

# Pharmaceutical Marketing Ethics in Healthcare Quality for Patient Satisfaction: An Islamic Approach

AHASANUL HAQUE<sup>1</sup>, SMH KABIR<sup>1</sup>, ARUN KUMAR TAROFDER<sup>2</sup>, NAILA ANWAR<sup>1</sup>, FARZANA YASMIN<sup>3</sup>, NAZMUL MHM<sup>4</sup>

<sup>1</sup>Department of Business Administration, International Islamic University Malaysia Box No. 10, 50728, Kuala Lumpur, Malaysia

<sup>2</sup>Faculty of Business and Professional Studies, Management and Science University, Malaysia

<sup>3</sup>Faculty of Science, Lincoln University, SS 7/15, Kelana Jaya, 47301, Petaling Jaya, Selangor, Malaysia

<sup>4</sup>Graduate School of Medicine, Perdana University, Jalan MAEPS Perdana, Serdang, 43400 Selangor, Malaysia

Received: 08.11.18, Revised: 08.12.18, Accepted: 08.01.19

## ABSTRACT

Patients are the center of healthcare system where key role players include pharmaceutical manufacturers. In recent years, ethical standards of marketing strategies conducted by pharmaceutical manufacturers have declined significantly which raises the question of healthcare quality. The conventional way of pharmaceutical marketing is widely accepted by Muslims and non-Muslims around the world. Limited studies have been conducted so far to establish Islamic marketing mechanism in pharmaceutical business as Islam is the answer to all questions of our lives and beyond. This paper theoretically proposed the relation of pharmaceutical marketing strategies with quality healthcare service for patient's satisfaction and investigated it with primary data. It also highlights the mediating effect of Islamic marketing mechanism from ethical context. The findings revealed that there is a significant positive relationship exists between pharmaceutical marketing ethics and Islamic marketing mechanism which partially mediates healthcare quality. Also, healthcare quality significantly influences patient satisfaction. The framework developed in this study need to be tested in the future through other social factors. Based on the findings, recommendations for Muslim entrepreneurs are explained at the end.

**Keywords:** pharmaceutical, marketing, healthcare, ethical, Islamic Perspective

## INTRODUCTION

Consumers of healthcare industry are the patients who take medical treatments. Patient satisfaction is a multi-dimensional healthcare construct where healthcare quality influences patient satisfaction (Zineldin, 2006; Naidu, 2009; Javed & Ilyas, 2018). Hence, patient-centric marketing strategies are the vision of pharmaceutical manufacturers by targeting medical professionals who prescribe medicines for patients (Rao, 2012). There are huge unethical issues surrounding this phenomenon (Pitta, 2016). This study attempts to theoretically extend the relationship between patient satisfaction and healthcare quality from an ethical context. The role of pharmaceutical marketing strategies and Islamic marketing mechanism has been studied in this regard. It wasn't long ago that the pharmaceutical industry was considered among the most respected industries. This is in sharp contrast to consumer attitudes today when the industry's reputation is not much better than that of the tobacco companies (Mahmoud, 2016). The consumers of pharmaceutical market are largely populated by all human beings. Pharmaceutical companies advertise their products and promote through different communication channels like print media, electronic media, e-Detailing, although, mass media communication is not permitted in certain countries according to their local drug administration (Yadav,

2013). There are strict regulations and requirements that pharmaceutical companies must follow. But, despite the tight regulatory control, the marketing practices reveal further concerns. There is increasing stress on medicines that are highly effective and have side-effects. Clinical trials are essential to quality medicines, but there are numerous obligations of having shortcuts, including bribing for favorable test-results, trial on humans without their consent, marketing medicines for unapproved uses, bribing medical doctors for prescription and many more (Skandrani and Sghaier, 2016). The unethical deeds surrounding this phenomenon stand in stark contrast with Islamic marketing. Islamic Marketing is a new concept in Marketing (Arham, 2010). With the Prophet Muhammad (S.A.A.W) being known as the Truthful one (Al-Amin) and himself a trader, Islamic ethics within economics and management sciences is not new. The definition for Islamic Marketing is that "Islamic Marketing is the study of marketing phenomena in relation to Islamic principles and values or within the context of Muslim societies" (Jafari, 2012). So, Islamic Marketing is religion-based marketing (Alserhan, 2011) where marketing activities are guided within the framework of Islamic Shariah, or Islamic Marketing also mean the practices carried out by Muslim consumers (Alserhan, 2011). Transactions and trade (Muamalat and

Tijarah) are related to the revenue and cost aspects of the process of marketing. Here, the main focus is towards fair pricing, removing of uncertainty, gambling and interest are considered Haram. Islam has a stronger influence and impact on the lifestyles of its followers. The purpose of this research is to identify the role of pharmaceutical marketing strategies based on Islamic principles and values in healthcare quality to ensure patient satisfaction. The challenge here is that unethical deeds from a marketing perspective in relation to Islamic principles and values are still evolving and have not yet been developed as a solid theory of knowledge. Much of the current discussions are on-going and based on applications of Islamic Shariah to contemporary western ideas of marketing, or adaptive reform (Ramadan, 2009). So, there is a critical need of serious study and research to be put into place in order for new models and frameworks to emerge that is transformational reform (Ramadan, 2009), grounded in Islamic principles and values.

### **Literature Review**

#### **Patient Satisfaction**

Patient satisfaction is defined by assessment of specific healthcare dimensions (Linder-Pelz, 1982). It enhances healthcare service provider's image, which in turn transforms into increased use of service and market share (Andaleeb, 1988). Satisfied patients are likely to praise and give preference to the company over others, increasing their purchase volume (Zeithaml & Bitner, 2000). Thus, patient satisfaction becomes one of the desired outcomes of healthcare and critical to quality assessments for designing and managing healthcare (Turner & Pol, 1995). Patient's perception towards their physician's role influenced by pharmaceutical marketing activities has been criticised by Wei and Delbaere (2015). Two common distinctions about pharmaceutical marketing communication have been identified, one is direct-to-consumer (DTC) advertising and another is promotional activities directed at healthcare providers (Wei & Delbaere, 2015). DTC advertising includes mass media (TV, Radio, Newspaper, web channel) which is not allowed in many countries by the local drug control authorities, only web channel is permissible. Promotional activities for physicians include a sample of drugs, gift items and detailing/e-detailing through literature. Wei and Delbaere (2015) concluded that patients are quite skeptical about the quality of healthcare. Patient behavior changes significantly by the unethical conduct of pharmaceutical companies especially boycott of over-the-counter (OTC) drugs (Lindenmeier, Tscheulin & Dreves, 2012). The unethical conduct of pharmaceutical companies affecting consumer behavior of German patients has been studied. Lindenmeier, Tscheulin and Dreves (2012) have used psychological theory as well as consumer behavior theory in their study to develop a

conceptual model that considers effective and cognitive determinants of boycotting behavior within the scope of the German pharmaceutical sector. They have found that a person's tendency to join boycotts and engage in boycott communication results from anger about animal testing, the perceived immorality of pharmaceutical companies' corporate behavior and also a negative corporate image of pharmaceutical companies. Such consumer behavioral implications result in a financial loss for pharmaceutical companies. Beside such behaviors of consumers on pharmaceutical companies, some patients do not trust the physicians also (Mahmoud, 2016). According to Mahmoud, patients have mixed reactions toward physicians' prescriptions of branded medicines. In his study, Mahmoud categorized the responses of patients where the majority believes the physicians are serving the interest of pharmaceutical companies in prescribing their medications. A patient view study asked health care service receivers (~80% from Europe, with the rest from North America) their perceptions on the unethical conduct of the pharmaceutical companies and discovered that 30% patients said about multinational medication organizations have great dishonor (Baum, 2013). Those outcomes from the study indicated a few industry inadequacies, an inability to help patients in securing solutions in a troublesome monetary condition and offering drugs with just short-term medical advantages, not serving the necessities of disregarded patients, unseemly advertising of medications, an absence of reasonable valuing strategies, making drugs excessively expensive to numerous poor patients, an absence of truthfulness in corporate and social exercises, unfriendly news about items, not having a patient-driven technique, and not acting with trustworthiness. Thus, patient's satisfaction is examined by various factors which include getting admission, discharge, nursing care, food, housekeeping and technical services (Woodside et al., 1989). Other dimensions also have been identified as caring, empathy, reliability, and responsiveness (Tucker & Adams, 2001). Using factor analysis, Tucker and Adams (2001) reduced these variables into two primary dimensions for evaluation of patient satisfaction: (1) healthcare service provider performance, and (2) healthcare access, which are being adopted in this study.

#### **Healthcare Quality**

Quality is a complicated and imprecise concept (Grönroos, 2000). There is no single universal definition of quality in the literature. It is a critical determinant of competitiveness and long-term profitability of both service and manufacturing industries. A simple definition of healthcare quality is "consistently delighting the patient by providing efficacious, effective and efficient healthcare services according to the latest clinical guidelines and standards, which meet the patient's needs and satisfies providers" (Mosadeghrad, 2013).

Today's quality dimensions in healthcare, based on distinct correlations in medicine and healthcare service providers. The health care service is highly biased against unethical practices by pharmaceutical companies, putting their sales representatives on the front line (Khan et al., 2016). Healthcare quality is difficult to measure as there are distinct characteristics such as intangibility, heterogeneity and simultaneity made it difficult to assess (Joss & Kogan, 1995; Ladhari, 2009; McLaughlin & Kaluzny, 2006; Naveh & Stern, 2005). There is a huge tendency of pharmaceutical companies to involve in unethical pharmaceutical marketing practices by using monetary benefits to medical professionals for prescribing certain brands of medicines (Khan et al., 2016). Such unethical practice in healthcare service is destroying the trust of physicians, and patients are moving to other markets where they believe ethical standards are still followed. Marketing plays a key role in creating a brand image, consumer awareness about the qualities of various products and services available on the market and can drive a long way to achieve economic progress and social development (Anwar & Saeed, 1996). Marketing strategies can be customized to achieve healthy competition in the market, freedom for consumers to select products which suit functional and social needs, improvement in the quality of products, and enhancement of Islamic moral conduct (Anwar & Saeed, 1996). In particular, pharmaceutical marketing companies have a distinctive relationship with healthcare quality (Atinga et al., 2011). Gronroos proposed in 1984 two specific constituents of service quality, (1) technical; and (2) functional. Technical quality defines the precision of diagnosis and procedures in medical treatment. Functional quality defines the method of service delivery in the medical facility. But, in the twenty-first century, the expectation of patients in the healthcare service delivery process has reached in high pick which is unparalleled to the past. The factors associated with healthcare quality for getting patient satisfaction (Zideldin, 2006) need to be studied regularly so as to understand what is valued by the patient, how the quality of care is construed by the patient and to verify where, when and how service change and improvement can be made. Zineldin (2000a) explained quality models into the framework of five quality dimensions (5Qs): Q1. quality of object, Q2. quality of processes, Q3. quality of infrastructure, Q4. quality of interaction, and Q5. quality of atmosphere, which are followed in this study as quality of medicine, quality of treatment process, quality of medical equipment, quality of medical professional and quality of environment in medical institute. The design and implementation of this model reflect each country's particular way of organizing healthcare as well as the beliefs and values of both the care receivers and the care providers of healthcare services.

### Pharmaceutical Marketing Ethics

Pharmaceutical marketing consists of customer relationship management and depends on analytics-based closed loop marketing (Wasuja, Sagar and Sushil, 2012). Globally, unethical practices have become an integral part of the pharmaceutical marketing. Previous studies identified different ethical issues which influence pharmaceutical marketing in relation to healthcare quality. In Bangladesh, Health Watch conducted a study on the promotion of pharmaceutical products (Ahmed, 2012) and found that to achieve the sales target, pharmaceutical sales representatives (PSR) do many activities which contradict with the ethical promotion of Drug Sales Act of Bangladesh. They follow the list of medical doctors provided by their respective pharmaceutical companies, segmented by "A" to "C" category of groups, depending on the experience and number of patients attended by the physicians. In Malaysia, there are many research-based multinational pharmaceutical companies who are known as principles, have established their offices (Zin, 2013). These companies employed their own sales and marketing staffs with medical or drug regulatory and administrative functions; while leaving their appointed sole distributors to the physical activities of importing raw materials, order processing, delivery and bill collection. There are pharmacists and even physicians employed by these companies and distributors to ensure the healthcare service quality (Hassali et al., 2009). In the year 2004 and 2005, researchers from Saint Joseph's University in the USA conducted a study on news from top 5 US newspapers (Sillup & Porth, 2008). They studied newspapers for coverage of ethical issues in the pharmaceutical industry and have found a very alarming situation in the context of ethical issues performed by different pharmaceutical companies. In 2004, the most common issues covered were drug pricing, data disclosure, and import/export. In 2005, drug safety was the number one issue and drug pricing a distant second. Headlines were negative 57.1% in 2004 and 43.9% in 2005. Full-text articles were negative 69.5% in 2004 and 60.1% in 2005. The opposing point of view was 77.7% in 2004 and increased to 82.7% in 2005. Ethical issues cited by Pharmaceutical Research and Manufacturers Association (PhRMA), the industry's trade association (e.g. drug pricing), received heavy coverage but several identified issues were not on PhRMA's list, notably drug safety. The researchers concluded that six most prominent issues reported in newspapers – drug safety, pricing, data disclosure, import/export, clinical study design, and marketing restrictions – are predominantly negative and critical of the positions taken by the pharmaceutical industry. "The dark side of the pharmaceutical industry", a research paper uncovered ethically equivocal aspects of the pharmaceutical industry. In this paper, the writers have identified the determinants of the medical

representatives' unethical behavior as perceived by the PSRs themselves and their direct customers' means medical doctors. The study has exposed that providing misleading and incomplete information, offering gifts as incentives, making unfavorable remarks about competitors and their products, falsifying daily call reports and the misusing of samples are the major unethical issues of PSRs (Skandrani&Sghaier, 2016). In Europe, pharmaceutical marketing is governed by voluntary codes of practice administered by the pharmaceutical industry under its own system of self-regulation (Zetterqvist, Merlo & Mulinari, 2015). Penalties imposed on pharmaceutical companies averaged €447,000 in Sweden and €765,000 in the UK from 2004 to 2012 which is equivalent to about 0.014% and 0.0051% of annual sales revenues of the pharmaceutical companies of both countries, respectively. This fine is very insignificant in amount against the violations these companies undertake. Zetterqvist, Marlo, and Mulinari recommended regulatory reforms that may improve the quality of medicines information and intensified active monitoring of pharmaceutical marketing, along with larger fines and greater media coverage. But despite the importance of improving regulatory structure to ensure unbiased medicines information or larger fines, such efforts alone are not sufficient to address additional layers of industry biases. Ethical standard of medical professionals is also in the queue. A total change of marketing strategy based on Islamic principles and values can be the ultimate solution for reducing unethical practices in order to get a good health care service as health matters.

### **Islamic Marketing Mechanism**

Islamic marketing has been defined as *"the wisdom of satisfying the needs of customers through the good conduct of delivering Halal, wholesome, pure and lawful products and services with the mutual consent of both seller and buyer for the purpose of achieving material and spiritual wellbeing in the world here and hereafter and making consumers aware of it through the good conduct of marketers and ethical advertising"* (Quran, 4:29). Islamic marketing mechanism is the process by which Islamic principles and values are obtained based on the Quran, Hadiths, Islamic literature and the interviews conducted with religious Islamic scholars (Abuznaid, 2012). Muslims around the world are becoming conscious about the Halal usage of other categories like pharmaceuticals and healthcare services besides food items (Adamatzky, 2012). The global market value for the entire Halal trading business reached USD 2.1 trillion in 2005 (Oxford Business Group Malaysia, 2010). The recognition of the Halal as a benchmark for safety and quality assurance is also rapidly growing (Lindgreen&Hingley, 2009) and certified Halal products are becoming accepted by both Muslims and non-Muslim consumers (Alserhan,

2011). The development of Islamic marketing mechanism is important because it is our collective religious duty (fardkifayah) to be presented for the whole world. This initiative has started by past great Muslim scholars who developed their own frameworks and methodologies (e.g. usulFiqh) which roots it in the Quran and Sunnah (Hassan, 2016) and it is our greater responsibility to make this religion moving forward in the field of marketing. Non-Muslim organizations following Islamic ethics in their business activities are few. Global non-Muslim multinational group of companies started aligning their business activities strategically with Islamic values to attract customers in Muslim majority countries (The Express Tribune, 2017). Modern marketing theory from an Islamic perspective has been conceptually exhibited by Arham (2010). He suggested that Islamic religious teachings could be applied in the realm of modern marketing theory. Although all of its elements could not be applied in Islamic society, modern marketing theory will provide some elements which could be utilized in developing Islamic marketing theory. There is an intensive effort by different circles to grasp the influence of Islam on Muslim consumer behavior, including Oxford's Saïd Business School, Ogilvy Noor and the Journal of Islamic Marketing. Malaysia is a Muslim majority country who possesses Islamic values and principles. The critical factors that influence the motivation of Muslim consumers in Malaysia towards the Islamic market mechanism have been explored in an empirical study (Ali et al., 2015). The researchers attempted to use Ibnomer Mohamed Sharfuddin's "Islamic Administrative theory" and Klaus Hurrelmann's "socialization theory" based on the "productive processing of reality (PPR)" model. They grouped Islamic market mechanism practices into Productive service, Commodity market, Government role and Consumers' motivation among which they examined only two main components practices, productive service, and commodity market. They found that while awareness of the Islamic market mechanisms exists amongst businesses, in practical, few follow such rules. But, a critical positive relationship exists between the Muslim customer motivational components and Islamic market systems. Productive service and commodity market have a positive effect on shoppers' inspiration towards the Islamic market component in Malaysia. Government's controlling and observing in the market has a constructive outcome on customers' inspiration in choosing the Islamic market instrument (Ali et al., 2015). The pharmaceutical industry is well-equipped by various resources with the potential to preserve a valued reputation for offering innovative healthcare products that improve patient's health and well-being (Kim & Ball, 2013). However, recently, several high-profile safety issues associated with particular medicine quality along with a growing perception that pharmaceutical companies are

unethical and drive up healthcare costs by prioritizing profits over patient satisfaction (USA Today/KFF/Harvard SPH, 2008). So, the reputation of the pharmaceutical industry has been criticized with only 11% of patients considering pharmaceutical companies to be trustworthy (Harris Interactive Poll, 2010). These concerns appeared because of opportunistic pharmaceutical companies that are looking for profits regardless of values, beliefs and quality (Daabes, 2018). Here, Islamic marketing mechanism can give emphasis on the welfare, justice, and blessing of Allah (SWT), while the traditional marketing focuses on customer satisfaction, only to increase sales and profit (Abu & Khalidah, 2013). Conventional system of marketing stresses on the principle of self-interest maximization by raising managers and individual consumer's benefits, with no emphasis to individual and societal welfare and wellbeing (Kadirov, 2014; Alom & Haque, 2011), while the main objective of Islamic marketing mechanism is to improve patient's health, welfare, and quality (Shamsudin & Rahman, 2014). The concept of ownership and limitation of resources in Islam are never discussed in traditional marketing (Adnan, 2013). Therefore, traditional pharmaceutical marketing ethics need to be compared in this study with Islamic marketing mechanism to ensure healthcare service quality.

**Hypotheses**

Based on the literature review, the following hypotheses are developed to guide this research.

H<sub>1</sub>: Pharmaceutical marketing ethics significantly influences healthcare quality to improve patient satisfaction.

H<sub>2</sub>: Islamic marketing mechanism significantly influences healthcare quality to improve patient satisfaction.

H<sub>3</sub>: Pharmaceutical marketing ethics significantly influences healthcare quality mediated by Islamic marketing mechanism.

H<sub>4</sub>: Healthcare quality significantly influences patient satisfaction.

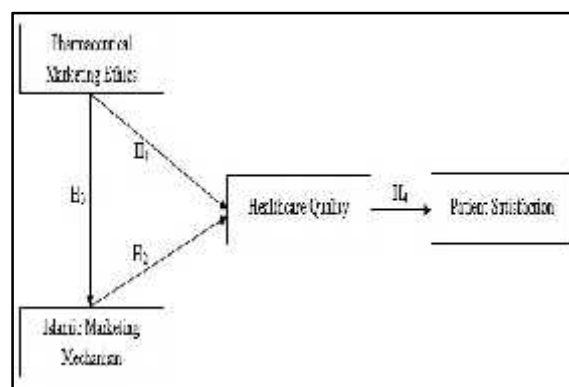
**Conceptual Framework**

The conceptual framework has been presented in figure 1. This framework emphasizes on patient satisfaction as the dependent variable and healthcare quality as the independent variable. In addition, the relationship between Islamic marketing mechanisms with pharmaceutical marketing ethics has been placed to see the mediating effect.

**Methodology**

The present study has been developed following a quantitative research approach. Survey method has been used to collect data. A survey is concerned primarily with addressing the particular characteristics of a specific sample of respondents. Close-ended questions has been utilised as it enables analysis to be done easily and facilitates the overall process of quantitative data. The usage of the

questionnaire enables researchers to capture human behaviour pattern much easily (Robson, 1993). The survey questions used for this study were structured based on literature reviews to ensure the validity of the result. The questionnaire (survey instrument) employed in this research is the Likert-style rating scale that was anchored using descriptors (strongly disagree, disagree, neutral, agree, and strongly agree). These descriptors were chosen to neutralize any tendency to over-report difficult conditions. This method asked respondents on how strongly they agree or disagree with a statement or series of statements on a five-point scale. Judgmental sampling technique has been used, because participants are selected who are experienced in having medical treatment under certain health issues. Data has been gathered from a total of 271 patients within Klang valley area in Malaysia. IBM SPSS version 25 and Smart PLS version 3 software were used for analysing the collected data.



**Fig.1: Framework built upon concepts**

**Analysis And Findings**

**Exploratory Factor Analysis (EFA)**

In SPSS, Cronbach's Alpha is generally used to measure the internal consistency of questionnaires. Reliability of 0.7 or higher is required for the study instruments to continue with this research. After running the test and from the output (Table 1), it is found that the Cronbach's Alpha value is greater than 0.9 which means that all the instruments used in this research are reliable enough as it is very close to 1. Also, if any item deleted then it will not make any difference in consistency. Then, factor analysis was performed in order to derive the number of dimensions or in other words, factors that can appropriately explain the variables that are identified for this respective research. The KMO value of 0.959 was derived (Table 2). This value is deemed to be great as it is significantly greater than the cutoff value of (0.50). Varimax rotation method was employed for running factor analysis (Table 3). For this particular study, 0.50 was regarded to be the acceptable cutoff point as recommended in (Wang, Chen & Jiang, 2009).

| Table 1. Reliability Statistics |            |
|---------------------------------|------------|
| Cronbach's Alpha                | N of Items |
| 0.949                           | 30         |

| Table 2. KMO and Bartlett's test of sampling adequacy |          |
|---|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy.      | 0.959    |
| (Bartlett's Test of Sphericity) Approx. Chi-Square    | 4326.367 |
| Df.   | 300      |
| Sig.  | 0.000    |

| Table 3. Rotated Component Matrix <sup>a</sup>  |           |      |      |      |
|---|-----------|------|------|------|
| Variables   | Component |      |      |      |
|   | 1         | 2    | 3    | 4    |
| PME1  | .758      |      |      |      |
| PME2  | .720      |      |      |      |
| PME3  | .615      |      |      |      |
| PME4  | .750      |      |      |      |
| PME5  | .644      |      |      |      |
| IMM1  |           | .722 |      |      |
| IMM2  |           | .725 |      |      |
| IMM3  |           | .565 |      |      |
| IMM4  |           | .515 |      |      |
| IMM5  |           | .573 |      |      |
| HQ1   |           |      | .547 |      |
| HQ2   |           |      | .660 |      |
| HQ3   |           |      | .687 |      |
| HQ4   |           |      | .559 |      |
| HQ5   |           |      | .665 |      |
| PS1   |           |      |      | .750 |
| PS2   |           |      |      | .663 |
| PS3   |           |      |      | .534 |
| PS4   |           |      |      | .645 |
| PS5   |           |      |      | .782 |
| Extraction Method: Principal Component Analysis.<br>Rotation Method: Varimax with Kaiser Normalization.<br>a. Rotation converged in 7 iterations. |           |      |      |      |

Table 4. Model Fit

| Fit Indices | Estimated Model | Ideal Threshold |
|-------------|-----------------|-----------------|
| SRMR        | 0.063           | < 0.08          |
| Chi-Square  | 299.675         | Upper is better |
| NFI         | 0.898           | > 0.9           |

Table 5. Hypothesized Path Coefficients

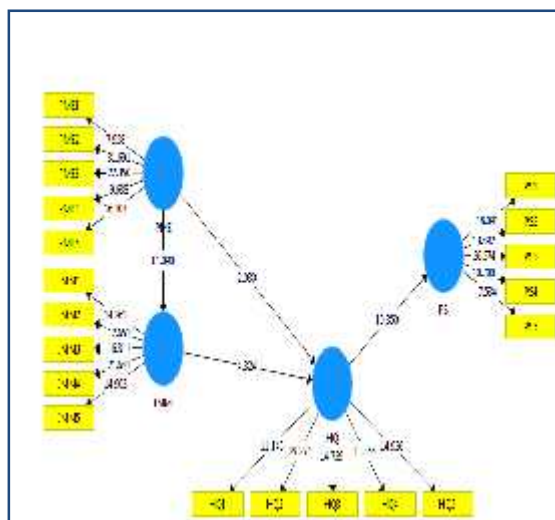
| Path      | T Statistics | P Values |
|-----------|--------------|----------|
| HQ → PS   | 19.350       | 0.000    |
| IMM → HQ  | 4.324        | 0.000    |
| PME → HQ  | 2.030        | 0.048    |
| PME → IMM | 11.090       | 0.000    |

Table 6. Summary of Hypotheses test results

| Hypotheses       |  | Findings  |
|------------------|--|-----------|
| H <sub>1</sub> : | Pharmaceutical marketing ethics significantly influences healthcare quality to improve patient satisfaction.         | Supported |
| H <sub>2</sub> : | Islamic marketing mechanism significantly influences healthcare quality to improve patient satisfaction.             | Supported |
| H <sub>3</sub> : | Pharmaceutical marketing ethics significantly influences healthcare quality mediated by Islamic marketing mechanism. | Supported |
| H <sub>4</sub> : | Healthcare quality significantly influences patient satisfaction.  | Supported |

**Confirmatory Factor Analysis (CFA)**

To establish CFA, smart PLS (partial least square) structural equation modelling technique has been used. The PLS-SEM approach is useful when it comes to predictions and explanations of target constructs (Hair et al. 2017). Smart PLS is a non-parametric distribution assumptions. After running the PLS algorithm, the standardized regression weights of the effects among pharmaceutical marketing ethics (PME), Islamic marketing mechanism (IMM), healthcare quality (HQ) and patient satisfaction (PS) are found. The factor loadings and R<sup>2</sup> (% variance explained by the explanatory variables) are also located. To identify if the regression weights found in the model are significant or not, bootstrapping algorithm is applied. PLS-SEM relies on a nonparametric bootstrap procedure (Efron and Tibshirani, 1986; Davison and Hinkley, 1997) to test the significance of various results such as path coefficients and R<sup>2</sup> values. T-statistics are indication of significance in the bootstrapping method (anything above 1.96 is significant at p≤0.05 level). Figure 2 represents the PLS structural equation modelling technique. The values for model fit are found acceptable as presented in Table 4. The hypothesized path coefficients are presented in Table 5.



**Fig.2: PLS – SEM default model**

**Mediation Test**

In SmartPLS, the results of the PLS-SEM algorithm and the bootstrap procedure include the direct effects, the total indirect effects, the specific indirect effects, and the total effect. These outcomes, which are available in the SmartPLS reports, permitted to conduct a mediator analysis (Hair et al., 2017). Table 5 also represents the values for path coefficients in mediation test results.

**Hypotheses Testing**

Table 6 depicted below summarizes the results of hypotheses testing.

**Discussion**

The main research outcome in this study pertains to the effect of healthcare quality on patient satisfaction. The test result for H<sub>4</sub> is found supported and it proved that there is a significant positive relationship exists between healthcare quality and patient satisfaction. It also establishes similarity with findings in previous researches of Wei & Delbaere (2015). Patients are indeed the centre of healthcare system and if the level of healthcare quality increases then patient satisfaction also increases. Additionally, for the present study the mediating effect of Islamic marketing mechanism between pharmaceutical marketing ethics and healthcare quality has also been verified through SEM. By looking at Figure 2 and the results obtained in Table 5, it can be observed that the indirect effect between pharmaceutical marketing ethics and healthcare quality is positively significant and the direct effect between these two is also positively significant, so there is a partial mediation effect found for Islamic marketing mechanism. In Islam, any transactions through marketing depends on mutual consent which means that the exchange must be operated on the free will of buyers and sellers and free of undue pressure, fraud and deception. It must not encourage competition rather ensure cooperation among all stake holders without elements of compulsion or cheating. In this study, pharmaceutical marketers act as seller and patients' acts as buyer. Hassan (2016) explained that people are necessitated by force of circumstances to be clustered in cities to help each other in fulfilling their mutual needs. Therefore, pharmaceutical marketer's role is vital and patient's need can be satisfied in more effective way through

mutual cooperation if the focus is on group rather than individual.

### Recommendation And Conclusion

From customized therapeutic practices to present day innovation based health care services, pharmaceutical companies play a huge part to contribute and develop in this industry. The meaning of healthcare services has been changed as getting cured from diseases to the counteractive action of such diseases. The leaders of the pharmaceutical industry created distinctive product offerings to manage diseases and in the meantime delivered vaccines to shield from sickness. Despite regulatory bindings and corporate values, there are moral issues of pharmaceutical marketing strategies worldwide which now require a solution as at the end, nobody wants to compromise with health. Pharmaceutical companies generate huge income from healthcare services in terms of offering drugs. Physicians and patients are the two key client bases that pharmaceutical companies manage. Their marketing strategies are to create remedies by physicians however much as could reasonably be expected which specifically impacts their deals. An Islamic marketing mechanism for pharmaceutical marketing can benefit every stakeholders within this industry. Patient centricity is the worldwide agenda taken by Pharmaceutical companies. Keeping in mind the end goal to support in the market for a long time with respectable development rate, ethical standards, advertising of pharmaceutical items with quality, reasonable cost and agreeable way should be guaranteed. The connection between pharmaceutical companies and medical doctors must not be exploitative. Both are cooperating together for the improvement of patient's wellbeing. In addition, Muslim entrepreneurs have a profound duty on delivering Islamic marketing activities which will portrait a good image, so that other non-Muslims will follow. Islamic marketing concept need to be explored further for better understanding. More research is specifically required for Islamic marketing concepts (Al-Nashmi&Almamari, 2017) to get the attention of all marketers and consumers across the globe.

### References

1. Abu, Y.K. and Khalidah, N. (2013). Oxford Review Series: Principles of Marketing. Oxford University Press, Oxford.
2. Abuznaid, Samir. (2012). Islamic Marketing: Addressing the Muslim Market. An - Najah Univ. J. Res. (Humanities). Vol. 26(6).
3. Adamatzky, A. (2012). Bioevaluation of World Transport Networks. World Scientific Publishing, pp. 177-178.
4. Adnan, A.A. (2013). Theoretical framework for Islamic marketing: do we need a new paradigm?. International Journal of Business and Social Science, Vol. 4 No. 7.
5. Ahmed, Syed Masud (2012), "Unethical medical products sales promotional practices in Bangladesh", Bangladesh Health Scenario
6. Ali, M. A., Rahman, M. K., Rahman, M., Albaity, M., Jalil, M. A. (2015) "A review of the critical factors affecting Islamic market mechanisms in Malaysia", Journal of Islamic Marketing, Vol. 6 Issue: 2, pp.250-267
7. Al-Nashmi, Murad Mohammed and Almamary, Abdulkarim Abdullah (2017), "The relationship between Islamic marketing ethics and brand credibility: A case of pharmaceutical industry in Yemen", Journal of Islamic Marketing, Vol. 8 Issue: 2, pp.261-288
8. Alom, M.M. and Haque, M.S. (2011). Marketing: an Islamic perspective. World Journal of Social Sciences, Vol. 1 No. 3, pp. 71-81.
9. Alserhan, B.A. (2011). The Principles of Islamic Marketing. Gower Publishing, pp. 46-149.
10. Andaleeb, S. (1988), "Determinants of customer satisfaction with hospitals: a managerial model", International Journal of Health Care Quality Assurance, Vol. 11 No. 6, pp. 181-7.
11. Anwar, Muhammad and Saeed, Mohammad (1996), "Promotional Tools of Marketing: An Islamic Perspective", Intellectual Discourse, 1996 Vol 4, No 1-2, 15-30
12. Arham, Muhammad (2010), "Islamic perspectives on marketing", Journal of Islamic Marketing, Vol. 1 Issue:2, pp.149-164
13. Atinga, RA., Abekah-Nkrumah, G., Domfeh, KA. (2011) "Managing healthcare quality in Ghana: a necessity of patient satisfaction", International Journal of Health Care Quality Assurance, Vol. 24 Issue: 7, pp.548-563
14. Baum, Stephanie (2013), "Survey finds lack of transparency drags down pharma reputation among patient groups", Medcity News
15. Daabes, Ajayeb Abu. (2018). Islamic marketing paradoxes: a way to understand it again. Journal of Islamic Marketing, Vol. 9 Issue: 2, pp.329-337.
16. Davison, A. C., and Hinkley, D. V. (1997). Bootstrap Methods and Their Application, Cambridge University Press: Cambridge.
17. Efron, B., and Tibshirani, R. J. (1993). An Introduction to the Bootstrap, Chapman Hall: New York.
18. Grönroos, Christian. (2000). Service Management and Marketing: A Customer Relationship Management Approach.
19. Hair, J. F., Hult, G. T. M., Ringle, C. M., and Sarstedt, M. (2017). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM), 2nd Ed., Sage: Thousand Oaks.
20. Harris Interactive. (2010). Oil, Pharmaceutical, Health Insurance, and Tobacco Top the List of Industries That People Think Should Be More Regulated.
21. Hassali, MA., Yuen, KH., Ibrahim, MIM., Wong, JW., Ng, BH. And Ho, David Sue San (2009), "Malaysian



- pharmaceutical industry: Opportunities and challenges”, *Journal of Generic Medicines* (2009) 6, 246 – 252. doi: 10.1057/jgm.2009.12
22. Hassan, Abul (2016) "Islamic ethical responsibilities for business and sustainable development", *Humanomics*, Vol. 32 Issue: 1, pp.80-94
  23. Jafari, Aliakbar (2012) "Islamic marketing: insights from a critical perspective", *Journal of Islamic Marketing*, Vol. 3 Issue: 1, pp.22-34
  24. JavedSaad Ahmed and Ilyas Fatima. (2018). Service quality and satisfaction in healthcare sector of Pakistan— the patients’ expectations. *International Journal of Health Care Quality Assurance* 31:6, 489-501.
  25. Joss, R. and Kogan, M. (1995), *Advancing Quality: Total Quality Management in the National Health Service*, Open University Press, Buckingham.
  26. Kadirov, D. (2014). Islamic marketing as Macromarketing. *Journal of Islamic Marketing*, Vol. 5 No. 1, pp. 2-19.
  27. Khan, Naqvi, Ahmad, Ahmed, McGarry, Fazlani and Ahsan (2016), “Perceptions and Attitudes of Medical Sales Representatives (MSRs) and Prescribers Regarding Pharmaceutical Sales Promotion and Prescribing Practices in Pakistan”, *Journal of Young Pharmacists*, Vol 8, Issue 3, Jul-Sep
  28. Kim, H. and Ball, J.G. (2013). Multiple levels of influence in pharmaceutical branding: an examination of industry trust, corporate credibility, and brand credibility. Presented at the Annual Conference of the American Academy of Advertising, Albuquerque, NM.
  29. Ladhari, R. (2009), “A review of twenty years of SERVQUAL research”, *International Journal of Quality and Service Sciences*, Vol. 1 No. 2, pp. 172-98.
  30. Lindenmeier, J., Tschulin, DK and Dreves, Florian (2012), "The effects of unethical conduct of pharmaceutical companies on consumer behavior: Empirical evidence from Germany", *International Journal of Pharmaceutical and Healthcare Marketing*, Vol. 6 Issue: 2, pp.108-123
  31. Linder-Pelz, S. (1982), “Toward a theory of patient satisfaction”, *Social Science and Medicine*, Vol. 16 No. 5, pp. 577-82.
  32. Lindgreen, A. and Hingley, M.K. (2009). *The New Cultures of Food: Marketing Opportunities from Ethnic, Religious and Cultural Diversity: Food and agricultural Marketing Series: Gower Applied Research*. Gower Publishing, p. 244.
  33. Mahmoud, Abdulai Mahmoud (2016), "Consumer trust and physician prescription of branded medicines: an exploratory study", *International Journal of Pharmaceutical and Healthcare Marketing*, Vol. 10 Issue: 3, pp.285-301
  34. McLaughlin, C.P. and Kaluzny, A.D. (2006), *Continuous Quality Improvement in Health Care*, 3rd ed., Jones and Bartlett Publishers, Sudbury, MA.
  35. Mosadeghrad, Ali Mohammad (2013) "Healthcare service quality: towards a broad definition", *International Journal of Health Care Quality Assurance*, Vol. 26 Issue: 3, pp.203-219
  36. Naidu, Aditi (2009) "Factors affecting patient satisfaction and healthcare quality", *International Journal of Health Care Quality Assurance*, Vol. 22 Issue: 4, pp.366-381
  37. Naveh, E. and Stern, Z. (2005), “How quality improvement programmes can affect general hospital performance”, *International Journal of Healthcare Quality Assurance*, Vol. 18 No. 4, pp. 249-70.
  38. Oxford Business Group Malaysia. (2010). *The Report: Malaysia 2010*. Oxford Business Group, p. 192.
  39. Pitta, Dennis (2016), "Global Issues in Pharmaceutical Marketing ", *International Journal of Pharmaceutical and Healthcare Marketing*, Vol. 10 Iss 2 pp. 230 – 231
  40. Ramadan, Tariq (2009), “Radical Reform: Islamic Ethics and Liberation”
  41. Rao, Sanjay K (2012), Generating growth through patient-centered commercial strategies, *Journal of Medical Marketing* 0(0) 1–11
  42. Robson C (1993). *Real world research: A resource for social scientists and practitioners-researchers*. Massachusetts: Blackwell Publishers.
  43. Shamsudin, S.M. and Rahman, S.S.A. (2014). The differences between Islamic marketing and conventional marketing: a review of the literature. *The Proceeding of the 1st International Conference on Management and Muamalah*, pp. 298-307.
  44. Sillup, George P. and Porth, Stephen J. (2008), "Ethical issues in the pharmaceutical industry: an analysis of US newspapers", *International Journal of Pharmaceutical and Healthcare Marketing*, Vol. 2 Issue: 3, pp.163-180
  45. Skandrani, Hamida and Sghaier (2016), "The dark side of the pharmaceutical industry", *Marketing Intelligence & Planning*, Vol. 34 Issue: 7, pp.905-926
  46. *The Express Tribune*, (2017), Islamic finance attracts non-Muslim countries, News Desk, Published: December 20
  47. Tucker, J. III and Adams, S.R. (2001), “Incorporating patients’ assessments of satisfaction and quality: an integrative model of patients’ evaluations of their care”, *Managing Service Quality*, Vol. 11 No. 4, pp. 272-86.
  48. Turner, P. and Pol, L. (1995), “Beyond patient satisfaction”, *Journal of Health Care Marketing*, Vol. 15 No. 3, pp. 45-53.
  49. USA Today/Kaiser Family Foundation/Harvard School of Public Health. (2008). *The Public on Prescription Drugs and Pharmaceutical Companies*.
  50. Wang CC, Chen CA, Jiang JC (2009). The Impact of Knowledge and Trust on Consumers’ Online Shopping Activities: An Empirical Study. *JCP*, 4(1):11-8.
  51. Wasuja, S., Sagar, Mahim and Sushil (2012), "Cognitive bias in salespersons in specialty drug selling of pharmaceutical industry", *International Journal of Pharmaceutical and Healthcare Marketing*, Vol. 6 Iss 4 pp. 310 – 335
  52. Wei, Mei-Ling and Delbaere, Marjorie (2015), "Do consumers perceive their doctors as influenced by

- pharmaceutical marketing communications? A persuasion knowledge perspective", *International Journal of Pharmaceutical and Healthcare Marketing*, Vol. 9 Iss 4 pp. 330 – 348
53. Woodside, A.G., Frey, L.L. and Daly, R.T. (1989), "Linking service quality, customer satisfaction and behavior intention", *Journal of Health Care Marketing*, Vol. 9 No. 4, pp. 5-17.
  54. Yadav, Sudhir (2013), "Building regulatory capabilities for pharmaceutical firms' internationalization", *International Journal of Pharmaceutical and Healthcare Marketing*, Vol. 7 Iss 1 pp. 58 – 74
  55. Zeithaml, V. A. and Bitner, M. J. (2000), *Services Marketing: Integrating Customer Focus across the Firm*, McGraw-Hill, New York, NY.
  56. Zetterqvist AV, Merlo J and Mulinari S (2015), "Complaints, Complainants, and Rulings Regarding Drug Promotion in the United Kingdom and Sweden 2004–2012: A Quantitative and Qualitative Study of Pharmaceutical Industry Self-Regulation", *PLoS Med* 12(2): e1001785. doi:10.1371/journal.pmed.1001785
  57. Zin, Gan Ber (2013), "Time to end uninhibited drug promotion"
  58. Zineldin, M. (2000) 'Total relationship management (TRM) and total quality management (TQM)', *Managerial Auditing Journal*, Vol. 15, Nos. 1/2, pp.20–28.
  59. Zineldin, M. (2006), "The quality of health care and patient satisfaction: an exploratory investigation of the 5Qs model at some Egyptian and Jordanian medical clinics", *International Journal of Health Care Quality Assurance*, Vol. 19 No. 1, pp. 60-92.