Effective Determinants of Consumer Buying Decision on OTC Medications: Digital Marketing, Brand Experience, and Reference Groups

Narjes Alarsali and Iman Aghaei*

Department of Business Administration, Cyprus International University, Nicosia, North Cyprus, via Mersin 10 Turkey
*Corresponding Author: iaghaei@ciu.edu.tr

Abstract. The growing Over-The-Counter (OTC) medication sector within the pharmaceutical industry gains competitive advantages through digital marketing where the companies must re-evaluate their infrastructure and their marketing techniques to get through this evaluation. This study aims to analysis the influence of developing pharmaceutical marketing on consumer purchase decision of OTC medication. An empirical online survey was conducted based on a self-administrated questionnaire to assess the impact of pharmaceutical digital marketing, reference groups, and brand experience towards consumer decision of OTC purchase. Primary data was collected using that questionnaire from 158 pharmacies’ consumers in North Cyprus (Famagusta, Nicosia, and Kyrenia) and SPSS software is used to analysis the data. Eventually, the findings indicated that consumers in North Cyprus are aware of the use of over-the-counter medications for common ailments, and that pharmaceutical companies, the government, and other health stakeholders have a responsibility to increase consumer knowledge and awareness about the safe and effective use of OTC medications, particularly through the digital channels.

Keywords: Consumer buying behaviour, OTC medication, Pharmaceutical digital marketing, Reference groups.

INTRODUCTION

In today’s marketing world, the consumer is regarded as “The King” (Ting et al., 2019). Manufacturers managed to sell anything to consumers during the increase of the era of marketing. However, it is now the consumer’s purchasing preferences that determine what should be produced, in what amount, and what the quality of product should be. As a result, a marketer must consider a variety of factors when deciding how to market goods because consumers’ preferences vary. Analysing customer behaviour is riskier in the pharmaceutical industry because it involves health and medicines (Sehgal and Mittal, 2019).

Developing of pharmaceutical marketing nowadays affects the consumer purchase behaviour of OTC medication widely and that influence will be studied where the aim of the study is to determine the influence of marketing and costumer behaviour on consumer buying decision making of OTC drugs. The pharmaceutical industry is heavily regulated and organized compared to other industries. In the battle for consumers’ interest, loyalty, and attention, firms are spending a fortune on OTC medication promotions in the market, despite numerous statutory limits and rivalry are fierce, mainly when multiple similar pharmaceutical medicines with the same impacts on health may be found in the market simultaneously (Batraga, 2018). As a result, it is critical for businesses to comprehend consumer behaviour in the purchasing decision-making process of OTC drugs, as well as their potential that affect this procedure.

Over the counter drugs are the medication that can be given to consumers directly without prescription. Non-prescription medications are most commonly used form of medical treatment worldwide, and their sales have grown faster than prescribed drugs since 2008 (Wube Temechewu and Gebremedhin, 2020). The OTC drugs typically include painkillers, cold/flu/cough, vitamins, gastrointestinal, supplements, dermatology and miner. These medications are harmless for short time use and are efficient for slight and ordinary common illnesses.
The Food and Drug Administration (FDA) considers OTC medications to be functional and safe as long as it used in consonance with the instructions on the label and administered in accordance with medical guidance as necessary (Wube Temechewu and Gebremedhin, 2020). The market for over-the-counter medications is constantly being investigated. Worldwide, the OTC drug market has grown by 24.8%. Aside from the implementation of new and generic medicines, it is hampered by frequent changes in medicine scheduling, which affects the availability of medicines in pharmacies. To maximize customer loyalty, medicine professionals, pharmacy staff and pharmaceutical companies must provide proper service and accurate information in the recommendation, marketing and sale of OTC medications (Mekawie and Hany, 2019). Because they are readily accessible and available, a client may decide to acquire them without the pharmacist assistance. It is critical to analyse consumer OTC purchase attitudes and behaviour from a pharmacy in order to better grasp the demands and potential in this market. Understanding consumer behaviour in the purchase of these medications is an essential step in improving such highly qualified services.

The personal features of OTC medications virtual market users, as well as their ability to develop confidence in medical online portals, have an impact on the formation of an online business environment for these drugs. The relevance management of supply chain in delivering information and making for the changes is promoted via virtual networking platforms. As a consequence of the growth of social media and its integration into business processes, pharmaceutical companies must make investments in technology that gather information about their customers. Through the analysis of the data obtained about customers’ preferences, these technologies have the potential to enhance the customer experience (Roblek, 2018).

Customer intelligence systems have determined that pharmaceutical preferences are important. According to customer intelligence systems, pharmaceutical organizations might develop a marketing plan that includes market positioning as well as the design of brand loyalty for their products and services. These resources are collectively referred to as social capital, which may manifest itself in two ways: as an internal glue to help shape an organization’s culture, or as an outward interaction agent. Social media does not need costly and complicated technological implementations, but it does play a significant part in organizational culture changes and the adaptation of knowledge processes. Internet and social media are being used more and more often (Ignjatovic & Stanić, 2017). The usage of new technologies is associated with generational shifts and the elder generations’ adaption to the usage of modern technologies. As a result, organizational transformation results from individual changes (Carli Lorenzini et al., 2018). To take up particular signals from the environment, a person has to come into direct physical contact with the environment. Someone must pay attention to a message, identify it, analyse it mentally, and then remember it. At the end of the day, a person must adopt particular attitudes and, as a result, make judgments and do activities that are consistent with his or her desire (Gopal et al., 2019).

The study aims to understand the influence of pharmaceutical digital marketing on customer buying decision making of OTC drugs in North Cyprus. In addition to find out the determinants of consumers’ purchasing decision of medicine regarding over the counter (OTC) medication. This research will provide information to pharmaceutical companies regarding consumer behaviour and will show the importance of pharmaceutical marketing in term of OTC consumer purchase decision. Moreover, it will analyse the factors that may affect the costumer’s decision when it comes to buying OTC drugs. It will also reveal the various variables that influence their purchasing decisions.

In sum, the purpose of this study is to analyse the following research issues: (1) What influence does digital marketing have on OTC medicine purchasing intention? (2) What influence does the reference group (pharmacist, doctor, family or friend) on purchase decision of OTC medicine? (3) What influence does brand experience have on consumer OTC medicine purchase intention?

In addition to discover the measures on which the consumers depend on making their buying choice regarding OTC products, recognize the effect of digital marketing, reference group and brand experience toward OTC products will help the drug industries to understand how and why consumer buy OTC medications. Furthermore, pharmaceuticals marketers will construct their marketing strategies in an appropriate and productive way based on the results to have long-term competitive strengths. In addition, the findings will serve as a benchmark for future research. Additionally, consumers have become super-personalized. They have been able to shop for what they want without even asking.

**LITERATURE REVIEW**

**Over-The-Counter (OTC)**

Over-the-counter (OTC) products are medication that are proven safe and efficient to purchase without the need of a prescription from a physician. These products are sold lawfully without a prescription in clinical pharmacies, medical shops, and occasionally in supermarket. OTC medications are used to cure a variety of ailments, including the cold or flu, bodily discomfort, allergies, heartburn, and other common health conditions (Dejana and Stanić, 2018). Pharmaceutical marketing of OTC drugs is a broad discipline that includes both specific and general information of business, marketing and medications, where it has a significant impact on consumer purchase behaviour of OTC medications (Mekawie and Hany, 2019).
In addition, for variety of factors, the OTC medication industry is anticipated to keep growing in the foreseeable future. First and foremost, self-medication is becoming increasingly popular, and OTC medications offer a quick and affordable option to manage minor and everyday health concerns. Second, the trend of transitioning from prescription-only to over-the-counter pharmaceuticals is unlikely to slow down, resulting in more medications becoming accessible without a prescription in the near future. Third, patient education is expected to rise, particularly if the usage of the online sources as self-knowledge continues to grow.

Within the pharmaceutical business, over-the-counter (OTC) drug market is quickly growing. As a result, businesses must rethink their infrastructure and information dissemination strategies in order to obtain a competitive edge via effective marketing. Consumer buying decisions for OTC medications may be influenced by developing pharmaceutical marketing.

**Pharmaceutical Digital Marketing**

Following the widespread use of digital technology in contemporary economic settings, the concepts of “digital economy” and of “digitalization of the economy” were coined to describe the process. Sales and profit growth are the primary goals of the company’s marketing efforts, and this may be done through improving customer communications on both a qualitative and quantitative level. It’s becoming increasingly important for manufacturers and retailers to keep their customers up to date on new products and their features as well as prices, persuade them to buy and use the product, motivate them to leave feedback on the product, and encourage them to do so on a regular basis, all while utilizing modern digital marketing methods (Khazzaka, 2016).

When it comes to bringing new items to market, digital marketing tools play a crucial role. During this stage of the product life cycle, it is critical to disseminate relevant information to the greatest number of potential customers as possible, instruct them how to use the product properly, gather the first large-scale feedback while the product is in operation, and, if needed, make adjustments to the manufacturing process. Given the widespread adoption of digital devices by the general public, the active use of digital technology to do all of these jobs is possible. One of the most essential characteristics of innovative goods might be the technical intricacy of their functioning, particularly during the early stages of the product’s development (Porokhnenko and Sapozhnikova, 2019).

Digital marketing in the pharmaceutical industry is displacing conventional marketing methods, because of the simplicity of connection with end users, the short engagement time, and the low cost. Furthermore, doctors have become more interested in using social media and other digital technologies as a result of digital marketing (Tyrawski and De Andrea, 2015).

The consequences of the widespread adoption of online platform social media, it is now much easier for individuals to build social connections and exchange information. This also has an impact on how patients, clinicians, and healthcare organizations engage with one another (Jawaid and Ahmed, 2018). Pharmaceutical businesses are putting out significant effort to stay up with the rapid advancements brought about by digital technologies. In latest days, the use of digital marketing in this industry has enabled businesses to adopt a more targeted approach to attracting consumers, physicians, and caregivers to their products or services (Khazzaka, 2019).

Every pharmaceutical company strives to reach out to its most valued clients, therefore this industry uses online technologies in this respect to match the correct sales method and improve consumer satisfaction (Shahnavaz et al., 2020; Sloane et al., 2015). The increase of the pharmaceutical industry in Internet and social media lies through marketing requirements, which promote overall awareness of their items and facilities and seek to communicate more effectively with their targeted customers. Consequently, conventional pharmaceutical marketing is progressively substituting by digital marketing, which is more cost-effective, less time-consuming, and encourages simple consumer interactions (Ben Said et al., 2020).

Digital marketing generates valuable information, which has a significant impact on the pharmaceutical sector. The pharmaceutical industry generates consumer satisfaction through phone applications and online networks, enabling the company to improve sales and profits. Another strategy for digital marketing throughout the drug industry is searching engine optimizing. Companies may have desirable and realistic web pages for their clients using who have been more aware of their health and treatment in recent years. They sometimes attempt self-diagnosis before actually consulting a physician (DiMasi et al., 2016). Efficiency is critical for pharmaceutical firms to maintain their image and reputation in a competitor target market. In this sense, the pharmaceutical industry must embrace cutting-edge technologies in order to maximize profits (Greene & Kesselheim, 2017).

The advantages of social networks and online marketing are particularly essential in pharmaceutical firms, as they are critical for more efficiently marketing of pharmaceutical products (Enyinda et al., 2018). It is indeed important to increase public awareness of the relevant benefits among pharmaceutical company employees to achieve this. Since digital marketing is not a top priority in many businesses, employees are unaware of the many advantages of this form of marketing. Workers employed in pharmaceutical industries must be aware of the industry’s digitalization to take full advantage of digital marketing (Tyrawski and De Andrea, 2015).
Content is a context-related advertising topic and can, together, generate a message that companies design for usages in marketing campaigns (Mawdsley, 2015). Pharmaceutical companies’ increasing use of social media is motivated by targeted customers to raise public awareness of their goods and services while also searching for a more efficient ability to interact with their intended audience (Ben Said et al., 2020). The reality that pharmaceutical firms are no longer the main facilitators or providers of information concerning their therapies or drugs is one of the most critical developments seen as a consequence of digital’s impact on the pharmaceutical companies (Lad et al., 2017).

People nowadays have access to various pharma-related observations related to internet communities, mobile applications, and a riches of online content. Significantly expand the customers’ amount by generating aimed actual worth emblazoned information that provides prospective or recent patients with understanding into practical details (Alyahya et al., 2020).

Further analysis and a greater understanding have to be applied about how pharmaceutical industries’ online usage affects customers’ views of healthcare promotional activities. The limited number of dependable case studies, restrictions on government agencies, absence of much medication literature, and less understanding of the digital approaches lead to the reduced digital presence (Jawaid and Ahmed, 2018).

OTC Medication and Digital Marketing

Purchasing OTC medications is a form of self-medication. People have used different kinds of herbs for treatment since the ancient period. Recently people’s therapy changed. Self-cure turned to be as OTC form of medications. In other words, self-care with (OTC) medications has progressed from the previous century of medicine manufacture and have been sold to a modern era of new developing drugs involving prescription to OTC conversion (Kathiravan et al., 2019).

This evolution is mainly due to the OTC evaluation, which developed science as the core component of non-prescription medicine safeness, effectiveness, as well as labelling. As self-care with ‘OTC’ drugs has made. In latest years, there seems to be an increase in the usage of non-prescription medications that are offered in drug stores for self-medication (Tong and Aslani, 2019).

Individual experience and word of mouth marketing are the most effective methods of building brand identification among the general public. In addition to digital marketing that give a significant and sudden desire to acquire an item without giving it much thought. Online promotions increase consumer knowledge of certain branded pharmaceuticals has, despite this, advertising has an impact on consumer behaviour buying decisions. Customers are encouraged by the knowledge supplied directly by advertising and digital advertising. Consumer also are apprehensive for government efforts to control OTC medicine advertising (Kathiravan et al., 2019).

Due to the pressure on marketing, pharmaceutical firms should be obliged to have new strategy to the marketing of over the counter (OTC) drugs. Online marketing and e-commerce are becoming more affordable as Web and social media platforms keep growing and develop. The internet and social media are extensively used where an organizational adaptation is essential to keep up with the developments in the over-the-counter (OTC) pharmaceutical business (Shah et al., 2020).

Over-the-counter medical business considering the growing relevance of online technology for marketing has decided to enhance of social media usage into its consumer connection management approach. The study on the influence of the online world on the marketing of organizational transformation management for over-the-counter medications is equipped with advanced online marketing, which has supplanted Kotler’s four P’s of marketing (Roblek, 2018).

Both consumers and healthcare professionals rely on digital drug information to make purchasing and OTC choices. In addition, obtaining medication information online has been shown to have a favourable impact on self-initiated medication purchases done via online platforms that are made accessible but not totally safe. While health literacy depended on a patient’s prior knowledge, this differs from person to person who seeks information on health issues. As a result, there is healthcare study that is particularly interested in ways to enhance the quality of online medication information (Habash and Al-Dmour, 2020).

Organizations must alter their approach to communicating with their customers and prospects. In recent years, pharmaceutical businesses have shifted their communication lines to social media platforms like Facebook and Twitter. Increasingly, drug manufacturers and other healthcare organizations are realizing how important the digital marketing and social media platforms are for the formation of business-to-business relationships within their respective industries (Bharskar, 2018).

The Influence of Reference Group (Pharmacist, Doctor, Family or Friend) on Purchase Decision of OTC Medicine

“Reference group” refers to a group of people or organisations that are often used as a standard against which other people may be judged for their competence in a certain sector. Individuals have gained more direct and quick access to the reference group exhibited in many identities in recent years, as a consequence of the adoption of social networking platforms and increased access to information. Individuals’ ideas, attitudes, and choices are
influenced significantly by their reference group. Typically, these effects are based on the fact that individuals would utilize the reference group as a benchmark and comparing point for self-evaluation in order to guarantee that their behaviour results are consistent with those of the reference group (Ding et al., 2020).

The impact of the reference group on consumer behaviour is seen primarily in two ways: informational effect and normative effect. When the reference group transmits knowledge about themselves or others to the people, this is referred to as informational effect. One advantage of engaging with the reference group is that people may acquire direct knowledge. This kind of influence will be effective if the information received from the reference group enhances the people’s comprehension of something, decreases the level of ambiguity, or increases the ability of the individuals to cope with latent risks (Pransopon and Hoonsopon, 2019).

Normative effect refers to the group of people’s abilities to affect the actions of individuals. Individuals who favourably follow the expectations of the reference group are more likely to get praise or avoid penalty. Normative effect is most often shown in the framework of social communication. Individuals will recognise the significance of adhering to group standards over the course of interpersonal contact and will intentionally develop identification with other participants. Individuals often compare themselves to a reference group, undertake a comprehensive self-evaluation, and make specific changes to conform to the reference group (Pransopon and Hoonsopon, 2019).

The Influence of Pharmacist & Doctor Recommendation on Customer Buying Decision of OTC Medicine

Pharmacists, as acknowledged medications and therapeutic specialists, can serve an important role in delivering non-prescription drugs information, guidance, and counselling. Furthermore, the pharmacist is the most approachable health care practitioner, and thus has the ability to analyse a patient’s situation and prescribe a suitable line of treatment. At the same time, pharmacists may dissuade healthy individuals from purchasing expensive and useless health services or goods, while also referring more sick patients to doctors or hospitals. And also, they have the ability to convey knowledge about the use of over-the-counter drugs and assist customers in their buying decision. As a result, pharmacists can provide valuable services to the public by advocating the effective and safe use of over-the-counter medications and self-care behaviours (Gore and Madhavan, 2018).

The pharmacist’s involvement in providing advice on over-the-counter drugs, which includes assistance in the selection of OTC drugs’ quantities and varieties that are effective and safe for reaching certain health objectives. The function of pharmacists in the context of over-the-counter pharmaceuticals is that many individuals who are looking for an over-the-counter option that may solve their health issues and they may prefer to get help from a healthcare professional in order to lower their perceived post-buying hazard (Puspitasari et al., 2019).

Moreover, it has been demonstrated that the characteristics of pharmacists and their employees are significant motivators for clients to use their services at pharmacies. More precisely, factors related to staff like professionalism, kindness, and a caring disposition will impact a consumer’s decision-making procedure when it comes to choosing OTC drug. During regular visits to the pharmacy, many consumers appreciate and demand the opportunity to have a personal and concentrated conversation with pharmacy employees. Furthermore, it has been shown that patients who form a personal connection with their healthcare provider have the highest levels of satisfaction (Chan & Tran, 2016a).

The Influence of Family’ and Friends’ Recommendation on Customers Buying Decision of OTC Medicine

Customers’ interpersonal interaction regarding goods or services is defined as word-of-mouth (WOM), and it plays an essential role in shaping consumers’ attitudes, inclinations, and actions. Furthermore, they asserted that word-of-mouth has a significant influence on customer decision and post buying perceptions. It is also affected by the information regarding the brand that has been tried by family and friend. The most significant consumer patterns are to depend on word of mouth when purchasing OTC medications (Basri et al., 2016).

Patients and the general public may be affected by information obtained from family and friends and may make medication selection decisions based on this information. Moreover, they may have the belief that OTC medications are harmless and too weak to inflict any serious damage. There has been a prevalent obliviousness to possible adverse effects among those who use OTC drug like non-steroidal anti-inflammatory drugs (NSAID). Customers are often unaware of the possibility of drug interactions while self-medicating (Hanna and Hughes, 2019).

The impact of family and close friends on a consumer’s choice is greatest when they are closest to them. The influence increased if the recommendation of the family and friend based on brand experience and the result was seen by the consumer in that time the consumer will have high intention to buy the recommended OTC medication.

The Influence of Brand Experience on Purchase Decision of OTC Medicine

The fact that a drug’s impact on a health issue can only be understood via usage means that brand experience with and knowledge of the product are important factors in making a buying choice. Patients are hesitant to switch medications after they have discovered a medication that
Consumer Buying Decision on OTC Medications

is effective for them since it is difficult to gather such details regarding the drug’s value. Consumers’ internal and external memories are both included in the purchasing experience, and both play an important role in the purchasing process. When clients have a genuine experience with a product or service, internal memory is produced, whereas external memory is developed as a consequence of learning about the product or service, which is called experiential learning. The consumer’s memory of the buying experience is etched for a longer period of time. Because of this, consumers will begin evaluating the things they have purchased immediately, and the result of the shopping experience in terms of the items will be stored in their memory for an extraordinarily extended amount of time after the transaction (Kohli and Buller, 2019).

For over-the-counter pharmaceuticals, genuine experience with the treatment, pricing range, and brand dependency are all important factors in determining whether or not to repeat the purchase. The familiarity with an OTC brand is the most important aspect in deciding whether or not a consumer would buy an OTC product again. Therefore, customers’ decisions may be influenced by their previous knowledge or experience. The focus on the participants’ indicated tendency to choose a certain product from a specific group of medications was corroborated by brand experience and indicates that they are loyal and lengthy users of definite drugs (Aufegger et al., 2021).

Hypotheses Development and Conceptual Model

Based on the aforementioned sections to justify the relationship among the variables of the study, the hypotheses and the model of the study are developed as follows:

H1: There is a positive significant impact of pharmaceutical digital marketing on consumer buying decision making of OTC drugs.

H2: There is a positive significant impact of reference group effect (pharmacist, doctor, family or friend) on the decision of consumers when it comes to buying OTC drugs.

H3: There is a positive significant impact of brand experience on consumer buying decision making of OTC medicine.

RESEARCH METHODOLOGY

Research Instruments

Through the use of self-structured questionnaires, a cross-sectional method survey was conducted, as well as the quantitative technique and measurements of data for the variables (pharmaceutical digital marketing, reference group effect, brand experience, and consumer purchasing
decision of OTC medicine). The data was collected anonymously via the use of an online questionnaire form.

The research instrument is a self-administered questionnaire that has different questions that measure the various factors as shown in Appendix 1. All of the variables in the questionnaire were measured using approved methods. The survey is divided into five sections, which are as follows: first part contains demographic questions (age, gender, etc.) and other parts contain 20 items (see Table 1) and each question rated on a five-point scale, ranging from $1 = \text{strongly agree}$ to $5 = \text{strongly disagree}$ where the lower score indicates a higher level of agreement. The items for each category correspond to prior research’s measuring scales.

The sample is adjusted to satisfy the requirements of the proposed model where pharmaceutical digital marketing was measured using five items adapted from Omar and Atteya (2020) and Habash and Al-Dmour (2020). Reference group measures created by modifying and combining some items and get five questions from the studies of Wube Temechewu and Gebremedhin (2020) and Chan and Tran (2016b). Brand experience contain three points from Wube Temechewu and Gebremedhin (2020). Lastly the dependent variable of buying decision making was used seven items adapted from Wube Temechewu and Gebremedhin (2020) and Habash and Al-Dmour (2020).

<table>
<thead>
<tr>
<th>Variables</th>
<th>Research variables</th>
<th>Number of items</th>
<th>Sources</th>
</tr>
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<tbody>
<tr>
<td>Demographic</td>
<td>gender, age, level of education,</td>
<td>3</td>
<td>(Omar &amp; Atteya, 2020) (Habash &amp; Al-Dmour, 2020)</td>
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<tr>
<td>Independent</td>
<td>Pharmaceutical digital marketing</td>
<td>5</td>
<td>(Wube Temechewu &amp; Gebremedhin, 2020) (Chan &amp; Tran, 2016b)</td>
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<tr>
<td></td>
<td>Reference group</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brand experience</td>
<td>3</td>
<td>(Wube Temechewu &amp; Gebremedhin, 2020)</td>
</tr>
<tr>
<td>Dependent</td>
<td>Consumer buying decision</td>
<td>7</td>
<td>(Habash &amp; Al-Dmour, 2020)</td>
</tr>
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The data obtained have been analysed using IBM Descriptive Statistics Analysis and Empirical Results et al., 2019). On established theories, establishes its validity (Kathiravan demics, and the examined literature above, which is based obtained from previous instruments. The item utilized as by the items used to assess the variables, which were ment scales used.

The validity of this study’s analysis maybe determined by the items used to assess the variables, which were obtained from previous instruments. The item utilized as a variable in this research has been used by previous academics, and the examined literature above, which is based on established theories, establishes its validity (Kathiravan et al., 2019).

### ANALYSIS AND EMPIRICAL RESULTS

#### Descriptive Statistics

The data obtained have been analysed using IBM® SPSS® Statistics 25.0. First, the descriptive statistics of all the variables is reported. Subsequently, the correlation and regression outcomes are presented in order to test the hypotheses and discuss the findings. Descriptive statistics and other techniques have been used to determine critical parameters. The first part of the questionnaire is about a general question as: gender, age, and level of education. The total figure of both male and female respondents shown that the female respondents are the highest 88 (55.7%) and the male respondents are 70 (44.3%). The Age of respondents show the participants between 20–25 years with 86 respondents (54.4%) as the highest, 26–30 years with 47 (29.7%), 31–35 with 20 (12.7%) follow by 36–40 years with 5 (3.2 %) with the lowest respondents. And the education level of the participants analysis shows that bachelor’s degree 76 (48.1) as the highest respondent, master’s degree with 53 (33.5%) follow by PhD 29 (18.2%) with the lowest respondents’ frequencys.

#### Hypothesis Testing

### Correlation Analysis

The major research question answered was applied to check relationship level between pharmaceutical digital marketing (PDM), reference group (RG), brand experience (BE) and consumer buying decision making of OTC medication (BD). According to (Cohen, 1988), as reported in (Pallant, 2010, p. 126), values between 0.10 and 0.29 show a minor correlation, values between 0.30 and 0.49 show a medium correlation, and values between 0.50 and 1.0 show a strong correlation across variables. The outcomes are in the Table 3 below:

A correlation study utilizing the pharmaceutical digital marketing correlation coefficient was performed which states that there is a statistically significant positive impact of digital marketing on consumer purchasing decisions for over-the-counter medications. The results of the data analysis show that there is a positive association at a medium level of significance ($r = 0.439$, $p < 0.001$). The second hypothesis shows that there is a statistically medium association between the reference group effect (pharmacist, doctor, family, or friend) and the decision of consumers when it comes to buying over-the-counter medications. There is a considerably strong and a positive association between these two factors, according to the results provided in Table 3 ($r = 0.610$, $p < 0.001$). The following hypothesis investigates whether or not there is a positive association between past experience and the buying of OTC medication by consumers. According to the data, there is a positive and strong correlation between these two variables ($r = 0.740$, $p < 0.001$).

### Regression Analysis

Regression is a statistical approach that is used to create models and assess the connection between dependent and independent variables. Its purpose is to determine the strength of the relationship between two or more variables.
This is accomplished via the use of hypothesis testing (Ghattas and Al-Abdallah, 2020). A linear regression test was used to find out how changes in the independent variables affected the dependent variables. In regression, one or more independent variables may be controlled while one or more independent variables can be investigated in terms of their connection with the dependent variable. Regression analysis tested our hypothesis and showed whether the independent research variables (Pharmacological Digital Marketing (PDM), Reference Group (RG), and Previous Experience (PE)) influence dependent variables (Consumer Buying Decision of OTC medicine) or not.

As shown in Table 4, the ratio R square is 0.574, which shows a 57.4% of the variation of buying decision could be explained by our independent variables (BE, DM, and RG).

Table 5 as a part on regression analysis which is ANOVA shows a 57.4% of the variation of buying decision could be explained by our independent variables (BE, DM, and RG).

According to Table 6 and p-value (0.313) and t-value (1.012), and Beta values (0.075) the result of this statistics implies that there was no significant evidence to support H1.

In order to test H2, the results (Beta = 0.252, p-value = 0.003, and t-value = 3.028) show that there is a positive significant impact of reference group effect (pharmacist, doctor, family, or friend) on the decision of consumers when it comes to buying OTC drugs. Thus, H2 is supported.

About H3, the results implies that there is a positive significant impact of brand experience on consumer buying decision making of OTC medicine. Thus, H3 is supported where Beta value = 0.613, p-value < 0.001, and t-value = 8.534.

According to the regression analysis outcomes, the equation is developed as below:

\[ BD = 0.252(RG) + 0.613(BE) \]

The research hypothesis testing results are summarized in Table 7:

The first hypothesis argued that there is no significant relationship between digital marketing and consumer buying decision making of OTC drugs and the results of the data analysis shows a medium correlation between the two variables. However, (Mekawie and Hany, 2019), (Roblek, 2018) and (Omar and Atteya, 2020) results show that there is significant positive impact of pharmaceutical digital marketing on consumer buying decision of OTC medicines. Moreover, the consumers use digital platforms as a good source of OTC medicines data.

The second hypothesis was indicating that there is a significant positive impact of reference group effect (pharmacist, doctor, family, or friend) on the decision of consumers when it comes to buying OTC drugs. In this study, and the results are supported by data finding of past studies. Several studies (Chan and Tran, 2016b), (Habash and Al-Dmour, 2020), and (Wube Temechewu & Gebremedhin, 2020) demonstrate that pharmacist, family, and friend recommendations are believed to be among the most critical elements that influence a consumer’s decision to purchase an over-the-counter (OTC) medication. However, according to the findings of this research, there is a positive association between pharmacist, family, and friend recommendations and the choice to buy

<table>
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<tr>
<th>Hypothesis</th>
<th>Decision</th>
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<tr>
<td>H1: There is a positive significant impact of pharmaceutical digital marketing on consumer buying decision making of OTC drugs.</td>
<td>Rejected</td>
</tr>
<tr>
<td>H2: There is a positive significant impact of reference group effect (pharmacist, doctor, family, or friend) on the decision of consumers when it comes to buying OTC drugs.</td>
<td>Supported</td>
</tr>
<tr>
<td>H3: There is a positive significant impact of brand experience on consumer buying decision making of OTC medicine.</td>
<td>Supported</td>
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over-the-counter drugs, where the impact is statistically significant.

Hypothesis three was to show that a positive impact of previous experience on consumer buying decision making of OTC medicine which was proved by the analysis of the data. Since most people claim they buy the same OTC medication over and over again, it’s critical for pharmaceutical businesses that their medication is the first option of the customer in that particular product category, which is supported by the research of (Wube Temechewu and Gebremedhin, 2020), (Habash and Al-Dmour, 2020) and (Rao, 2016). Because almost all customers report that they often purchase the same over-the-counter medication over and over again. The most typical reason for this purchase pattern is because the customer knows the product works and has learned about the product via brand experience. They also know that the product is a solution to their issue or meets a need. The same product may be purchased by some clients because they lack the time or energy to investigate different possibilities. As a result, brand experience has a favourable and considerable impact on consumers’ choice to buy over-the-counter medications.

The significance digital marketing, reference group effect (pharmacist, doctor, family or friend) and previous experience explain consumer buying decision making of OTC medicine was confirmed through this study.

CONCLUSION AND IMPLICATIONS

Conclusion

This paper has found connections between pharmaceutical digital marketing, reference group, previous experience and consumer buying decision that according to the research findings and online survey in the pharmaceutical OTC medicines marketing in North Cyprus. The pharmacists believe that digital marketing will increase the amount and quality of alternatives available to customers (patients) for obtaining and sharing information on over-the-counter medications. New internet innovations necessitate the adoption of new marketing strategies by pharmaceutical corporations. The behaviors of users who are using technological innovations must be taken into consideration by managers when developing organizational changes in marketing strategy.

The findings of this quantitative study raise new research challenges concerning the influence of the Internet and social media marketing on businesses. This is necessary since current challenges are dynamic in nature and need urgent action. While the pharmaceutical sector is an important target for future study, we urge that researchers go outside the pharmaceutical industry and investigate marketing through mobile apps, which people may use throughout the day.

Pharma companies should use appropriate promotional and advertisement channels to raise awareness of their over-the-counter (OTC) brands among the general public. They can also enlist the assistance of pharmacists and other health-care professionals to help them promote their OTC brands among the general public. It also shows that knowledge with an OTC brand is the most important factor in determining the frequency with which an OTC product is purchased. As a result, OTC brand building and positioning are the most important aspects of OTC marketing strategy that should be taken into consideration by the pharmaceutical industry.

Policy and Strategic Implications

From a policy and commercial standpoint, a number of significant consequences for businesses and public authorities may be inferred. In terms of pharmaceutical marketing, commercials may not be enough to encourage buyers to purchase branded over-the-counter medication. Digital advertising activities, on the other hand, tend to contribute to the larger objective of increasing consumer understanding in order for them to make the best choice when purchasing OTC drugs. Increased public awareness as a consequence of advertising and internet marketing seems to increase medicine acquisition, which, if continued, may contribute in the development of the OTC pharmaceuticals industry.

When it comes to OTC medication marketing, community pharmacists, in particular, should be regarded the key target for promotional campaigns such as new OTC pharmaceutical releases, as well as detailing (direct selling).

Distributors and importers of over-the-counter pharmaceuticals may also benefit from focusing on the influence of the brand experience on their products in order to achieve competitive advantages and better satisfy the needs of their clients. The reference group for over-the-counter medications may also be used in the marketing strategy of OTC drug marketers by participating in a variety of promotional efforts that seek out specialists who deal on a daily basis with consumers. Because of this, reference groups must be leveraged in order to minimize perceived consumption risks, improve confidence in the product, and motivate consumers to make purchases. To enhance consumer confidence in a brand and boost purchase intents, community managers should aid their opinion in obtaining a greater grasp of goods and the purchasing process, as well as encourage them to share their knowledge and shopping experiences with others. This is partly owing to the fact that pharmaceutical digital marketing in North Cyprus is still not practical at this time.

LIMITATIONS OF RESEARCH AND FUTURE STUDIES

The majority of the respondents are pharmacies’ customers who are living in North Cyprus, representing a
diverse range of countries and cultural backgrounds. Due to COVID-19 pandemic the sample size employed in this study is limited. It’s possible that the results are constrained by factors like population density and geographic limitations. The limitation may be related to the online dissemination technique of the surveys, and there is no guarantee that all responders are professionals. Future research might include a broader sample of participants, not only from various pharmacy and pharmaceutical industries. For future investigations, it is suggested that the model be expanded to include additional elements and variables. Furthermore, this research did not evaluate the influence of demographic variables on OTC medication buying decisions. As a result, future studies will assess their impact on OTC medication purchases.

As an independent variable, elements such as packaging and the company’s profile were not included in this research. As a result, additional study may be conducted on these factors to determine their impact on the choice to buy over-the-counter medications. Only Famagusta, Nicosia, and Kyrenia residents who use over-the-counter medications were regarded as the target demographic. As a result, more research on the same issue will be carried out in other locations of the nation.

CONFLICT OF INTEREST

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

AUTHOR CONTRIBUTIONS

Narjes Alarsali took part in designing the model and developing the introduction, literature review, data collection, and analysis sections. Iman Aghaei participated in developing research and model design, methodology, and analysis sections. Finally, the authors together participated to complete the discussion and conclusions sections. Both authors read and approved the final manuscript.

APPENDIX 1 – QUESTIONNAIRE

Pharmaceutical digital marketing
I would use digital marketing channels to know more about different brand/s available of OTC medication (cosmetics, vitamins, supplements, painkillers).
The available online promotional tools of OTC medication attract my attention.
The data I obtained from the OTC brand’s digital marketing enables me to stay more educated about my health and/or make more informed choices.

I would prefer doing an online purchase of OTC rather than going to the pharmacy.
I would go through various websites and/or online pharmacy stores to gather more information about the OTC drugs.

Group effect (pharmacist, doctor, family, or friends)
I would discuss with the health expert the web marketed advertising OTC brand that I’d read about or heard about.
The pharmacist provides trusted information.
I would ask the pharmacist for recommendations and educate myself about the OTC products.
I would advise my family and friend to buy the OTC brand I have a good experience with.
I would be embarrassed if my friends or family found out I purchased OTC medicines.

Brand experience
I would put my confidence in the OTC brand since I have only had positive experiences with it.
I would be willing to pay extra for an over-the-counter brand with which I have had positive experiences.
Based on my experience, I would purchase the OTC brand that will resolve my health issues.

Purchase buying decision
I would purchase the over-the-counter brand that would resolve my health issue based on what I heard or saw marketed on digital channels.
I would purchase an over-the-counter brand that my physician recommended.
I would buy an OTC brand that my doctor trusts.
I would purchase an over-the-counter brand that the pharmacist suggests.
I would purchase the OTC brand that my family prefer to buy.
I would purchase the OTC brand that my friends suggest to buy.
I would only buy OTC medications that I know or that my doctor recommends to me.

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Consumer Buying Decision on OTC Medications


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