	<b>79</b>
3.1 Overview.....	79
3.2 Research Paradigm .....	79
3.2.1 Philosophies .....	80
3.2.2 Approaches.....	81
3.2.3 Strategies .....	81
3.2.4 Choices.....	82
3.2.5 Time Horizons.....	82
3.2.6 Techniques and Procedures.....	82
3.3 Sampling .....	83
3.3.1 Defining Target Population.....	84
3.3.2 Selecting Sampling Frame .....	85
3.3.3 Choosing Sampling Technique .....	86
3.3.4 Determining Sample Size.....	87
3.4 Instruments and Data Collection Procedure .....	88
3.4.1 Questionnaire Design.....	88
3.4.2 Questionnaire Sources.....	89
3.4.3 Reducing Common Method Bias.....	90
3.4.4 Reducing Social Desirability Bias .....	91
3.4.5 Face Validity .....	91
3.4.6 Data Collection .....	92
3.4.6.1 Pilot Study .....	92
3.4.6.2 Final Study.....	92
3.5 Data Analysis.....	93
3.5.1 Operationalisation of Constructs.....	94
3.5.2 Data Entry and Cleaning .....	95
3.5.3 Descriptive Analysis .....	96
3.5.4 Assessment of the Measurement Model .....	96
3.5.5 Assessment of the Structural Model .....	97
3.5.6 Goodness-of-Fit .....	97
3.5.7 Interaction Effects in the Structural Model.....	97
3.6 Chapter Summary .....	98
<b>CHAPTER FOUR: DATA ANALYSIS AND RESULTS.....</b>	<b>99</b>
4.1 Overview.....	99

4.2 Preliminary Data Analysis .....	99
4.2.1 Missing Data .....	99
4.2.2 Examining Outliers .....	100
4.2.3 Normality .....	101
4.3 Descriptive Analysis .....	102
4.3.1 Demographic Profile of Respondents .....	102
4.3.2 Descriptive Statistics for Constructs .....	103
4.4 Assessment of the Measurement Model .....	104
4.4.1 Composite Reliability .....	105
4.4.2 Convergent Validity .....	107
4.4.3 Discriminant Validity .....	107
4.4.3.1 Heterotrait-Monotrait Ratio .....	108
4.4.4 Multicollinearity .....	110
4.5 Assessment of the Structural Model .....	111
4.5.1 Assessing the Collinearity .....	112
4.5.2 Assessing the Path Coefficients .....	113
4.5.3 Assessing the Coefficient of Determination .....	114
4.5.4 Assessing the Cross-Validated Redundancy .....	115
4.6 Goodness-of-Fit .....	116
4.7 Interaction Effects in the Structural Model .....	117
4.7.1 Results of Interaction Effects .....	118
4.7.2 Assessment of Interaction Model .....	120
4.7.3 Slope Analysis .....	121
4.8 Chapter Summary .....	124
<b>CHAPTER FIVE: FINDINGS AND DISCUSSION .....</b>	<b>126</b>
5.1 Overview .....	126
5.2 Direct-to-Physician Promotion (DTPP) and PPB .....	126
5.2.1 Advertising and PPB .....	127
5.2.2 Sales Promotion and PPB .....	129
5.2.3 Personal Selling and PPB .....	130
5.2.4 Public Relations and PPB .....	131
5.2.5 Direct Marketing and PPB .....	131
5.3 Moral Judgment (MJ) and PPB .....	132
5.4 DTPP, MJ and PPB .....	134
5.4.1 Advertising, MJ and PPB .....	135
5.4.2 Sales Promotion, MJ and PPB .....	136
5.4.3 Personal Selling, MJ and PPB .....	137
5.4.4 Public Relations, MJ and PPB .....	138
5.4.5 Direct Marketing, MJ and PPB .....	139
5.5 Chapter Summary .....	140
<b>CHAPTER SIX: CONCLUSION AND RECOMMENDATION.....</b>	<b>141</b>
6.1 Contributions .....	141
6.1.1 Contribution to Theory .....	141
6.1.2 Contribution to Practice .....	142
6.2 Recommendations .....	143
6.2.1 Recommendation for Pharmaceutical Marketers .....	143
6.2.2 Recommendation for Healthcare Professionals .....	145

6.2.3 Recommendation for Regulatory Bodies.....	148
6.3 Limitations and Implications for Further Research.....	149
6.4 Conclusion of the Study .....	150

**REFERENCES.....152**

APPENDIX I: Distribution of Doctors in Private Sector in Malaysia .....	186
APPENDIX II: Distribution of Private Clinics in Malaysia.....	187
APPENDIX III: Distribution of Private Hospitals in Malaysia.....	188
APPENDIX IV: List of Private Clinics in Klang Valley .....	189
APPENDIX V: List of Private Hospitals in Klang Valley .....	190
APPENDIX VI: Descriptive Statistics for Variables .....	191
APPENDIX VII: Excluded Items from Measurement Model.....	193
APPENDIX VIII: Survey Questionnaire used in the Study .....	194
APPENDIX IX: Ethical Endorsement and Investigator Agreement.....	198



## LIST OF TABLES

<u>Table No.</u>		<u>Page No.</u>
2.1	Selected Definitions on Physicians' Prescription Behaviour	22
2.2	Summary of Previous Research Studies on DTPP and PPB	42
2.3	Selected Definitions of Advertising in Pharmaceutical Industry	43
2.4	Selected Definitions of Sales Promotion in Pharmaceutical Industry	45
2.5	Selected Definitions of Personal Selling in Pharmaceutical Industry	47
2.6	Selected Definitions of Public Relations in Pharmaceutical Industry	49
2.7	Selected Definitions of Direct Marketing in Pharmaceutical Industry	50
2.8	Selected Definitions of Moral Judgment	57
2.9	Summary of Hypotheses	76
3.1	Sources of Questionnaire Items	90
3.2	Operationalisation of Constructs	94
3.3	Conversion Criterion of Demographic Information	95
4.1	Univariate Outliers	100
4.2	Multivariate Outliers	101
4.3	Distribution of Data	102
4.4	Demographic Profile of Respondents	103
4.5	Reliability and Validity of the Constructs	106
4.6	Fornell-Larcker Criteria	108
4.7	Heterotrait-Monotrait (HTMT) Ratio	109
4.8	Results of VIF Values for All Items	110
4.9	Results of VIF Values Among Exogenous Constructs	113
4.10	Results of Path Analysis for SEM	114
4.11	Results of Interaction Model	120



## LIST OF FIGURES

<u>Figure No.</u>		<u>Page No.</u>
2.1	The Basic Stimulus-Response Model	37
2.2	Proposed Physicians' Prescription Behaviour Adapted from Buyer Behaviour Stimulus-Response Model of Kotler (2003)	38
2.3	Three Universal Theories of Ethics	52
2.4	Relationship Between Moral Judgment and Moral Behaviour	55
2.5	Proposed Model of Physicians' Prescription Behaviour	77
3.1	Design of "Onion" Research Process	80
3.2	Steps in Sampling Process	83
4.1	Structural Model	112
4.2	Interaction Model	119
4.3	Simple Slope Plot (AD * MJ)	122
4.4	Simple Slope Plot (SP * MJ)	122
4.5	Simple Slope Plot (PS * MJ)	123
4.6	Simple Slope Plot (PR * MJ)	123
4.7	Simple Slope Plot (DM * MJ)	124

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 BACKGROUND OF THE STUDY**

One of the world's biggest and fastest-growing sector is healthcare. It consists of two industries: the pharmaceutical industry, which produces and sells drugs, and the regulated healthcare provider industry, which offers healthcare services. The pharmaceutical industry, which includes both public and private companies that produce and sell drugs, is a major component of the global healthcare system. Pharmaceutical firms work in both global and local markets, so they must comply with laws, regulations, and policies governing medication production, registration, processing, quality control, marketing, and sales (Pezzola and Sweet, 2016; Alves, Lexchin and Mintzes, 2019; Bazaza, 2020). The pharmaceutical marketing system in most countries is extremely complicated, involving many governments, advisors, associations, and third-party firms (Goncharuk and Getman, 2014). Physicians, customers, and pharmacists are the primary external partners for pharmaceutical firms in terms of advertisement. Since marketing strategies aimed at patients and pharmacists are minimal, pharmaceutical firms usually target their marketing efforts on doctors (Manchanda and Honka, 2005; Salmasi, Ming and Khan, 2016; Bhatt, 2018; Ahmed et al., 2020). Globally, pharmaceutical companies spent over USD 120 billion in 2016 on drug promotion (Lexchin, 2018; Alves, Lexchin and Mintzes, 2019).

Customers and individuals who use pharmaceuticals are divided into two groups in the pharmaceutical industry (James et al., 2009). Patients are the users, while physicians are the clients. Pharmaceutical companies, in comparison to most industries, are unique and their marketing is heavily reliant on exchanging knowledge to medical

professionals under strict guidelines for administering medicines (Shamim-ul-Haq et al., 2014; Murshid and Mohaidin, 2017). Furthermore, administering medicines are classified into prescription and non-prescription types (Ladeira et al., 2011). Non-prescription drugs, also known as over-the-counter (OTC) medications, are marketed to customers without a doctor's prescription and are sold directly from pharmacies (Bazaza, 2020). Pharmaceutical firms rely on prescription drugs for the bulk of their income, and pharmaceutical sales representatives (PSRs) are usually employed to market their drugs to doctors (Brax et al., 2017). PSRs are the field-force of pharmaceutical organizations. PSRs visit doctors in public and private hospitals, clinics, healthcare facilities, private chambers or medical institutions where health care services are usually given by the doctors to the patients. While visiting doctors, PSRs offer promotional gift items as sales promotion (Rockoff, 2012; Murshid and Mohaidin, 2017). Visiting physicians are also given drug samples and invited to enroll in continuing medical education services by PSRs (Manchanda and Honka, 2005; Rockoff, 2012; Murshid and Mohaidin, 2017). Academics, professionals, and the public are constantly scrutinizing PSR-healthcare professional relationships, which are defended by medical regulatory acts (Fickweiler, Fickweiler and Urbach, 2017; Alves, Lexchin and Mintzes, 2019).

Due to the effect of market share, innovation, and competition from generic drugs, the pharmaceutical industry is rapidly changing (Wozniak, Hassan and Benner, 2012). Pharmaceutical firms make their profit from manufacturing generic drugs. Scientific discovery and development of drugs that prevent or cure diseases and illnesses is the cornerstone of the pharmaceutical industry (Campbell et al., 2007). The pharmaceutical industry's global leaders are the United States, the United Kingdom, Switzerland, and France, which account for half of all sales globally and are known as



"Big Pharma" (Anderson, 2014). These international pharmaceutical firms, which mostly supply generic drugs, have distribution offices in the majority of countries.

According to the Malaysian Investment Development Authority (MIDA), there are many multinational companies operating in Malaysia (MIDA Annual Report, 2018). Referring to the Drug Control Authority (DCA) of the Ministry of Health (MOH), the pharmaceutical companies in Malaysia are engaged in the manufacturing of generic drugs, traditional medicines and herbal supplements as well as contract production for MNCs (MIDA Annual Report, 2018). These MNCs are mainly licensed importers such as Pfizer, GSK, Novartis, Sanofi, Eli Lilly, Astra Zeneca. Their medicines are mostly branded drugs and are marketed and distributed by locally incorporated Sdn Bhd companies. They hire specialized analysts and spend a lot of money on research and development (Jambulingam, Sharma and Ghani, 2009). Clinical trials are typically completed as part of research and development and are overseen by healthcare professionals.

To introduce a new medicine in the market, it requires significant amount of time as permissions are needed in each progression of the production process of medicines. Thus, after many screening procedures and venture during a significant amount of time, pharmaceutical companies launch new products in the market and promote it. They usually target early return on their investment and make associations with the medical doctors for recommending their medications (Latten et al., 2018). There are different levels of doctors based on qualification, reputation, experience, number of patients and so on which are being characterized by the pharmaceutical companies to recognise their focused clients (Jambulingam, Sharma and Ghani, 2009). In 2012, the pharmaceutical industry spent USD 15 billion on pharmaceutical ads aimed at medical practitioners, according to Cegedim Strategic Data (2013). According to Wei

and Delbaere (2015), prescription advertisement interchanges such as free meals and low-value gifts impact physicians' decisions on which drugs to administer. PSRs' advertising practices are covered under medical regulations (Wazana, 2000; Hailu et al., 2021). Pharmaceutical firms also pay doctors in the United States to recommend their products (Guo, Sriram and Manchanda, 2017). This poses a conflict of interest, which is often resolved by governmental policymakers by enacting payment notification regulations. The Physician Payments Sunshine Act (Carey, Lieber and Miller, 2015) created the Massachusetts Open Payment rule, which took effect in July 2009. Noted that, information on total expenditure on promotion by pharmaceutical companies are not openly accessible in many nations. That is why most of the published researches on promotional expenditure are US-based because of their freedom of information laws.

The prescribing of drugs is the responsibility of medical physicians (De Lorme et al., 2010). When a doctor prescribes a specific medicine, he is not only suggesting a treatment that can help with a specific disease or ailment, but also deciding about which substance to use (Diehl et al., 2008; Planchon et al., 2009; Kim and King, 2009). The advertising campaigns of pharmaceutical firms have an effect on physicians' prescribing actions. Pharmaceutical firms also create a variety of therapeutic drugs to cure a variety of medical disorders. The standard of treatment determines whether it has a positive or negative impact on the human body. The World Health Organization (WHO) maintains track of drug safety, side effects, trademarks, and prices on a global scale (Pezzola and Sweet, 2016). The International Conference on Harmonization, held in Lisbon, Portugal, recognized and specified consistency, demonstrating the appropriateness of choosing a drug substance or drug product for its intended use in accordance with international drug quality guidelines (ICH, 2015). In the United States, FDA labs

typically test medicines according to the US Pharmacopeia's guidelines. The United States Pharmacopeia (USP) is a research organization that establishes global guidelines for the identification, strength, consistency, and purity of drugs formulated, marketed, and consumed around the world. As a result, pharmaceutical firms put a focus on patient protection of multiple infectious diseases. Nonetheless, pharmaceutical marketers' efficacy in selling to physicians is normally measured by a thorough knowledge of the different variables that affect a physician's prescribing behavior (Hailu et al., 2021; Albarq and Suleiman, 2021).

Pharmaceutical firms have a strong propensity to engage in deceptive advertising campaigns, such as offering discounts and other perks to clinicians for recommending certain brands of drugs (Khan et al., 2016). Profits increase as the number of prescriptions increases. As a result, the physician's ethical or unethical actions as medication deciders are the most important. The two most important performance consequences between healthcare providers and pharmaceutical firms are prescription activity and ethical challenge (Latten et al., 2018). As a result, the primary emphasis of this research is on doctors who write medications and how diverse influences such as pharmaceutical promotion and ethical values affect their decision-making when administering medicines.

### **1.1.1 Malaysia Pharmaceutical Industry**

The pharmaceutical industry in Malaysia is unique. The foreign generic manufacturers let the Malaysian generic market to become unambitious by discouraging the entry of new local generic manufacturers and leaving of small and less-competitive manufacturers (Hassali et al., 2009; MyCC, 2017). Moreover, the Malaysian government only monitors the price of medicine distributed to use in public health

sector and allowed the pharmaceutical marketers to decide the prices of medicine for private health sector (Hassali et al., 2009). Under the oversight of the Ministry of Health, the local Drug Control Authority (DCA) is the medical regulatory agency that oversees drug administration (PhAMA Code of Conduct, 2019). In 2014 and 2015, global prescription product sales totaled more than one thousand billion dollars (Statista report, 2015). At the same time, Malaysia's total pharmaceutical product disposal in 2014 was RM 4.7 billion (MOH, 2017). Malaysian pharmaceutical firms manufacture generic medications for Malaysians, and they are mainly listed as specialty drugs, with a sale of around 4.39 billion MYR in 2012. (Piong and Loong, 2014). In Malaysia, there are 75 licensed pharmaceutical companies that produce drugs (Piong and Loong, 2014), and they offer a diverse variety of products in various therapeutic fields. These medicines, manufactured by various firms, cannot always be of similar consistency.

The trends of prescribing medicines in public and private medical centers are different in Malaysia (Kumar et al., 2015). In public medical centers, prescribers usually select generic medicines. But in private medical centers, the majority of physicians had negative perceptions about the safety, efficacy and quality of generic medicines (Kumar et al., 2015). And therefore, physicians in private medical centers usually prescribe with branded medicines (Kumar et al., 2015). While the subject of branded medicines comes, the penetration from manufacturers of branded medicines arises. Like many other countries in the world, the growth of the Malaysian pharmaceutical industry has always been tampered by the strong lobby from branded pharmaceutical manufacturers against generic pharmaceuticals, giving the perception that generic pharmaceuticals are more inferior compared to branded pharmaceuticals (Hassali et al., 2009). For such perceptions, branded pharmaceuticals still dominate the Malaysian pharmaceutical market. Therefore, the branded pharmaceutical manufacturer's product promotions

towards the medical doctors in private medical centers in Malaysia need to be studied to see to what extent the promotion influences the medical doctor's prescribing decisions. Also, there is scope for studying the morality of medical doctors while prescribing medicines under aggressive pharmaceutical promotion.

### **1.1.2 Medical Regulatory Acts in Malaysia**

The Ministry of Health in Malaysia controls medical Acts and Policies. There are many Acts which are initiated, updated and provisioned (Rosnah and Abdullah, 2002). These acts are applicable to West Malaysia, where this research study has been conducted. Some of these Acts are discussed here to understand the research interest better. There are different levels of abbreviation used in legal and ethical records that are only intended for the particular case. It also concerned the individuals, experts, and organizations who were involved in and researched for the purpose of this study.

#### **The Medical Act 1971**

It explains how the Malaysian Medical Council was formed, led by the Director-General, and how medical practitioners are given permissions to practice. Medical practitioners in Malaysia are required to register themselves with the approval from Director-General. For registration as a medical practitioner, unique requirements are essential. This act also contains requirements demanding medical practitioners to receive a temporary or annual practice license. The Director-General has designated a medical doctor as a Government Medical Officer. Medical students are only permitted to diagnose and treat patients under the supervision of a professionally qualified medical practitioner.

### **The Code of Medical Ethics 2001**

It covers proper medical practice by doctors to their patients, doctors' professional obligations to their patients, relationships between doctors and other business partners, indirect means of advertisement, and the establishment of a medical practice.

### **The Medicines (Advertisement and Sale) Act 1956**

It concerns the banning of advertising related to such illnesses, contraception, ability, or operation. Medicine advertisements must be licensed. Medicine composition must be disclosed.

### **The Private Healthcare Facilities and Services Act 1998**

Any premises where one or more members of the public receive healthcare services is known as a healthcare facility. Health doctors, dentists, pharmacists, clinical psychologists, nurses, midwives, medical assistants, physiotherapists, occupational therapists, and other related healthcare professionals, as well as everyone else engaged in delivering medical, educational, dental, pharmacy, or other healthcare facilities within the Ministry of Health's authority, are called healthcare professionals. Medical, dental, nursing, midwifery, allied wellness, pharmacy, and ambulance services, as well as any other support rendered by a healthcare provider, are examples of healthcare services. This act governs the application for a license to operate or offer health care facilities, as well as the duties of a licensee, holder of the certificate of registration, and person in charge.

## **1.2 STATEMENT OF THE PROBLEM**

Pharmaceutical firms offer gifts, free dinners, transportation, host conferences, and other incentives to physicians through direct-to-physician marketing, many of which have been questioned as indicators for a physician to recommend medicines (Khazzaka, 2019; Skandrani and Sghaier, 2016). Previous research has shown that pharmaceutical marketing has an effect on physician prescribing behavior, with the majority of physicians accepting gifts from pharmaceutical sales representatives (Zahrani, 2014; Sisugoswami et al., 2018). 83 percent of promotion budgets are allocated to doctors (Datta and Dave, 2013). The percentage of spending on promotion was much higher than that on R&D, where promotion was described as the amount spent by pharmaceutical firms on detailing and journal ads (Lexchin, 2018). As pharmaceutical advertisers boost their advertising spending, the price of prescription drugs rises as well (Ibrahim and Bélanger, 2015). According to Business Monitor International (BMI), the pharmaceutical market of Malaysia was worth 6.06 billion MYR in 2012 among which the market share for prescription medicines alone was 4.39 billion MYR (Piong and Loong, 2014). As a result of pharmaceutical firms' ambitious pricing campaign targeted at doctors, overall healthcare spending is growing (Haque, 2020).

The healthcare industry is undergoing dramatic transition around the world. Medical research has seen scientific advances, and the amount of data relating to healthcare systems is rising. The patient's personal records, medical procedures obtained, laboratory results, side-effects, and confidential concerns are all included in this information. Medication complications caused by healthcare providers' cognitive biases are the most serious of these problems (Wittich et al., 2014). It's getting bigger all the time. In developing nations, a substantial number of people have been reprimanded for their medical care. The number of patient reports has almost doubled

(Archer and McAvoy, 2011; Bere et al., 2014). Adverse drug reactions are wreaking havoc on the health-care system (Akçura and Zdemir, 2014). These challenges in the healthcare system are eroding people's confidence in doctors (Wittich et al., 2014; Mahmoud, 2016). As a result, patients are moving from one sector to the next (Helble, 2011). In Malaysia, the market for high-quality healthcare is growing, as is customer awareness (MIDA Annual Report, 2018). The partnership between pharmaceutical firms and doctors is at the center of both of these problems.

The role of the physician is vital in assessing whether a patient requires a branded drug or an essential generic medication (Sanyal, Datta and Banerjee, 2017). Physicians also prescribe a nonexclusive remedy. It is usually dependent on branded drugs that use common complex raw materials and function in the body in the same way for patients. It provides the same opportunities and pitfalls as their brand-name rivals (Danchev and Nikolova, 2007). Essential general replacement, on the other hand, will not always be suitable in particular situations where only a branded drug is appropriate for the patient (Bakthavathsalam, 2006). In the other side, if doctors recommend drugs with brand names, prejudices arise (Waheed, Jaleel and Laeequddin, 2011). There is a limited use of generic medicines in the private medical centers in Malaysia which increases the drug expenditure by patients seeking healthcare service in private medical centers and also it reduces the medicine affordability (Kumar et al., 2015).

In developed nations, where the effectiveness of drugs can vary dramatically, the solution of treatments in this way includes several points and can be influenced by various societal views, such as the medication's characteristics and effects (Kim and King, 2009; Joseph et al., 2008). Doctors believe that all prescriptions are of equal quality; as a result, doctors who are heavily influenced by promotions can be tempted