The Impact of Brand Equity of Global Pharmaceutical Companies on Prescriptions Decisions of Physicians in Jordan: The Moderating Role the Performance of Medical Representatives

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Abstract

This study aimed to identify the impact of the brand equity and its dimensions (brand awareness, brand association, perceived quality, and brand loyalty) of Global Pharmaceutical Companies on Prescriptions decisions of physicians in Jordan.

The population of sample were the Jordanian physicians, the study tool was questionnaire, which was distributed to connivance sample (Physicians), the data was collected from (240) participants of study population, the data collected were analysed by using the Smart-PLS software.

The study result is finding that statistically significant effect of the brand equity of global pharmaceutical companies on Prescriptions decisions of physicians in Jordan, and this effect was positive

Global pharmaceutical companies need to focus more on all study variables (dimensions of brand equity) because they have a role of enhancing the prescription decisions of physicians.

Keywords: brand equity, performance of the medical representatives, prescriptions decisions of physicians, physicians in Jordan

1. Statement of Contribution

The main question of this study: What is the effect of the brand equity and its dimensions (brand awareness, brand association, perceived quality, and brand loyalty) of the global pharmaceutical companies on the medicine prescribed by Jordanian physicians with the performance of the medical representative as a moderating variable?

The necessity for workers in the field of medical representatives to focus on highlighting the brand of products while explaining the therapeutic features of the medicine to the physicians.

2. Introduction

A business environment is characterized by a high degree of complexity and rapid change. Achieving superiority over competitors and achieving competitive advantage requires a lot of attention to the desires and needs of customers and an understanding and matching of these needs and desires with the organizational and marketing capabilities of these companies. The companies' interest in creating a distinct brand image will enhance the competitiveness of their capabilities (Olusanmi et al., 2013).

The pharmaceutical industry is one of the industries most interested in promoting and marketing their products (WHO, 2005) because these companies direct their promotional efforts towards doctors who make decisions to prescribe medication to patients (Tušek Bunc et al., 2014).

The prescribing decision of a physician is influenced by medical, diagnostic, and economic factors (Davari et al., 2018), and among the factors that affect physicians' decisions is the name of the medical product or the brand of the medicine (Stros et al., 2015). This demonstrates the interest pharmaceutical companies have in creating a strong relationship with physicians around the world through medical representatives (Morgan et al., 2006).

In the pharmaceutical markets there are two types of medical prescriptions: prescription medicine and over-the-counter medicine. As a result, pharmaceutical companies try to create a brand known to physicians and patients (Ladeira et al., 2011).

One of the most critical factors that plays a significant role in changing the behaviour of doctors, in regard to his decision to prescribe medicine, is the performance of the medical representatives, because these representatives play an influential role in convincing physicians of the importance of the medicine in terms of treatment and in highlighting the brand of the medicine, which may positively influence the physician's decision towards prescribing the medicine ((Murshid et al., 2016)

The effect of the brand equity on the decision to prescribe medicine by Jordanian physicians, as well as the moderating role of the performance of the medical representative in the relationship between brand equity and the prescribing decisions of physicians in Jordan for medicines, was identified in this study.

3. Study Problem and Questions

International pharmaceutical companies in the global market environment face great challenges through globalisation. At the forefront of severe competition limitations is that the challenges come from different environments and cultures, which mean international pharmaceutical companies are looking for strength factors and new competitive advantages.

The prescribing decisions of physicians largely depend on the brand equity and image of the international pharmaceutical companies that promoted the medicine. Therefore, these

Companies must pay attention to the positive image that reflects the increased sales of their products and that, in a way, leads to achieving a competitive advantage and profitability.

The prescribing decisions of physicians are governed by political, economic, technological, and cultural factors in the global market.

One of the most critical factors that may affect the prescribing decisions of the physician, regardless of the brand name of the drug, is the performance of the medical representative, who convinces the physicians of the importance of the product to their patients. Additionally, medical representatives can explain in detail about these benefits and the features of the products, which explore the product's superiority compared to competitors' products, and this has been confirmed by several previous studies, (e.g., Murshid & Mohaidin, 2018: Basile, 2019; Musleh and AL-Dmour, 2011), which confirmed the positive effect of the performance of medical representatives on the prescribing decisions of physicians.

The study problem is represented in the examination of the brand equity (brand awareness, brand association, perceived quality and brand loyalty) of the global pharmaceutical companies on the prescribing decisions of physicians in Jordan.

The main question of this study: What is the effect of the brand equity and its dimensions (brand awareness, brand association, perceived quality and brand loyalty) of the global pharmaceutical companies on the medicine prescribed by Jordanian physicians with the performance of the medical representative as a moderating variable? From the main study question, sub-questions can be introduced as follows:

1. What is the effect of brand awareness of the global pharmaceutical companies on the prescriptions decisions of physicians in Jordan?

2. What is the effect of the brand association of the global pharmaceutical companies on the prescriptions decisions of physicians in Jordan?

3. What is the effect of the perceived quality of the global pharmaceutical companies on the prescriptions decisions of physicians in Jordan?

4. What is the effect of brand loyalty of the global pharmaceutical companies on the prescriptions decisions of physicians in Jordan?

5. What is the effect of the performance of the medical representative e as a moderating variable in the relationship between brand equity of the global pharmaceutical companies and the prescriptions of physicians in Jordan?

4. Importance of the Study

The importance of this study is in the examination of the dimensions of the brand equity (brand awareness, brand association, perceived quality and brand loyalty) of the global pharmaceutical companies on the prescribing decisions of the physicians in private medical sectors in Jordan. The essential aspects of this study are the following:

1. This study relies on the dimensions of the brand equity (brand awareness, brand association, perceived quality and brand loyalty) of the global pharmaceutical companies as an independent variable on the prescribing decisions of physicians as a dependent variable.

2. This study focuses on the private medical sector in Jordan, which is characterized by rapid development in various medical fields.

3. This study focuses on the performance of a medical representative as a moderating role, which may affect the relationship between the brand equity of international pharmaceutical companies and the prescribing decisions of physicians in private clinics in Jordan.

5. Objectives of the Study

The main objective of this research is to investigate the effect of the dimensions of brand equity (brand awareness, brand association, perceived quality and brand loyalty) of the international pharmaceutical companies on prescriptions decisions of physicians in Jordan and investigate the effect of the performance of the medical representative as a moderating role, or variable, in the relationship between brand equity of the global pharmaceutical companies and prescriptions decisions of physicians in Jordan.

The sub-objectives are derived from the primary objective:

1. To investigate the effect of brand awareness of the international pharmaceutical companies on physicians prescribing decisions of physicians in Jordan.

2. To investigate the effect of the brand association of the international pharmaceutical companies on the prescribing decisions of physicians in Jordan.

3. To investigate the effect of the perceived quality of international pharmaceutical companies on the prescribing decisions of physicians in Jordan.

4. To investigate the effect of the brand loyalty of the international pharmaceutical companies on the prescribing decisions of physicians in Jordan.

5. To investigate the effect of the performance of the medical representative as a moderating variable in the relationship between brand equity and prescriptions decisions of physicians in Jordan.

6. Hypothesis of the Study

H1: There is a statistically significant effect of the international pharmaceutical companies' brand dimensions (brand awareness, brand association, perceived quality and brand loyalty) on the prescribing decisions of physicians in Jordan.

The first primary hypothesis (H1.1): There is a statistically significant effect of the brand awareness of international pharmaceutical companies on the prescribing decisions of physicians in Jordan.

The second hypothesis (H1.2): There is a statistically significant effect of the brand association of international pharmaceutical companies on the prescribing decisions of physicians in Jordan.

The third hypothesis (H1.3): There is a statistically significant effect of the perceived quality of international pharmaceutical companies on the prescribing decisions of physicians in Jordan.

The fourth hypothesis (H1.4): There is a statistically significant effect of the brand loyalty of international pharmaceutical companies on the prescribing decisions of physicians in Jordan.

H2: There is a statistically significant effect of the performance of the medical representative as a moderating role, or variable, in the relationship between brand equity of the international pharmaceutical companies and the prescribing decisions of physicians in Jordan.
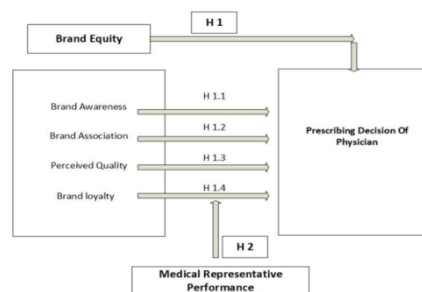

Figure 1. Study model

7. Literature Review

7.1 Brand Equity

The brand name is one of the intangible assets of a company, which represents the most important characteristics that distinguish a product from other competing products or from other services (Hofmann et al., 2019). Therefore, the brand is considered one of the assets that are managed by companies in a way that ensures its superiority (Sinclair & Keller, 2014).

Branding is defined according to the American Marketing Association (AMA, 2018) as a name, term, mark, symbol, design, or group of the aforementioned aims to identify and describe goods and services and distinguish these goods and services from the goods and services of competitors.

According to Aaker (1996), a brand is a name or symbol that distinguishes (in the form of a logo, symbol, seal, or packaging) to identify the goods or services of a single seller or a group of sellers and to distinguish the brand as distinctive in character from other competing companies. Brand equity was defined by the Institute of Marketing Science as, 'The set of associations and behaviour on the part of a brand's customers, channel members, and parent corporation that permits the brand to earn greater volume or greater margins than it could without the brand name' (Leuthesser, 1998).

Brand equity plays a significant role for companies and for consumers (Shariq, 2018) because the consumer feels positively and more comfortable using the products of well-known brands. Brand equity impacts the prescribing decisions of physicians, and brand equity plays an important role in the extent to which the prescribing decisions of physicians affect patients because this decision is based on the brand (Basile, 2019). Pharmaceutical companies focus on formulating a clear strategy when launching a brand for medicine. This helps to increase the conviction of physicians in prescribing medicine to their patients (Srivastava & Bodkhe, 2018). Because the relationship between pharmaceutical companies and physicians evolves with the development of medical representative relationships and modern marketing methods, this relationship may not be sufficient to build a strong brand (Sillup, 2013). This study is based on the Aaker (1991) model to study brand equity.

7.2 Brand Awareness

Brand awareness is the first step in building positive links and associations between the consumer and the brand, and brand awareness was defined as the ability of the consumer to recall and remember the brand in his mind (Kohli & Leuthesser, 2001). According to Jing et al. (2014), brand awareness is one of the components of knowledge about the brand. The primary goal of identifying and realising brand awareness for consumers is that awareness influences consumer decisions and has an effect on business value and the creation of a better business model.

The brand name must be clear to customers because a visible and clear brand helps customers remember the brand more easily and quickly, thus increasing awareness of the brand (Seturi, 2017). Brand awareness is associated with the prescribing decisions of physicians because brand awareness is the main point in the decision-making process in regard to the prescriptions of medicines by physicians. As physicians become fully aware of a brand, this influences the purchase decision. According to Bae et al. (2020), brand awareness plays a clear role in building brand equity. Thus, brand awareness leads to building a mental image in the minds of physicians when prescribing branded products. Hence, the most important feature for companies around the world is to enhance and improve the brand awareness of what they do by influencing decision-making processes in regard to the purchase of a brand or other brands (Chierici et al., 2018).

7.3 Brand Association

Aaker (1991, P. 101) defined brand association as 'anything linked in memory to a brand'. This dimension relates to the extent to which the customer remembers the brand, and the customer's mention of the brand is important to the company because the customer is more apt to buy the brand (Thellefsen & Sørensen, 2015). Therefore, according to Camiciottoli et al. (2014), knowledge of the brand is closely related to the relationship with the brand because the associations that distinguish brands are stored in the consumer's memory, in content and meaning, and this affects their purchasing decision on an ongoing basis in the future (Grigalinaitė & Pilelienė, 2017; Swoboda et al., 2016).

Colours, product packaging, employee uniforms, logos, symbols, famous names, and advertisements are based on stimulation to motivate customers to form associations in their mind and to serve as indicators of the product's quality and value in all aspects of the customer's interest (Beneke & Carter, 2015; Marques et al., 2020).

As for the relationship between the association with the brand and the physicians' decisions to prescribe medicine, it was found through a review of previous studies that the physicians remember the brand of pharmaceutical products.

The recommendations of other physicians and their colleagues improves the physicians' decisions in prescribing medicines to patients (Ahmed et al., 2020: Perera and Wanninayake, 2019).The competitive nature of the pharmaceutical industry is very high. The brand name association plays a significant role in the competitiveness of pharmaceutical companies and, subsequently, the recommendations by physicians to other physicians to prescribe their products (Ladha, 2007).

7.4 Brand Loyalty

Brand loyalty can be defined as the commitment of the customer or consumer towards a product, service, or brand (Marques et al., 2020). This loyalty indicates an emotional and psychological association between the customer and the consumer with the brand (Iglesias et al., 2019). According to Oliver (2014), brand loyalty is defined as the strong and constant commitment of the consumer to the brand regardless of the methods competitors follow by updating their products or the temptations offered, such as price and quality. Because brand loyalty is considered an anti-branding behaviour, faithful consumers are more willing to pay higher prices and are less likely to switch than unfaithful consumers (Liu et al., 2017).

Because brand loyalty is closely associated with the customer's desires and the extent of their commitment to the brand, the Chaudhuri and Holbrook (2001) study confirmed that increasing brand loyalty will inevitably lead to improved sales results and outputs. Increased sales means that consumers are convinced of the brand and their commercial decisions are closely related to their loyalty to the brand, thus having a positive impact on their purchasing attitude (Liu et al., 2012). As for the relationship of brand loyalty and the prescription decisions of physicians, Muhuni (2019) and Waheed et al. (2011) indicated the importance that brand loyalty plays on improving physicians' prescriptions—the more brand loyalty the physician has towards the pharmaceutical companies producing the medicine, the more the decision-making behaviour will be positive because the physician will adopt this brand and associate emotionally with it while directing his colleagues and patients towards purchasing it (Macit et al., 2016).

7.5 Perceived Quality

Quality is one of the issues studied a lot in the literature. The history of quality is full of development and improvement, and many administrative and marketing schools have studied this topic (Culot, 2019: Sanyal and Datta, 2011). According to Solomon (2010), quality is consumers judgment according his/her experience on the overall performance of any product or serves Perceived quality is one of the main dimensions that affects brand equity (Sanyal & Datta, 2011). If a brand does not fulfil the requirements and desires of customers in terms of its quality, it will not have a big name on the market—so the perceived quality plays a big role in improving sales (Vantamay, 2007; Babakus et al., 2004) and overall company performance (Lakhal, 2009; Harada et al., 2018).

Perceived quality was defined according to Aaker (1991, p. 80) as 'the customer's perception of the overall quality or superiority of a product or service concerning its intended purpose, relative to alternatives' From the aforementioned discussion, it can be said that perceived quality is one of the most important factors that influence whether the customer or consumer buys a product or service. The higher the perceived quality, the purchasing position and purchasing intent will be affected positively (Asshidin et al., 2016; Yan et al., 2019; Garrido-Morgado et al., 2016). The relationship between the perceived quality and physicians' prescribing decisions has been extensively studied as perceived quality plays a major role in influencing physicians' decisions about a brand (Sanyal & Datta, 2011) because the physicians' interest in the efficacy, therapeutic combination, and quality of a medicine will direct physicians towards the brand name (Murshid & Mohaidin, 2018; Theodorou et al., 2009)

7.6 Medical Representative Performance

One of the essential elements linking pharmaceutical companies with physicians is medical representatives. They play a significant role in creating the right image of medicine in the mind of physicians (Zhang, 2019). The performance of a medical representative is the pharmacist /person who owns the product knowledge, and he supports it to physicians through continuous communication and frequently visiting of physicians to increase both sales and the market share by increasing the brand awareness of medicine or products, and he seeks to achieve this plan or his target through using pharmaceutical marketing strategies that are compatible with the policies of pharmaceutical companies and doing the best and strong personal relationships with his clients or physicians' (Mandal et al., 2012). According to Musleh and AL-Dmour (2011), sales representatives in companies in general, and medical advertising representatives in particular, play a central role in the work of companies as they provide products and services to the public and to physicians—if it relates to pharmaceutical companies. As a result, pharmaceutical companies around the world are trying to attract the best talent and workers in the field of medical advertising because the interaction between medical advertising

representatives and physicians has an important impact on increasing the market share of the pharmaceutical company (AL-Areefi et al., 2013).

The performance of medical representatives is exposed to many factors and determinants that may be a positive reason for increasing work efficiency, or for negatively affecting work efficiency, because the organizational environment of the pharmaceutical company plays a role in improving work efficiency, and this environment leads to the worker's sense of belonging in his organization, thus increasing his commitment to the company (Teo et al., 2020). This, in turn, plays a role in improving the brand's image to the public and to physicians (Boyd & Sutherland, 2006).

Among the factors that affect the performance of medical representatives, confirmed by Bala and Sharma (2019), is the extent of the knowledge possessed by the medical advertising representative. However, the medical advertising representative may measure his performance by the level of his monthly medicine sales and his scientific product knowledge as well as the recent scientific developments regarding the pharmaceutical products offered by his company, which have a significant role in increasing his communication with physicians and convincing them to use the medicine (Budych et al., 2012).

Among the important factors that affect the performance of medical representatives are the communication skills that medical representatives possess. According to Bala and Sharma (2019) and Perera (2015), the high level of communication skills of medical representatives will be reflected positively on their communications with physicians, thus establishing a good impression of the brand.

Nevertheless, the studies that examined the effect of the performance of the medical representatives were contradictory and inconsistent in relation to the prescribing decisions of physicians because some studies (Zahrani, 2014) did not see the importance of the performance of medical representatives on the prescribing decisions of physicians when the physician is more concerned with the reputation of the company. However, Al-Areefi et al. (2013), Campo et al. (2005) and Gönül and Carter (2012) found that the rate of prescriptions increased significantly because of medical representatives, and Murshid and Mohaidin (2018) found that the effect of the medical representatives has been negative.

Because the relationship between the performance of medical representatives and the prescribing decisions of physicians for medicine are not settled by literature and previous studies, studying this variable as a modified variable in the relationship between brand equity and the prescribing decisions of physicians may be useful to understand other aspects of the performance of medical representatives as a modified variable because the studies that have studied this variable as a modified variable are limited. However, Muldoon et al. (2017) and Barroso et al. (2016) studied the performance of medical representatives as a modified variable, and many of these studies found a positive and statistically significant effect of employee performance as a modified variable.

7.7 Prescribing Decisions of Physicians

The decision-making process is considered one of the most important administrative and marketing processes, and it is considered the most important process undertaken by managers because these decisions have many consequences that may be positive or negative for the company in general (Waldron et al., 1997). According to Dubrin (2012, P.152), the decision can be defined as 'choosing an alternative between one of the alternatives, decision making can be defined is a process and steps of making a choice one from a lot of number or different of alternatives to get the best and a desired result (Lunenburg, 2010).

The decision-making process can be viewed as a logical, timed-based, systematic process with the aim of choosing an alternative from several alternatives available, and many of the factors that affect the decision-making process stem from the national culture that governs a particular country with patterns, customs, and traditions (Okonedo, 2018). Individual factors, such as personality characteristics and psychological behaviours that distinguish individuals from each other based on their experience or level of qualification (Okonedo, 2018; Uzonwanne, 2016).

Financial factors govern individuals, and companies with a specific budget cannot go beyond its scope because of limited resources (Bas & Berthou, 2012). The physician works to prescribe medicine to patients after a medical diagnosis, and he also makes treatment decisions based on many factors that may control his mind. The most important of these factors are the patient's personal characteristics, such as socioeconomic status, patient preferences for dosage and its form, and treatment costs (Aldin Sharifnia et al., 2018).

A physician's personal characteristics also play an essential role in the process of prescribing medicine because these characteristics include his medical and therapeutic experience and the extent of his involvement in clinical trials. This experience develops over time and plays a large and clear role in the treatment process for patients (Ljungberg et al., 2007; Choi et al., 2012; Davari et al., 2018).

Additionally, one of the non-medical factors that play a role in prescribing medicines to patients is the cost of medicines because the price of the medicine is a major determinant for patients, especially in developing and poor countries, where the existence of a local alternative that is financially cheaper will make the physician more inclined to prescribe it compared to the original brand (van Buul et al., 2014; Senior et al., 2003; Kalkan et al., 2014). Among the decisive factors also affecting physician's prescribing behaviour is pharmaceutical marketing and the effort exerted by pharmaceutical companies, such as the marketing effort and distribution of free medical samples to help physicians become more familiar with these products, so the pharmaceutical companies clearly help enhance and improve treatment decisions for the patients (Stros & Lee, 2015; Hossain et al., 2013).

8. The Study Methodology

This study followed the descriptive and analytical approach, whereby a questionnaire was adopted as a tool for the study. The researcher reviewed previous studies and developed the questionnaire. The population in this study consisted of general practitioners, specialists, and a consultant working in private Jordanian hospitals, and the study sample was chosen through the random sample method. Three hundred questionnaires were distributed, and 240 questionnaires were retrieved), with a recovery rate of 80%. The sample members were distributed according to the variables in Table 1, which shows the distribution of the study sample according to demographic variables.

Table 1. The demographic characteristics of study samples

Variable		Number	Percentage
Gender	Male	128	53.3%
	Female	112	46.7%
Age	Less than 30 years	7	2.9%
	30–39 years	50	20.8%
	40–49 years	70	29.2%
	50–59 years	92	38.3%
	60–69 years	15	6.3%
	70 years and more	6	2.5%
Social status	Single	24	10%
	Married	216	90%
	Others	0	0%
Nature of Work	General practitioner	117	48.7%
	Specialist	120	50%
	Consultant	3	1.2%
Service Years	Less than five years	19	7.9%
	5-9years	24	10%
	10–14 years	23	9.6%
	15 years and more	174	72.5%
Educational Qualification	Bachelor of medicine and surgery	117	48.7%
	Postgraduate studies/specialization	78	32.5%
	Fellowship	45	18.7%
Sum		240	100%

8.1 The Study Tool

A questionnaire was developed based on the previous relevant literature. The studies of Panchal et al. (2012) and Chen et al. (2013) were used to develop the items of the brand equity dimensions. Mikhael and Alhilali (2014), AL-areefi et

al. (2013), Kalkan et al. (2014), and Ongubo (2003) were used to develop the items for the prescription decisions of physicians in Jordan. Murshid and Mohaidin (2018) were used to develop the items for the performance of medical representatives. After modifying the items of the questionnaire, taking into account the study population, the paragraphs of the questionnaire were translated into Arabic and then distributed. The items of the questionnaire were adopted and developed according to the amendments of the academic arbitrators.

The questionnaire included four main sections. The first section consisted of the respondents' demographic data paragraphs. The second section focused on the independent variable and its dimensions (brand equity). The third section focused on the items on the dependent variable (prescription decisions of physicians in Jordan). The fourth section consisted of the moderating role, or variable (the performance of medical representatives). Thus, 240 questionnaires have been distributed to physicians in Jordan in the private sector.

The study sample was based on the five-point Likert scale, graded from (1), which represents strongly disagree and (5), which represents strongly agree. Table 2 shows the items from the questionnaire.

Table 2. The Items from the questionnaire

Variable	Item Code	Item	Reference
Brand Awareness	BA1	The global pharmaceutical company that owns the brand name keeps to communicating with the physician through the medical representative on an ongoing basis.	Panchal et al., 2012; Chen et al., 2013
	BA2	The brand name of the global pharmaceutical company is easy to remember and memorize.	
	BA3	The pharmaceutical company that owns the global brand name provides its medicines widely and they can be obtained easily.	
	BA4	The pharmaceutical company that owns the global brand name has a high level of scientific methodology regarding to the marketing and promotion process.	
Brand Association	BAC1	The global pharmaceutical brand name is characterized by a unique personality which distinguishes it from other pharmaceutical brands.	Panchal et al., 2012; Chen et al., 2013
	BAC2	The pharmaceutical company that owns the global brand name displays its products through promotions in a way that arouses the interest of physicians.	
	BAC3	I trust on the medicine of the globalal pharmaceutical company.	
	BAC4	The global pharmaceutical company has high credibility.	
Perceived Quality	PQ1	I use the medicine that was manufactured by the pharmaceutical company that owns a global brand name when I am prescribing medicine.	Panchal et al., 2012; Chen et al., 2013
	PQ2	I prescribe the best medicine for my patients from the pharmaceutical company that owns the global brand name that is available according to their disease and cases.	
	PQ3	I avoid occurrence of any risk or any side effects when I prescribe medicine from a global pharmaceutical company.	
	PQ4	I feel reassured about the global pharmaceutical company produces medicine with high efficacy.	
Brand Loyalty	BL1	I feel more comfortable when I am dealing and communicating with the pharmaceutical company that	Panchal et al., 2012; Chen et al.,

		owns theglobal brand name, and my faith in its products increases with time.	2013
	BL2	I tell my colleagues about the the medicine that was produced by the global pharmaceutical company and explain its therapeutic benefits to them and fro patients.	
	BL3	I am proud that when I am prescribing the medicine that was produced by the pharmaceutical company that owns the global brand name, and I am telling others about it.	
	BL4	I admire the medicines of the pharmaceutical company that owns the global brand name, and I love to talk about this brand name.	
Performance of the Medical Representative	MRP1	Physicians prescribe medicines when the medical representatives possess sufficient knowledge of the medicines that they market.	Murshid and Mohaidin, 2018
	MRP2	Physicians prescribe medicines when medical representatives can explain the side effects of the medicine, which can effect on the patient.	
	MRP3	Physicians prescribe medicines that have when medical representatives keep in constant contact with them (e.g., repeat visits).	
	MRP4	Physicians prescribe medicines when medical representatives follow ethical and professional standards at all times.	
Prescribing Decision of Physicians	PPD1	I prescribe the medicines of the pharmaceutical company that owns the global brand name even though there are several local alternatives.	Mikhael and Alhilali, 2014; AL-areefi et al., 2013; Kalkan et al., 2014; Ongubo, 2003
	PPD2	When I am prescribing medicine to patients, I am aware that the medicine has a few side effects on the patient's health.	
	PPD3	When I am prescribing medicine, I focus on the patient's economic condition	
	PPD4	I avoid prescribing local medicine when there is an international brand substitute for a local medicine at a similar price.	
	PPD5	I prescribe the medicine of the pharmaceutical company that owns the global brand name when sufficient information is available from the medical representative.	
	PPD6	International medical conferences provide me with new knowledge about pharmaceutical brands, which contributes to my increased confidence in prescribing the medicine.	
	PPD7	I depend on prescribing medicine on the extent of the medical representative's activity and marketing activities for a global pharmaceutical company.	

9. Data Analysis

The researcher relied on the Partial Least Squares technology available in the Smart-PLS v.3 program to analyse the relationship between the independent variable and the dependent variable and to explore the moderating role in the relationship between the independent variable and the dependent variable. According to Fornell and Larcker (1981),

the PLS technique is useful and flexible for exploratory studies. Additionally, the bootstrap method provides excellent flexibility in representing relationships between variables. According to Hair et al. (2014), when using the PLS method, the researcher must perform two important steps: 1) ensure the measurement model and the validity and reliability of the questionnaire and 2) examine the relationships between the variables.

9.1 Measurement Model

To ensure the validity and reliability of the questionnaire, the researcher calculated the convergent validity, recommended by Hair et al. (2010). The factor-loading values for all paragraphs of the questionnaire must be greater than 0.70, and any paragraph less than 0.70 should be removed from the statistical analysis where it was conducted by deleting MRP3, PPD2 and PPD7 because these paragraphs did not record or factor in the loading values with parameters greater than 0.70, so they were excluded.

The Average Variance Extracted (AVE) value was calculated, which is an indicator of convergent validity. The value of this indicator must be greater than 0.50, and the values ranged between 0.533 and 0.715, meaning that all AVE values for all study variables are greater than 0.50. Thus, the paragraphs of the questionnaire are characterized by convergent validity, the validity of the internal consistency was assessed through the values of the Cronbach alpha coefficient and the values of the Composite Reliability (CR), which must be greater than 0.70, as was recommended by Hair et al. (2019).

The values of the Cronbach alpha coefficient ranged between 0.772 and 0.854, and the CR values were between 0.854 and 0.902. These values are statistically acceptable. Therefore, the validity of internal consistency and reliability of the study instrument was achieved in this study, and Table 3 summarises these values.

Table 3. Reliability and validity of the study constructs

Variable	Item	Factor Loading	Cronbach Alpha Coefficient	Composite Reliability (CR)	Average Variance Extracted (AVE)
Brand Awareness	BA1	0.841	0.844	0.895	0.682
	BA2	0.855			
	BA3	0.805			
	BA4	0.800			
Brand Association	BAC1	0.737	0.772	0.854	0.594
	BAC2	0.775			
	BAC3	0.799			
	BAC4	0.771			
Perceived Quality	PQ1	0.743	0.821	0.882	0.652
	PQ2	0.859			
	PQ3	0.797			
	PQ4	0.826			
Brand Loyalty	BL1	0.782	0.854	0.902	0.697
	BL2	0.836			
	BL3	0.871			
	BL4	0.847			
Medical Representative Performance	MRP1	0.878	0.800	0.883	0.715
	MRP2	0.859			
	MRP4	0.798			
Prescription Decisions of	PPD1	0.747			
	PPD3	0.776			

Physicians	PPD4	0.798	0.843	0.889	0.615
	PPD5	0.786			
	PPD6	0.812			

9.2 Model Testing

The bootstrap method was used, which is available in the Smart-PLS statistical package, third version, to assess the relationships between the exogenous and the internal variables because many parameters were used to evaluate this relationship, such as the R2 value, t-value and β values. The results of the structural modelling analysis are summarized in Figure 2 and Figure 3, where Figure 2 shows the estimates of the causal relationships between the dimensions of brand equity and the prescribing decisions of medicines. Figure 3 describes the causal relationships between brand equity and the moderating variable and the performance of medical representatives and prescribing decisions of physicians, where the path coefficients—β, t-values and p-values—were used to test the study hypotheses. The rule of thumb is that the path parameter whose value is greater than 0.1, with a t-value greater than 1.96, is considered statistically significant at a level of statistical significance less than 0.05.

The results of testing the hypotheses of the first hypothesis study and its sub-hypotheses were summarised in Table 4, where it is evident from the results presented that all dimensions of brand equity have a positive and significant impact on the prescribing decisions of physicians with the exception of brand awareness. The effect of association with the brand was $\beta = 0.174$, $t = 2.459$ and $p = 0.014$. The effect of brand loyalty was also statistically significant. This effect was positive ($\beta = 0.520$, $t = 6.443$, $p = 0.000$), and the effect of the perceived quality on prescribing decisions was also statistically significant ($\beta = 0.171$, $t = 2.011$, $p = 0.045$).

While brand awareness had no statistically significant effect ($\beta = 0.028$, $t = 0.403$, $p = 0.687$), the hypotheses H1b, H1c and H1d were, therefore, accepted and supported. In contrast, H1a was not supported, and to assess the ability of the external variables to change the variance of the variable, the internal variable has been calculated with an R2 value of 0.685. This value indicates that the external variables combined explain the variance in the internal variable by 68.5%, and this value reflects a high quality of interpretation (Hair et al., 2014).

Table 4. Test the study hypotheses

Result	P-Value	T-Value	Standard Error	B	R^2	Variable
Brand Awareness	0.685	Not supported	0.687	0.403	0.070	0.028
Brand Association		Supported	0.014	2.495	0.071	0.174
Perceived Quality		Supported	0.045	2.011	0.085	0.171
Brand Loyalty		Supported	0.000	6.443	0.081	0.520

9.3 A Modified Role Test for the Performance of Medical Representatives

Table 5 examines the modified role of the performance of medical representatives in the relationship between brand equity and the prescribing decisions of physicians, and it is evident by Figure 3 and the results in the Table that the effect of brand equity was positive and statistically significant ($\beta = 0.544$, $t = 8.175$, $p = 0.000$).

Additionally, the effect of the performance of medical representatives on the prescribing decisions of physicians was positive and statistically significant ($\beta = 0.294$, $t = 4.433$, $p = 0.000$), while the modifying effect of the interaction of brand equity with the performance of the medical representatives was not statistically significant—the value of the coefficient was weak and negative ($\beta = -0.05$, $t = 1.442$, $p = 0.150$).

Thus, the performance of medical representatives does not play a statistically significant role in the relationship between the brand equity and the prescribing decisions of physicians. To assess the model's ability to interpret the relationship between independent nd the dependent variables the value of R2 was 0.689.

Table 5. Examining the moderating role of medical representatives in the relationship between brand equity and the prescribing decisions of physicians

Result	P-Value	T-Value	Standard Error	B	R^2	Variable
Brand Equity	0.689	Supported	0.000	8.175	0.067	0.544
Medical Representative Performance		Supported	0.000	4.433	0.066	0.294
Moderation Effect		Not supported	0.150	1.442	0.035	-0.05
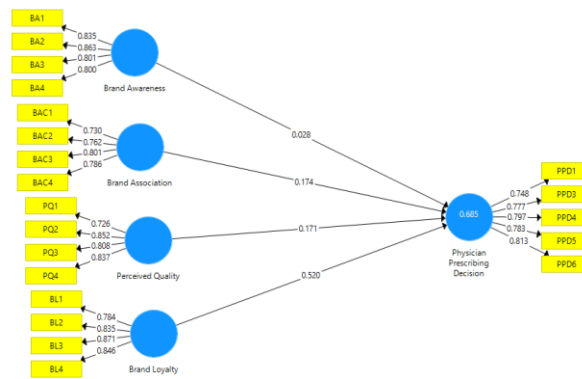
Figure 2. The structural model for relationships between study variables
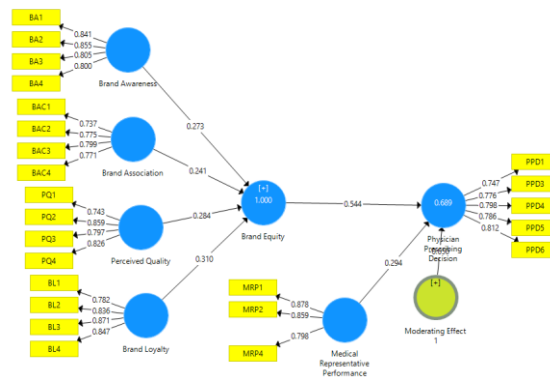
Figure 3. The structural model for relationships between variables with the existence of the moderating variable

10. Conclusion

Brand equity is one of the sources for creating a competitive advantage for global companies (Kim et al., 2011). Pharmaceutical companies are considered knowledge-intensive industries (Yaseen et al., 2018), and the brand image and brand equity play a significant role in changing the behaviours related to the purchasing intent of physicians and patients, as previous studies have shown, so brand equity has a big role in increasing companies' sales to achieve market share and increase profit (Jing et al., 2014).

The present study aimed to explore the effect of brand equity in its dimensions (brand awareness, brand association, perceived quality and brand loyalty) on the prescribing decisions of physicians and to identify the moderating role of medical representatives in the relationship between these two variables. The results of the study confirmed the existence of a positive and statistically significant effect of the dimensions of brand equity on the prescribing decisions of physicians with the exception of brand awareness. The strongest of these dimensions was brand loyalty because brand loyalty plays a large role in motivating physicians to prescribe medicine to patients. The results of this

study were in agreement with Murshid and Mohaidin (2018), Hellström and Rudholm (2003) and Grant and Chapman (2015).

The results of the study confirmed that there is no statistically significant effect for the performance of the medical representatives on the relationship between the brand equity and the prescribing decisions of physicians, and it is clear that the brand equity plays a greater role on influencing the prescribing decisions of physicians, regardless of the abilities of the medical representative. Murshid and Mohaidin (2018) confirmed the absence of a positive and statistically significant role in the performance of the medical representative on the prescribing decisions of physicians, as the effect of the performance was negative and this effect is not statistically significant. This study suggests that a strong and relevant brand with a good reputation plays a positive role in the mind of the doctor more than the performance of medical representatives does to convince physicians to prescribe medicines from these companies.

10.1 Recommendations

According to the statistical results of the relationships between the study variables, the study provided many recommendations, namely:

1. The necessity for workers in the field of medical representatives to focus on highlighting the brand of products while explaining the therapeutic features of the medicine to the physicians.

2. Enabling medical representatives to access modern research and conferences that increase their work performance.

3. The necessity of studying the behaviour of physicians in regard to how to make decisions with many factors and to predict the extent of brand acceptance for these products.

4. Pharmaceuticals companies' exploitation of information and management of the brand to improve their therapeutic efficacy and improve the mental image of the medicine in the minds of physicians.

5. The necessity for medical representatives to take advantage of the continuous monthly visits of physicians, with good coverage and frequency, for their role in assisting physicians in prescribing medicines in a correct and valuable way for the brand.

10.2 Study Limitations and Future Studies

The questionnaire limited this study as a tool for measurement because it was cross-sectional (i.e., the questionnaire was distributed to the study sample members at one time without taking into account the time in this study). Therefore, to reach more accurate results, it is useful to use longitudinal studies. The current situation is restricted to physicians in Jordan, so it is useful to study the opinions of the medical sector in general in the presence of physicians. This study emphasises the necessity of more in-depth future studies and procedures. Increasing the number of study samples in future studies and studying other mediators and moderating variables, such as cultural values and performance based on incentives is recommended.

References

Aaker, D. A. (1991). *Managing brand equity: capitalizing on the value of a brand name*. New York: The Free Press.

Aaker, D. A. (1996). Measuring brand equity across products and markets. *California Management Review, 38*(3), 102-120. https://doi.org/10.2307/41165845

Ahmed, R. R., Streimikiene, D., Abrhám, J., Streimikis, J., & Vveinhardt, J. (2020). Social and behavioral theories and physician's prescription behavior. *Sustainability, 12*(8), 3379. https://doi.org/10.3390/su12083379

Al-Areefi, M. A., & Hassali, M. A. (2013). Physicians' perceptions of medical representative visits in Yemen: a qualitative study. *BMC Health Services Research, 13*(1), 1-8. https://doi.org/10.1186/1472-6963-13-331

Aldin Sharifnia, S. H., Mohammadzadeh, M., Arzani, G., Salamzadeh, J., Abolfazli, S. A., Zali, A., … Khoshdel, A. R. (2018). Main factors affecting physicians' prescribing decisions: the Iranian experience. *Iranian Journal of Pharmaceutical Research, 17*(3), 1105-1115.

Asshidin, N. H. N., Abidin, N., & Borhan, H. B. (2016). Perceived quality and emotional value that influence consumer's purchase intention towards American and local products. *Procedia Economics and Finance, 35*(3), 639-643. https://doi.org/10.1016/S2212-5671(16)00078-2

Babakus, E., Bienstock, C. C., & Van Scotter, J. R. (2004). Linking perceived quality and customer satisfaction to store traffic and revenue growth. *Decision Sciences, 35*(4), 713-737. https://doi.org/10.1111/j.1540-5915.2004.02671.x

Bae, S., Jung, T. H., Moorhouse, N., Suh, M., & Kwon, O. (2020). The influence of mixed reality on satisfaction and brand loyalty in cultural heritage attractions: a brand equity perspective. *Sustainability, 12*(7), 1-22. https://doi.org/10.3390/su12072956

Barroso, R., Burkert, M., Dávila, A., Oyon, D., & Schuhmacher, K. (2016). The moderating role of performance measurement system sophistication on the relationships between internal value drivers and performance. *Comptabilité-Contrôle-Audit, 22*(2), 39-75. https://doi.org/10.3917/cca.222.0039

Bas, M., & Berthou, A. (2012). The decision to import capital goods in India: firms' financial factors matter. *The World Bank Economic Review, 26*(3), 486-513. https://doi.org/10.1093/wber/lhs002

Basile, V. (2019). Building a strong brand equity in pharmaceutical industry: the case of over-the-counter drugs in Italian country. *International Journal of Customer Relationship Marketing and Management (IJCRMM), 10*(3), 1-20. https://doi.org/10.4018/IJCRMM.2019070101

Beneke, J., & Carter, S. (2015). The development of a consumer value proposition of private label brands and the application thereof in a South African retail context. *Journal of Retailing and Consumer Services, 25*, 22-35. https://doi.org/10.1016/j.jretconser.2015.03.002

Boyd, G., & Sutherland, M. (2006). Obtaining employee commitment to living the brand of the organisation. *South African Journal of Business Management, 37*(1), 9-20. https://doi.org/10.4102/sajbm.v37i1.594

Budych, K., Helms, T. M., & Schultz, C. (2012). How do patients with rare diseases experience the medical encounter? Exploring role behavior and its impact on patient-physician interaction. *Health Policy, 105*(2-3), 154-164. https://doi.org/10.1016/j.healthpol.2012.02.018

Camiciottoli, B. C., Ranfagni, S., & Guercini, S. (2014). Exploring brand associations: an innovative methodological approach. *European Journal of Marketing, 48*(5), 1092-1112. https://doi.org/10.1108/EJM-12-2011-0770

Campo, K., Staebel, O. D., Gijsbrechts, E., & Van Waterschoot, W. (2005). Physicians' decision process for drug prescription and the impact of pharmaceutical marketing mix instruments. *Health Marketing*. https://doi.org/10.1300/J026v22n04_05

Chaudhuri, A., & Holbrook, M. B. (2001). The chain of effects from brand trust and brand affect to brand performance: the role of brand loyalty. *Journal of Marketing, 65*(2), 81-93. https://doi.org/10.1509/jmkg.65.2.81.18255

Chen, T. Y., Yeh, T. L., & Jheng, W. S. (2013). Factors influencing brand association. *African Journal of Business Management, 7*(19), 1914-1926.

Chierici, R., Del Bosco, B., Mazzucchelli, A., & Chiacchierini, C. (2018). Enhancing brand awareness, reputation and loyalty: The role of social media. *International Journal of Business and Management, 14*(1), 216-228. https://doi.org/10.5539/ijbm.v14n1p216

Choi, K. H., Park, S. M., Lee, J. H., & Kwon, S. (2012). Factors affecting the prescribing patterns of antibiotics and injections. *Journal of Korean Medical Science, 27*(2), 120-127. https://doi.org/10.3346/jkms.2012.27.2.120

Culot, G. (2019). History of quality. In *Quality management: tools, methods, and standards*. Emerald Publishing Limited. https://doi.org/10.1108/978-1-78769-801-720191001

Davari, M., Khorasani, E., & Tigabu, B. M. (2018). Factors influencing prescribing decisions of physicians: a review. *Ethiopian Journal of Health Sciences, 28*(6), 795-804.

DuBrin, A. J. (2012). *Management essentials*. South-Western Cengage Learning.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39-50. https://doi.org/10.1177/002224378101800104

Garrido-Morgado, Á., González-Benito, Ó., & Martos-Partal, M. (2016). Influence of customer quality perception on the effectiveness of commercial stimuli for electronic products. *Frontiers in Psychology, 7*(336), 1-15. https://doi.org/10.3389/fpsyg.2016.00336

Gönül, F. F., & Carter, F. J. (2012). Estimation of promotional strategies for newer vs older drugs based on physician prescribing data. *International Journal of Pharmaceutical and Healthcare Marketing, 22*(4), 73-107. https://doi.org/10.1108/17506121211216897

Grant, M., & Chapman, M. (2015). The art of prescribing: negotiating the decision of generic or branded medications. *Internal Medicine Journal, 45*(7), 774-776. https://doi.org/10.1111/imj.12805

Grigaliūnaitė, V., & Pilelienė, L. (2017). How do brand associations affect purchase intentions? A case of organic products. In Research for rural development 2017: annual 23rd international scientific conference proceedings. *Jelgava: Latvia University of Agriculture, 2*, 210-216. https://doi.org/10.22616/rrd.23.2017.070

Hair Jr, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM). *European Business Review*. https://doi.org/10.1016/j.jfbs.2014.01.002

Hair, J. F., Anderson, R. E., Babin, B. J., & Black, W. C. (2010). *Multivariate data analysis: A global perspective* (Vol. 7).

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*. https://doi.org/10.1108/EBR-11-2018-0203

Hellström, J., & Rudholm, N. (2003). *Uncertainty in the generic versus brand name prescription decision*. Umea University.

Hofmann, J., Schnittka, O., Johnen, M., & Kottemann, P. (2019). Talent or popularity: What drives market value and brand image for human brands?. *Journal of Business Research*, 1-11. https://doi.org/10.1016/j.jbusres.2019.03.045

Hossain, M., Kawsar, S., Tanmy, T., & Yousuf, A. (2013). Assessment of influencing factors on prescription practices of physicians in Bangladesh. *Int Res J Pharm, 4*, 112-116. https://doi.org/10.7897/2230-8407.04819

Iglesias, O., Markovic, S., & Rialp, J. (2019). How does sensory brand experience influence brand equity? Considering the roles of customer satisfaction, customer affective commitment, and employee empathy. *Journal of Business Research, 96*, 343-354. https://doi.org/10.1016/j.jbusres.2018.05.043

Jing, Z., Pitsaphol, C., & Shabbir, R. (2014). The relationship of brand equity dimensions: A case study of Samsung brand in Thailand. *European Journal of Business and Management, 6*(16), 182-189.

Kalkan, A., Roback, K., Hallert, E., & Carlsson, P. (2014). Factors influencing rheumatologists inverted question mark prescription of biological treatment in rheumatoid arthritis: an interview study. *Implement Sci, 9*(1), 1-12. https://doi.org/10.1186/s13012-014-0153-5

Kim, K. H., Jeon, B. J., Jung, H. S., Lu, W., & Jones, J. (2011). Effective employment brand equity through sustainable competitive advantage, marketing strategy, and corporate image. *Journal of Business Research, 64*(11), 1207-1211. https://doi.org/10.1016/j.jbusres.2011.06.024

Kohli, C., & Leuthesser, L. (2001). Brand equity: Capitalizing on intellectual capital. *Ivey Business Journal, 65*(4), 74-81.

Ladeira, W. J., Dalmoro, M., Maehler, A. E., & Araujo, C. F. (2011). Drug prescription practices in Brazil: a structural equation model. *International Journal of Pharmaceutical and Healthcare Marketing, 5*(4), 262-278. https://doi.org/10.1108/17506121111190103

Ladha, Z. (2007). Marketing strategy: are consumers really influenced by brands when purchasing pharmaceutical products?. *Journal of Medical Marketing, 7*(2), 146-151. https://doi.org/10.1057/palgrave.jmm.5050072

Lakhal, L. (2009). Impact of quality on competitive advantage and organisational performance. *Journal of the Operational Research Society, 60*(5), 637-645. https://doi.org/10.1057/palgrave.jors.2602601

Lance, L. (1988). *Defining, measuring and managing brand equity: A conference Summery*. Report 88-104, Cambridge, MA, Marketing Science Institute.

Liu, M. T., Wong, I. A., Tseng, T. H., Chang, A. W. Y., & Phau, I. (2017). Applying consumer-based brand equity in luxury hotel branding. *Journal of Business Research, 81*, 192-202. https://doi.org/10.1016/j.jbusres.2017.06.014

Liu, M., Chu, R., Wong, I. A., Angel Zúñiga, M., Meng, Y., & Pang, C. (2012). Exploring the relationship among affective loyalty, perceived benefits, attitude, and intention to use co-branded products. *Asia Pacific Journal of Marketing and Logistics, 24*(4), 561-582. https://doi.org/10.1108/13555851211259025

Ljungberg, C., Lindblad, Å. K., & Tully, M. P. (2007). Hospital doctors' views of factors influencing their prescribing. *Journal of Evaluation in Clinical Practice, 13*(5), 765-771. https://doi.org/10.1111/j.1365-2753.2006.00751.x

Lunenburg, F. C. (2010, September). The decision making process. *National Forum of Educational Administration & Supervision Journal, 27*(4).

Macit, C., Taner, N., Mercanoglu, G., & Mercanoglu, F. (2016). Brand loyalty as a strategy for the competition with generic drugs: physicians perspective. *J Dev Drugs, 5*(159), 2.

Mandal, B. K., Yadav, S. K., Karn, A., & Sah, A. K. (2012). Relationship between doctors and pharmaceutical industry: An ethical perspective. *Int J Pharmaceut Biological Arch, 3*(3), 415-417.

Marques, C., Da Silva, R. V., Davcik, N. S., & Faria, R. T. (2020). The role of brand equity in a new rebranding strategy of a private label brand. *Journal of Business Research, 117*, 497-507. https://doi.org/10.1016/j.jbusres.2020.06.022

Mikhael, E. M., & Alhilali, D. N. (2014). Gift acceptance and its effect on prescribing behavior among Iraqi specialist physicians. *Pharmacology & Pharmacy, 5*, 705-715. https://doi.org/10.4236/pp.2014.57080

Morgan, M. A., Dana, J., Loewenstein, G., Zinberg, S., & Schulkin, J. (2006). Interactions of doctors with the pharmaceutical industry. *Journal of Medical Ethics, 32*(10), 559-563. https://doi.org/10.1136/jme.2005.014480

Muhuni, J. (2019). Brand loyalty and its influence on prescription behaviour by medical officers and clinical officers in Kiambu level 5 and Ruiru Sub-county hospitals. *Doctoral dissertation*, Strathmore University.

Muldoon, J., Kisamore, J. L., Liguori, E. W., Jawahar, I. M., & Bendickson, J. (2017). Moderators of the personality-performance relationship. *Personnel Review, 46*(3), 474-489. https://doi.org/10.1108/PR-02-2016-0040

Murshid, M. A., & Mohaidin, Z. (2017). Models and theories of prescribing decisions: A review and suggested a new model. *Pharmacy Practice (Granada), 15*(2), 1-12. https://doi.org/10.18549/PharmPract.2017.02.990

Murshid, M. A., & Mohaidin, Z. (2018). The influence of information, brand, medical representatives and sales promotion on physician prescribing decision. *Journal of Pharmaceutical Health Services Research, 9*(3), 259-269. https://doi.org/10.1111/jphs.12228

Murshid, M. A., Mohaidin, Z., & Nee, G. Y. (2016). Influence of pharmacists' expertise on physicians prescription decisions. *Tropical Journal of Pharmaceutical Research, 15*(7), 1549-1557. https://doi.org/10.4314/tjpr.v15i7.27

Musleh, Y. A., & Al-Dmour, H. (2011). Factors affecting medical representatives' performance in generic and non generic pharmaceutical companies in Jordan: A comparative study. *Dirasat: Administrative Sciences, 161*(718), 1-42.

Okonedo, E. (2018). Decision-making practices in Africa', indigenous management practices in Africa. *Advanced Series in Management, 20*, 221-247. https://doi.org/10.1108/S1877-636120180000020012

Oliver, R. L. (2014). *Satisfaction: A behavioral perspective on the consumer: A behavioral perspective on the consumer*. Routledge. https://doi.org/10.4324/9781315700892

Olusanmi, C. A., & Adeyinka, B. L. (2013). Organisational brand identity management: a critical asset for sustainable competitive advantage by non-profits. *Third Sector Review, 19*(1), 97-126.

Ongubo, J. N. (2003). Determinants of brand loyalty for prescription brand medicine by doctors in Nairobi. *Doctoral dissertation*, University of Nairobi.

Panchal, S. K., Khan, B. M., & Ramesh, S. (2012). Importance of 'brand loyalty, brand awareness and perceived quality parameters' in building brand equity in the Indian pharmaceutical industry. *Journal of Medical Marketing, 12*(2), 81-92. https://doi.org/10.1177/1745790412440569

Perera, D. R. G., & Wanninayake, W. B. (2019). The impact of brand trust on physician's prescription decision towards prothrombin complex concentrate with a special reference to octaplex. *Asian Social Science, 15*(10). https://doi.org/10.5539/ass.v15n10p1

Perera, H. J. M. (2015). Effective communication skills for medical practice. *Journal of the Postgraduate Institute of Medicine, 2*, 1-7. https://doi.org/10.4038/jpgim.8082

Sanyal, S. N., & Datta, S. K. (2011). The effect of perceived quality on brand equity: an empirical study on generic drugs. *Asia Pacific Journal of Marketing and Logistics, 23*(5), 604-625. https://doi.org/10.1108/13555851111183057

Senior, M. L., Williams, H., & Higgs, G. (2003). Morbidity, deprivation and drug prescribing: factors affecting variations in prescribing between doctors' practices. *Health & Place, 9*(4), 281-289. https://doi.org/10.1016/S1353-8292(02)00061-8

Seturi, M. (2017). Brand awareness and success in the market. *Journal of International Scientific Publications, 11*, 424-432.

Shariq, M. (2018). A study of brand equity and marketing mix constructs scale invariance in UAE. *International Journal of Scientific and Research Publications, 8*(4), 286-296. https://doi.org/10.29322/IJSRP.8.4.2018.p7639

Sillup, G. P., Dehshal, M. H., & Namini, M. T. (2013). Pharmaceutical companies and physicians: Assessing their relationship. *International Journal of Healthcare Management, 6*(4), 276-280. https://doi.org/10.1179/2047971913Y.0000000049

Sinclair, R. N., & Keller, K. L. (2014). A case for brands as assets: Acquired and internally developed. *Journal of Brand Management, 21*(4), 286-302. https://doi.org/10.1057/bm.2014.8

Solomon, M. R. (2010). *Consumer behaviour: A European perspective*. Pearson Education.

Srivastava, R. K., & Bodkhe, J. (2018). Does brand equity play a role on doctors prescribing behavior in emerging markets?. *International Journal of Healthcare Management*, 1-10. https://doi.org/10.1080/20479700.2017.1409954

Stros, M., & Lee, N. (2015). Marketing dimensions in the prescription pharmaceutical industry: a systematic literature review. *Journal of Strategic Marketing, 23*(4), 318-336. https://doi.org/10.1080/0965254X.2014.931878

Swoboda, B., Weindel, J., & Hälsig, F. (2016). Predictors and effects of retail brand equity-A cross-sectoral analysis. *Journal of Retailing and Consumer Services, 31*, 265-276. https://doi.org/10.1016/j.jretconser.2016.04.007

Teo, S. T., Bentley, T., & Nguyen, D. (2020). Psychosocial work environment, work engagement, and employee commitment: A moderated, mediation model. *International Journal of Hospitality Management, 88*. https://doi.org/10.1016/j.ijhm.2019.102415

The American Marketing Association. (2018). *AMA, 2018*. Retrieved from https://www.ukessays.com/essays/marketing/the-american-marketing-association-marketing-essay.php?vref=1

Thellefsen, T., & Sørensen, B. (2015). What brand associations are?. *Sign Systems Studies, 43*(2/3), 191-206. https://doi.org/10.12697/SSS.2015.43.2-3.03

Theodorou, M., Tsiantou, V., Pavlakis, A., Maniadakis, N., Fragoulakis, V., Pavi, E., & Kyriopoulos, J. (2009). Factors influencing prescribing behaviour of physicians in Greece and Cyprus: results from a questionnaire based survey. *BMC Health Services Research, 9*(1), 150. https://doi.org/10.1186/1472-6963-9-150

Tušek Bunc, K., Klemenc Ketiš, Z., Petek Šter, M., & Kersnik, J. (2014). Predictors of high prescribing rates in family practice during actual consultation: a cross-sectional study from Slovenia. *Collegium Antropologicum, 38*(3), 841-845.

Uzonwanne, F. C. (2016). Influence of age and gender on decision-making models and leadership styles of non-profit executives in Texas, USA. *International Journal of Organizational Analysis, 24*(2), 186-203. https://doi.org/10.1108/IJOA-05-2013-0667

Van Buul, L. W., Van der Steen, J. T., Doncker, S. M., Achterberg, W. P., Schellevis, F. G., Veenhuizen, R. B., … Hertogh, C. M. (2014). Factors influencing antibiotic prescribing in long-term care facilities: a qualitative in-depth study. *BMC Geriatrics, 14*(1), 136. https://doi.org/10.1186/1471-2318-14-136

Vantamay, S. (2007). Understanding of perceived product quality: Reviews and recommendations. *BU Academic Review, 6*(1), 110-117.

Waheed, K. A., Jaleel, M., & Laeequddin, M. (2011). Prescription loyalty behavior of physicians: an empirical study in India. *International Journal of Pharmaceutical and Healthcare Marketing*.

Waldron, M. W., Vsanthakumar, J., & Arulraj, S. (1997). *Improving the organization and management of extension*.

World Health Organization. (2005). Drug promotion: what we know, what we have yet to learn: reviews of materials in the WHO/HAI database on drug promotion. *No. WHO/EDM/PAR/2004.3*. World Health Organization.

Yan, L., Xiaojun, F., Li, J., & Dong, X. (2019). Extrinsic cues, perceived quality, and purchase intention for private labels. *Asia Pacific Journal of Marketing and Logistics*. https://doi.org/10.1108/APJML-08-2017-0176

Yaseen, S. G., Al-Janaydab, S., & Alc, N. A. (2018). Leadership styles, absorptive capacity and firm's innovation. *International Journal of Knowledge Management (IJKM), 14*(3), 82-100. https://doi.org/10.4018/IJKM.2018070106

Yoshifumi, H., Sammogram, S., & Manzuma-Ndaaba, N. M. (2018). Effect of productivity and perceived quality on organisational performance from lean management practice perspective. *Research Journal of Business Management, 12*, 1-9. https://doi.org/10.3923/rjbm.2018.1.9

Zahrani, H. (2014). The impact of pharmaceutical promotions on primary health care physician's prescribing behaviour in KAMC in central region. *Int J Med Sci Public Health, 3*(3), 355. https://doi.org/10.5455/ijmsph.2014.150120141

Zhang, H. (2019, August). Research on the medical representative against the context of china's new medical reform. In *1st International Symposium on Innovation and Education, Law and Social Sciences* (IELSS 2019). Atlantis Press. https://doi.org/10.2991/ielss-19.2019.84

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