

Multi-Channel Marketing Strategies Influence on Prescribing Behavior of Health Care Professionals in Karachi

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Abstract

The study examines the influence of multi-channel marketing strategies on the prescription behavior of healthcare professionals in Karachi along with fear of Covid-19 as a moderating variable. The study followed a deductive research design and employed a convenient sampling technique to collect data. In total 307 respondents from the pharmaceutical industry along with doctors were approached through different online platforms to fill out the questionnaire. The Cronbach's alpha was calculated which was over 0.70 so the results were found to be within the range of good to exceptional reliability. Outer loadings reflect item reliability finalized with loadings between 0.70 & and 0.80. and AVE less than 0.50 which clearly describes the relationship between the latent variables and their measures. The SRMR in our study was 0.092, which is less than 0.10, demonstrating that our model works effectively. Findings confirmed our first hypothesis (H1), face-to-face interaction positively influences the prescribing behavior of health care professionals. The second hypothesis (H2) is virtual interaction positively influences the prescribing behavior of health care professionals. These findings confirmed the fourth hypothesis (H4) which is fear of COVID-19 influence on the virtual and prescribing behavior of healthcare professionals as fear of COVID-19 has no significant influence on the face-to-face and prescribing behavior of healthcare professionals. The finding can be of great help to the pharmaceutical sector in designing and improving their multichannel marketing strategies and creating a sustainable competitive advantage over others.

Keywords: Face to Face, Virtual Interactions, Pharmaceutical Marketing, Prescription Behavior, Marketing Strategies. Multi-Channel Marketing.

Introduction

The pharmaceutical industry of Pakistan is an important sector of the economy. The industry has seen massive changes over the last few decades, initiating revolutionary pharmaceutical manufacturing and research processes. Thus, playing a crucial role in providing quality essential healthcare products at an affordable price to citizens. The countrywide pharmaceutical companies are observing Good Manufacturing Practices (GMP) as prescribed in the local and international guidelines (Dar, 2020). Although Pakistan's pharma industry is relatively new to the global market, still achieved an export turnover of US\$ 306 million during the fiscal year 2022-23. Pakistan's pharma sector has been able to get a prominent place in the international market because of its highly skilled professionals, latest equipment, and most of them have the required approval from international regulatory authorities (Dar, 2020).

The business model of pharmaceutical industry is such that its performance greatly depends upon the prescription behavior of healthcare professionals (HCP). Realizing this fact pharmaceutical firms' sales teams regularly visit HCPs to apprise them regarding their new products while recapping their existing products. It helps them create demand for their brands and comprehend HCP requirements as well as patients' problems. Besides, these representatives also promote the safety and efficacy of medical products by sharing information that is beneficial for both intermediary and end customers. During and after covid 19, such meetings between healthcare professionals and medical representatives take place in three different modes i.e. face to face interaction or virtual and hybrid interactions. Consequently, a paradigm shift has taken place in the healthcare professionals and pharma representatives' encounter. An essential part of their job is to maintain a list to monitor customer engagements (Norton, 2021).

Statement of Problem

As a aftermath of COVID-19 pandemic, the global economy, including the pharmaceutical industry, suffered (Wu & McGoogan, 2020). The pharmaceutical industry has essentially maintained various rounds of realignment and efficiency savings to remain competitive in the market. As the customers these days are more technologically oriented, it has become challenging for the marketing and sales teams as they contribute to engaging with the healthcare professionals (HCP) into the current environment of technologically oriented. As a result of the fear of COVID-19, employees and primary pharma salespeople are out of work or have lost contact with their clientele (Abbas, Rehman, Jamil, Khan, & Asad, 2023; Li, Abbas, Manthar, Hameed, & Asad, 2022). Therefore in order to better communicate with key prescribers, multi-channel engagement technique and digital platforms are now days used widely for engaging more customers (Ćosić, Popović, Šarlija, & Kesedžić, 2020).

Despite of this transformation the new normal has hampered pharmaceutical firm's ability reach out the HCP in a comprehensive manner. This study aims to examine the impact of multi-channel marketing strategies on health-care professionals' prescribing behavior in Karachi. It is necessary to investigate the benefits of these channels so that other companies could prosper as well (Luvayo, 2017). The study focuses on the influence of multichannel marketing (MCM) strategies on the prescription behavior of healthcare professionals (HCPs) in Karachi. By investigating the influence of face to face and virtual interaction on HCP prescription behavior. The pharmaceutical industry needs to consider and increase the usage of various contemporary multi-channels marketing for reaching out the target (Elizabeth O'Connor, 2014).

Research Objective

The primary objective of this research is to investigate the impact of changing modes of interaction between pharmaceutical sales representatives and healthcare professionals on prescription behavior in the context of the pharmaceutical industry in Pakistan. Outcome of the study would provide the pharmaceutical firms, marketers, and other stakeholders information vital for adopting multichannel strategies, to reach out large customer base Intended to understand how the shift from traditional face-to-face encounters to virtual and hybrid interactions influences the prescription decisions made by healthcare professionals.

Research Questions

- How does the shift from face-to-face interactions to virtual and hybrid interactions between pharmaceutical sales representatives and healthcare professionals affect prescription behavior?
- What are the key factors influencing healthcare professionals' responses to virtual and hybrid interactions in comparison to traditional face-to-face encounters?
- To what extent do pharmaceutical sales teams succeed in apprising healthcare professionals about new products, recapping existing products, and creating demand for their brands through virtual and hybrid interactions?

This study purpose is to provide insights into the evolving dynamics of pharmaceutical sales interactions and their implications on prescription decisions, offering valuable information for pharmaceutical companies to adapt their marketing strategies in response to the changing landscape.

Multichannel Marketing from a Global Perspective

Digitization is a global phenomenon that affects almost all social and economic processes. It is also impacting the pharmaceutical sector. It is of importance not only for identifying its primary manifestations, but also for forecasting the future of the investigated and associated industries, allowing for the development any industry (Izmaylov, Saraev, & Barinova, 2021). The country's population's health problem is mostly centered on the healthcare system as well as the pharmaceutical market, which serves a socially important purpose. The global perspective of multichannel marketing has been characterized by the study on Nordstrom, a multichannel retailer in the USA. They aim is to target the clients who used different channels (Kumar, 2010). Furthermore, the pharmaceutical companies in the USA have been utilizing the strategy of multichannel marketing, specifically tele-detailing. This has created a hype of e-marketing and e-detailing thus, the expectations of people regarding multichannel pharmacies have been increasing and embracement of multichannel marketing have become a key to success for every country (Henry & Lexchin, 2002).

Prevailing situations compel pharmaceutical companies to take swift, decisive, constructive, and often highly costly changes, or risk losing their competitiveness and market position. It's about pharmaceutical companies adapting to changing conditions, which necessitates a detailed examination of important economic sectors. During the conference on "Big Data in Pharma" participants acknowledged that there would be no full-fledged progress without digital technologies. According to the Boston Consulting Group's projections, Russia's big data business would generate \$100 billion in revenue by 2025 (Izmaylov et al., 2021). R-Pharm, one of the market leaders, believes that the time has come to rethink the closed research and development paradigm and develop new products in the open information arena. Large firms with more than 500 workers are the primary drivers of market growth.

Literature Review

Access to precise information for the patient, customers, and partners is critical for compelling them to commit towards creating a better society. Generally, instruments to engage healthcare professionals to boost their knowledge and encourage their existing procedures are always a primary concern. Thanks to a variety of multichannel engagement tools that lead to improving the abilities of their screening and therapeutic patterns for a specific disease area while keeping the patient-centric approach perspective in mind and providing the best viable solution for people.

According to experts, as physicians become more technologically inclined, they expect pharmaceutical employers to give factual data more rapidly and on multiple devices. In the modern context of brand battles, most pharmaceutical professionals learn to adapt the best available technology to acquire and alter the information as much as practicable. Another challenge is similar disease management with endless possibilities and intricate state of mind. Adopting better disease management practices by looking at the patient's well-being (A. Khan & Abbas, 2023). The responsibilities and present situation limit the representative's access to a healthcare professional for describing using traditional detailing methodologies (Ahmed, 2017).

HCP Prescribing Behavior and Multi-Channel Marketing

Multi-Channel Engagement and Digital platforms are nowadays used extensively for serving additional customers. Multichannel engagement is transforming the digital ecosystem. The Digital platforms usage in the pharmaceutical market has transformed the decade old way of communicating with doctors, resulting

in better commitment, and transparency, for firm growth (Shahriar, 2020a). Such engagement intends to create a strong customer relationship by utilizing available online channels. Pharmaceutical companies adopt differentiation strategies because these strategies influence their performance. Pharmaceutical companies spend an amount comparable to that used for research and development on drug promotion, and they are constantly looking for new ways to promote new drugs (Sztankovszky, Iorga, Soponaru, & Antofie, 2016). The differentiation strategy contributes to entailing the firms to create unique products and services that contribute to satisfying customer demands. The performance is concerned with the process of monitoring, evaluating, and reporting the progress of the overall organization in line with the goals and objectives of the organization (Guo, Wang, Hao, & Saran, 2018). The services strategies are being applied as they basically contribute towards employing qualified personnel who do the sales and the direct marketing to the target customers (Omondi, 2018). The various strategies of marketing are positively related to the financial performance and the organizational performance that contribute in promoting the growth and the profitability (Rafi, Ahmed, Natasha, Mahruf, & Ahmed, 2020). The aim of digital tools in the pharmaceutical industry is to change the traditional approach of communication with clinicians by increasing engagement, and clarity. Thus providing exceptional customer service through various online platforms and establishing a stronger rapport with them (Shahriar, 2020a).

That is why we are using relationship marketing theory in our research. Because for a business to achieve its return on investment, it must have customer satisfaction. As a result, we consider the theory that focuses on regular interactions between the customer and the company to communicate directly regarding promotions, customer responses, and notifications of their purchases in order to keep the customers moving in the right direction (Luvayo, 2017). Promotional strategies that engage, build, maintain, and improve customer connections are referred to as relationship marketing. (Chiu, Hsieh, Li, & Lee, 2005). Hendriyani & Auliana, (2018) states that "Loyal customers are developed, sustained, and improved as a result of the experiences with marketing". Relationship marketing in its true spirit occur when the customer recognizes existence of the relationship, believes that it is mutually beneficial, receives distinctive respect and reputation, and is determined to carry with a service provider despite attractive, viable, and available alternatives (Christopher, Payne, & Ballantyne, 2013)

Pharma Sales with Multi-Channel Marketing

Organizations with multiple channels are frequently anticipated to outperform businesses with only one channel. (Ansari, Mela, and Neslin 2008). This topic caught the interest of various authors who have endeavored to grasp the philosophy of marketing approach. Pharmaceutical businesses that involve marketing earlier in the development process, understanding what the client wishes, pricing, and prediction, the marketer is then entrusted with determining the greatest marketing approach for generating sales while spending the least money feasible. The main aim is to improve the company's effectiveness and enhance profitability.

Pharmaceutical marketing differs from other types because it refers to a medicinal product prescription for which the target is the doctor who prescribes rather than the patient who has no decision power. The pharmaceutical sales representative's role is to ensure the safety and efficacy of medical products while encouraging physicians to use these products. They employee important information and knowledge to influence doctors for the benefit of the patients. Communicating with existing customers to discuss needs, highlighting product features and demonstrate ways that can solve customers' problems, responding product related questions, and maintaining a list of customers for follow calls, as creating relationship is the prime responsibilities of a medicines sales representative (Faisal, Ahmad, Thurasamy, & Ahmed, 2020). Whereas physician's responsibility is to give the appropriate drug to their patients. Medical sales representatives (MSR) spend the majority of his or her time visiting physicians in their offices. Their discussion evolved over the interaction of a physician and medical sales representative.

In the new normal healthcare companies, interaction in the front of a physician has altered. The epidemic has served as a wake-up call for pharmaceutical companies to think about new and novel ways of communicating with doctors, whether in face to face or virtually. Drugs companies has rushed to develop up-to-date and extensive two-way interaction that too without compromising physician convenience. During a pandemic, the focus is on being proactive and coming up with fresh ways to keep channels of communication open and adaptable. Physicians are highly vulnerable to pharmaceutical companies and medical sales representative interrelations, which influence health-care decisions, resulting in more prescriptions for branded drugs versus low-cost generic medicines (Fickweiler & Urbach, 2021). The pharmaceutical industry suffered greatly due to the COVID-19 epidemic (Statista, 2021). Since disruption has an impact on routine operations, they reconsider their entire business model and develop novel model to transform this COVID-19 related problem into an opportunity by coming with new pharma sales model.

In this regard pharmaceutical company representatives (MCR) have an important role to play, by adopting shift in their responsibilities. Although it is difficult to drop or distribute along promotional materials because physicians' clinics have limited access, and the pandemic continues to become a matter of concern. Non-personal marketing is thus a very efficient strategy that must be used in combination with the conventional sales strategy to maximize the efforts of Medical sales representative (Faisal et al., 2020). A face-to-face meeting helps deliver a one-of-a-kind experience for customer, making them feel valued and increasing your chances of completing the transaction. Listening to your customers' concerns and finding out how your product and service may help them solve them can help you build lasting relationships. The pharmaceutical sector is undergoing a massive transformation during pandemic (Gupta, 2021). In this regard virtual and digital technologies greatly facilitated the pharmaceutical representatives (Mahfuzur, Kona Basak 2021).

It's particularly tough because you're dealing with a customer in pharmaceutical marketing who are highly skilled person, i.e. the doctor. Thus conventional marketing strategies are not effective in pharmaceutical industry (Khosro, Ahmed, & Ahmed, 2014). You have to persuade them to recommend or prescribe your product, which is entirely dependent on the product's features, which he usually understands better than a conventional marketer (R. R. Ahmed & Jalees, 2008). Thus, the sector has had to look for marketing channels that are more resource efficient. Adapted new ways for increasing reach out, like is telecon with doctors. This channel is available to healthcare professionals on demand 24 hours a day, seven days a week (HCPs). This channel's benefits include providing solutions to healthcare professionals (HCP) product queries. Digital tools can be customized for service industries that have trailed behind, such as healthcare, education, and legal services, achieve significantly higher productivity increases (Gupta, 2021). According to experts, as physicians become more technologically inclined, they expect pharmaceutical companies to give correct information more rapidly and on a number of devices (Ahmed, 2017). Thus multichannel engagement is becoming increasingly important for pharmaceutical companies.

Face to Face Interaction and Prescribing Behavior of Health Care Professional

When you meet a potential client in person, you may establish a personal connection with them that cannot be accomplished via internet contact, In addition to producing workers, the company also offers effective relationships with its workforce (Bilal, Ali, Ali, & Rukh, 2021). A pharmaceutical company's best advertising weapon is a regular visit by a bright, focused, and well-dressed medical sales representative with effective skills and knowledge. Regular follow-up refers to pharmaceutical firms doing something exceptional or different in order to get doctors to remember the product or to engage in an activity that keeps the product in the doctor's attention. Regular follow-up entails medical sales representative visits on a regular basis, as well as sending a reminder email to doctors requesting that they prescribe their product. Most doctors, regardless of whether it is a branded or generic drug, alter their habit of prescribing a particular prescription from one company to another by addressing medical sales representatives (Higgins, 2007).

Face to face visits to promote multiple companies also have many hurdles that prevent individuals from visiting doctors. Such as doctors' attention, scheduling meetings, patient demands, and changing a doctor's chamber location are all cited as serious barriers to face-to-face visits (Shahriar, 2020b). Further, the medical sales representatives are frequently relocated to new places or territories, posing challenges in marketing differentiated products to doctors. A survey shown that only 20% of MSR effectively deliver message while rest simply drop their visiting card without any interaction thus sales force are waste of resources and time (Kumar, 2010). The entire Face-to-Face visit process takes time for the sales personnel or medical sales professionals, and the expense of promotion is significant. Beside during the Covid-19 epidemic, it became much harder and more difficult because doctors would not permit face-to-face visits. As a result, the organization had trouble promoting its product and reminding doctors about the brands (Shahriar, 2020b).

This prompted pharmaceutical marketers to reinvent channel communication considering the challenges they face. Formerly functioned through a large sales staff, is now concentrating on realigning current methods with new digital strategies in order to improve face-to-face interactions with health care professionals (Faisal et al., 2020). Whereas pharmaceutical industry's primary goal is to influence physicians' decision-making processes (Siddiqi et al., 2011). Even though most of physicians did not consider this influence, that medical sales representatives have substantial impact on their drug selection and prescription behavior (De Ferrari A, 2014).

In today's marketplace, one of the major challenges faced by pharmaceutical representatives is that they have many similar brands to share with HCPs while having less time to interact with them. Pharmaceutical executives are constantly redesigning and reorganizing their portfolios of information and attempting to access them in the best possible way to translate brand perceptions into disease-specific brand images (Alowi & Kani, 2018). So that they can influence on physicians' prescribing practices (Faisal et al., 2020). Although limited availability of new brands as well as new drugs in the pipeline limits interactions to share high-quality information among health-care professionals, allowing marketers to rethink communication channels in order to combat the race against time (Izmaylov et al., 2021). Here multi-channel strategies not only improve communication quality but it can also reduce the cost of interaction and provide tools to evaluate improve quality of message exchanged (Abdullah-Al-Masum, Hassan, & Khan, n.d.). That is why in developed countries, they are constantly changing the options available for particular management, whereas in developing countries, HCPs education through seminar and symposium may help them to enhance the range of information through expert panel and further obtaining the data science HCPs (Ijoma et al., 2010). However many healthcare professionals, are under-informed about the digital technologies accessible today and how they and their patients can benefit significantly from their use in conjunction with the information offered (Jawaid & Ahmed, 2018).

Virtual Interaction and Prescribing Behavior of Health Care Professional

Digital media is a new reality, considering this fact pharmaceutical industry is rapidly shifting from the traditional marketing towards digital marketing strategies (Abdullah-Al-Masum et al., 2021). Because it has many advantages such as ease of communication with consumers, less time-consuming, and cost-effectiveness. That is why now pharmaceutical firms now adopting latest digital marketing tools to get physicians attention towards their pharmaceutical products and influence them to adopt and use their brands (Hailu, Workneh, & Kahissay, 2021). Although traditional marketing mix tools are still used by the pharmaceutical companies to maximize their profit margins are informed by two factors: the need to promote specific drugs; and the need to enhance company reputation through stronger relations with physicians (Abdullah-Al-Masum et al., n.d.) 2021. Digital marketing has induced a greater interest of physicians towards the usage of social media and other digital tools. As more and more people are now using social media, it is becoming convenient for them to connect socially and share information. Same is adopted by patients, physicians, and healthcare workers for their interaction among themselves (Jawaid & Ahmed, 2018). Using both conventional and digital marketing strategies, a hybrid marketing strategy is

used to promote a product or service. While online services and in-person touch points are important, hybrid marketing combines the two to provide a more comprehensive outreach strategy. It combines elements from both types of marketing strategies (Thaichon, Surachartkumtonkun, Quach, Weaven, & Palmatier, 2018). Despite latest innovations, sales and marketing divisions continue to operate in silos. Create a business occupation that combines sales and marketing capabilities and qualities and utilize this position to blur the lines between sales and marketing before totally pulling down the wall, so sales and marketing operate as one. Sales and advertising excellence' reps are frequently hybrids who work equally with sales and marketing. While it's a difficult concept that will take time to implement (such as changing incentive schemes to include flatter organizational collaboration), if it works, it might be the final piece needed to bring centuries of best practices together. (Gul et al., 2021). Community pharmacists will likely be charged with testing, treatment, and vaccination of communities in addition to already acknowledged advanced patient care services. However, the lack of competence of pharmacists due to deficiencies in academic curricula and other pharmacist-related issues may have a detrimental impact on Pakistan's acceptance of these much needed envisioned community pharmacy operations (Ibrahim, Kani, & Ahmed, 2019). Like branding, the hybrid marketing experience should be smooth and unified. Customers want frictionless experiences at all points of contact. Look at how you engage with others, both in real life and online. Customers should be able to access the same message on your online platforms regardless of whether they are in your place or at a hospital. Product detailing is a strategy used by pharmaceutical firms to market their products directly to doctors (Shamal, 2021). Information technology, such as e-detailing, is increasingly being used by businesses to save expenses while also trying to expand their physician reach and improve communication. There's an issue with this strategy in that it substitutes conventional detailed methods' advantages of face-to-face, personal selling with a system that may be far less adaptable, such as a push-driven one. Taking into account both the disadvantages and benefits of various sales techniques, the present research recommends that businesses use a hybrid selling strategy. Pharmaceutical marketers can best optimize the diffusion of medication knowledge by combining push and pull tactics with the use of new information technologies, while also taking the demanding requirements of selling to time-pressed doctors into consideration (Shawlin, 2021). By offering pharmaceutical marketers with more effective digital information tools that support and strengthen a reactive and responsive selling strategy, "hybrid detailing" has the potential to increase physicians' understanding of pharmaceutical products. Firms may use a hybrid approach to better monitor, track, and evaluate the performance of their sales by methodically using information resources (Thaichon et al., 2018). Using modern technology and developing marketing paradigms, such as relationship management, face-to-face meetings and integrated marketing communication.

Fear of Covid-19 Moderating Prescribing Behavior of Health Care Professional

The Covid-19 epidemic, which started in China at the end of 2019, has affected the entire world. In this uncertain environment, the world changes in an unexpected and unanticipated way, pushing businesses to make judgments due to stringent measures of people circulation, face the economic crisis underpinning the pandemic's impacts in addition to business operations (Nicola et al., 2020). The COVID-19 epidemic and the need for social distancing have had an impact on company marketing strategies, especially pharmaceutical firms. In response to the COVID-19 epidemic and the requirement for social distance, pharmaceutical marketing techniques have changed and shifted. (Sawad & Turkistani, 2021).

Many businesses were forced to halt operations or adjust how they operated. The pharmaceutical sector began to use remote interactions, through digital platforms, and pushed improvements in the field of development research. While the changes are visible in the short term, new measures will be implemented as the pandemic progresses (Ayati, Saiyarsarai, & Nikfar, 2020). The businesses that survived had to adjust to an unexpected fact.

Covid-19 is a coronavirus disease caused by the Severe Acute Respiratory Syndrome coronavirus that has wreaked havoc on worldwide health systems, as well as many facets of human existence as we know it

(Nicola et al., 2020). Huge investments in disease preventive infrastructure and accelerated digital transformation of health delivery are projected to occur as a result of profound changes in health dynamics (Ćosić et al., 2020). Changes in demand, scarcity of supply, panic buying and stocking, legislative changes, and the transformation of communication and business to remote interactions through technological platforms, as well as changes in the research and development (R&D) process, can all be seen as short-term COVID-19 impacts on the health market. Additionally, COVID-19 presents a significant opportunity for the pharmaceutical industry, as it is anticipated that demand for prescription medications, vaccines, and medical devices would rise (Ayati et al., 2020).

In pre-pandemic, Medical sales reps (MSR) could always stroll into a physician's office and do a face-to-face presentation to the physician and their team. Within an eight-hour workday, the standard criterion was to have a meaningful/insightful talk with 8/10 physicians. Representative and physician relationships were able to develop trust and long-term ties thanks to this open-door approach. Physicians are vulnerable to pharmaceutical industry and MSR connections, which impact their clinical decision-making and lead to more prescriptions of branded treatments over low-cost generics (Faisal et al., 2020). An opportunity exists for the pharmaceutical sector because of COVID-19, which raises the need for prescription medications, vaccinations, and diagnostic implants. COVID-19's short-term effects on the health market include changes in demand, supply disruptions, panic purchasing and stockpiling, regulatory adjustments, and a shift in advertising and promotion to distant contacts through technological and R&D process modifications (Hailu et al., 2021). Staying in quarantine has been shown to have a deleterious influence on mental health in earlier infectious disease epidemics (SARS, MERS, Ebola). Anxiety behaviors to more severe depression symptoms are normal psychological responses, but fear of infection is also common (Watts et al., 2018).

There is also indications that pharmaceutical industry are using a variety of digital strategies to confront the negative COVID-19 pandemic effects include "internet marketing, e-detailing consumer engagement, e-sampling, job involvement, and the virtual care revolution to promote product quality and help accelerate prescriptions to potential customers." (M. M. R. Khan & Basak, 2021). Pharmaceutical companies were more involved in face-to-face marketing prior to COVID-19. This type of marketing could no longer take place until a vaccine for Covid-19 is proven to be effective and safe for human use. Sponsorship of health-related events that people attend is one of the marketing activities used by medical representatives (Sawad & Turkistani, 2021).

As even the COVID-19 pandemic caused damage on the global economy, particularly the pharmaceutical industry (Fornell & Larcker, 1981a). Rising costs for consumable household, particularly those for chronic diseases such as diabetes, may be linked to the pandemic (COVID-19-related), as well as supply-chain discrepancies leading to shortage. In some respects, the epidemic has served as a wake warning for pharmaceutical companies to think about new and novel ways to communicate with doctors, whether in person or electronically. Following the introduction of COVID-19 times, the interaction will look different in terms of the number of interactions, spacing, and physicians determining whether an MSR is required to come in or remain virtual. Most businesses in a variety of industries were forced to suspend operations or modify how they operated. The pharmaceutical industry pioneered the use of remote interactions via digital platforms, propelling advancements in the field of development research. While the changes are visible in the short term, as the pandemic progresses, new measures will be implemented. (Ayati et al., 2020). According to this study, the Covid-19 pandemic, which is an environmental turbulence, causes an underlying turbulence in the market, as a result of the restrictions imposed (movement of people and commercial activity), most businesses were forced to halt operations or change how they operate. Except for sales and internet contacts, few people were interested in innovating (Norouzi, Zarazua de Rubens, Enevoldsen, & Behzadi Forough, 2021). The companies that survived had to adjust to an unexpected reality. The Severe Acute Respiratory Syndrome coronavirus causes Covid-19, a disease that has caused problems on worldwide health systems, as well as all facets of human life as we know it (Nicola et al., 2020). The fear of COVID-19 was determined to be a mediating factor in the link between intolerance of uncertainty (IU) and mental health (Korte et al., 2021).

Prescribing Behaviour of Health Care Professional

Physicians have a key role in pharmaceutical marketing because they are the ones who prescribe medicine to the patients. Pharmaceutical firms are conscious of this vital fact, try various promotional tools like, direct marketing, sales promotion, advertising and CRM to influence the prescription behavior of physicians (Mohammed, Mubark, & Al-Haddad, 2018). Physicians opinions and evaluations of specific companies have a significant impact on their choices to prescribe medications to patients. (Al-Areefi & Hassali, 2013). Physician perceptions and opinions about individual firms have an expressive effect in their prescription of a certain medication to any patient (Hameed & Waheed, 2011).

Pharmaceutical companies have used a variety of methods to increase prescriptions for their products, including physician-targeted marketing, which includes free samples, journal ads, hardcopy marketing materials, and other souvenirs. There was no motivation for pharmaceutical firms to cease using marketing techniques that cost those 20% or more of their revenues. Pharmaceutical promotional strategies target doctors in large part because, from the perspective of the company, physicians are the gatekeepers to medication sales. Because pharmaceutical markets have a national identity, their structure varies from country to country (Mitchell et al., 2021).

The pharmaceutical business, on the other hand, is global in scope. Recognizing drug companies' impact on physicians from a managerial perspective provided a framework for optimizing promotion activities by first deciding where to concentrate their initiatives to raise their benefits and secondly by selecting the best achievement - oriented leadership to convince physicians best, thus attempting to avoid unnecessary spending. Doctors' adherence to ethical ideas about medical drug marketing influenced patients' medication prescriptions in a more logical way. To put it another way, as pharmaceutical companies started to have more influence on certain doctors while having less effect on others, company executives began to ask physicians about their feelings about accepting gifts and samples as a way to keep these doctors from being changed (Shahriar, 2020a).

Medical Sales Representatives play a critical part in the organization's success, and their importance should not be understated. Specific activities are completed according to established or recognized standards of accuracy and completion while minimizing costs and time requirements. Improved productivity, ease of utilizing new technologies, and highly engaged employees are all signs of excellent employee performance. Employee capacities are also boosted when a company begins to invest in training to improve the knowledge and skills of its employees, resulting in more efficient operations. Creating workers and providing an effective working connection between them and their employer is essential.

The strategy of a medical sales representative to doctors is focused on relationships. Doctors pay attention exclusively to medical sales representatives who they believe have a comprehensive understanding of the product and can address their concerns. When a medical Sales representative is allowed to enter the doctor's chamber, the real battle begins. A medical sales representative must describe his product to a doctor in a short period of time because doctors' patients are of the highest importance to them, and he must tell them about the product using an unconventional method. The medical Sales representative's meeting will end if the doctor believes the medical Sales representative has nothing fresh to tell him. Through his detailing, communication, product knowledge, dress, and senior visits, the Medical Sales Representative makes a difference. Instead of a postman call, he must make a genuine doctor call. He must have a good understanding of the topic relating his products (Yanis, 2011).

Hypothesis (H1): Face to Face interaction positively influence on Prescribing Behavior of Health care professional.

Hypothesis (H2): Virtual interaction positively influence on Prescribing Behavior of Health care professional.

Hypothesis (H3): Fear of Covid-19 influence on the Face to face and Prescribing Behavior of Health care professional.

Hypothesis (H4): Fear of Covid-19 influence on Virtual and Prescribing Behavior of Health care professional

Conceptual framework facilitate researcher in collection of broader theoretical approaches in recognizing the subject under study, framing arguments, and finding appropriate data (Stratman, Roth, & Gilland, 2004).

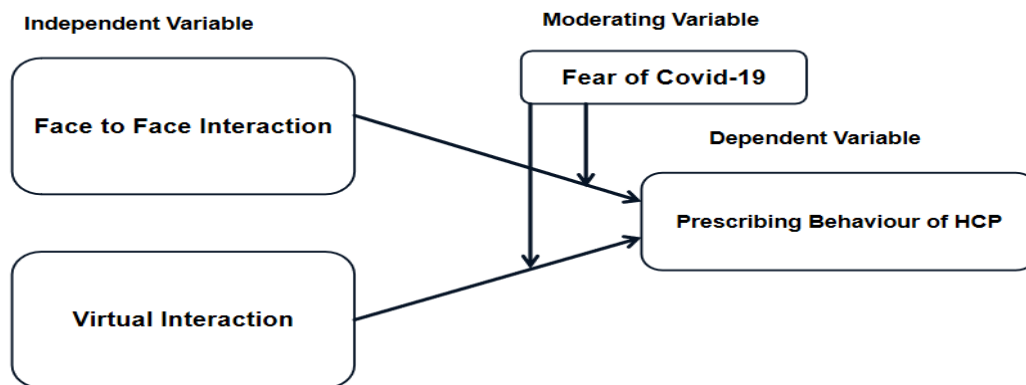


Figure1: Conceptual Framework

Research Methodology

The study used a quantitative method and employed a self-administered survey method in the pharma industry. The target population includes medical sales representatives, sales managers, marketing managers, and doctors of pharmaceutical industry of Karachi, because they are directly engaged in the execution of MCM strategies, hence, are in better position to provide detailed feedback on their influence. Given the nature of the study, the sampling technique employed was non-probability, purposive sampling procedure. Purposive sampling allowed the researchers to deliberately select participants who were actively involved in the execution of MCM strategies within the pharmaceutical industry of Karachi.

Analysis

Analytical Method: To determine the results of our questionnaire, we used a partial least square structural equation model to measure the data and evaluate the outcomes, which were based on the parameters determined using the PLS SEM technique, owing to the existence of a moderating variable as per our framework. Smart-PLS is a preferred technique for its predictive power, and its ability to deal with smaller sample size and non-normality of data (Hair et al., 2017).

Demographics of Respondents: The authors were able to collect data from a sample of 307 respondents using self-administered questionnaire. The questionnaire, designed on Google Forms, were emailed to respondents working in the pharmaceutical companies. A demographic profile of respondents revealed that the majority of respondents were male (85%), while female participants made up 15% of sample. 22% of respondents had less than 5 years' experience, 20% had 5-10 years of working experience, 32% had 10-15 years' experience, and 26% had much more than 15 years' experience. This indicated that the majority of the respondents had a huge amount of experience, with over 88 percent having more than five years of experience. The majority of the respondents were fairly well-educated, with over 54 percent having a

Master's degree and 46 percent having a bachelor's degree. 70% of respondents were between the ages of 25 to 35; and more than 31 percent of respondents were over the age of 35.

Measurement Model: The measurement model (Figure 1.1) was examined to check for reliability and validity. Hair et al. (2014) recommends a value greater than 0.7 for item reliability. Accordingly, a total of 19 items were kept and those scoring less than 0.7 were deleted. Next, the authors examined Cronbach alpha and composite reliability to check the internal consistency of the factors. According to Hair et al. (2017), both indicators should be 0.70 or above to establish internal consistency. As Table 2 shows, composite reliability and Cronbach Alpha ranged between 0.76 to 0.840 and 0.6 to 0.746, respectively. We accepted a benchmark of 0.6-0.7 as a substantial measure of reliability, but because our factors were homogeneous and had different item loadings, composite reliability was considered a better option instead of using Cronbach alpha.

Table 2: Construct Reliability and Validity

Construct Reliability and Validity				
	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
F2F-FOC-PB	1.000	1.000	1.000	1.000
Face to Face Interaction	0.768	0.984	0.834	0.560
Fear of covid-19	0.826	0.827	0.878	0.591
Prescribing Behavior of HCP	0.733	0.758	0.816	0.471
VT-FOC-PB	1.000	1.000	1.000	1.000
Virtual Interaction	0.857	0.858	0.898	0.637

Next, the model was assessed for convergent validity which refers to the degree to which two measures or categories are hypothetically connected. According to Chin (1998), each construct's AVE score must be equal or greater than 0.50 to reach convergent validity. Table 2 shows that each construct's AVE score has met the required criteria, falling within 0.51 and 0.55. Finally, discriminant validity was analyzed which refers to the extent to which constructs are different from one another. Scholars suggest a value of 0.85 as acceptable, while results larger than 0.85 suggest that the two constructs coincide and measure the same thing. The three measures of discriminant validity are Fornell and Larcker Criterion, Cross-loading, and Heterotrait-Monotrait (HTMT). The Fornell-Larcker Criterion showed highest values in both rows and columns, as recommended (Fornell & Larcker, 1981b)

Table 3: Fornell and Larcker Criterion

Fornell-Larcker Criterion						
	F2F-FOC-PB	Face to Face Interaction	Fear of covid-19	Prescribing Behaviour of HCP	VT-FOC-PB	Virtual Interaction
F2F-FOC-PB	1.000					
Face to Face Interaction	0.019	0.748				
Fear of covid-19	0.028	0.104	0.769			
Prescribing Behaviour of HCP	0.043	0.198	0.616	0.686		
VT-FOC-PB	0.132	0.086	-0.074	0.315	1.000	
Virtual Interaction	0.087	0.095	0.655	0.569	0.183	0.798

The Heterotrait Monotrait Ratio of Correlation (HTMT), which is a more precise indicator (Henseler et al., 2015) found values lesser than 0.85, thus establishing discriminant validity, as demonstrated in Table 4.

Table 4: HTMT

Heterotrait-Monotrait Ratio (HTMT)						
	F2F-FOC-PB	Face to Face Interaction	Fear of covid-19	Prescribing Behaviour of HCP	VT-FOC-PB	Virtual Interaction
F2F-FOC-PB						
Face to Face Interaction	0.083					
Fear of covid-19	0.035	0.103				
Prescribing Behaviour of HCP	0.112	0.222	0.730			
VT-FOC-PB	0.132	0.080	0.144	0.403		
Virtual Interaction	0.094	0.118	0.776	0.644	0.197	

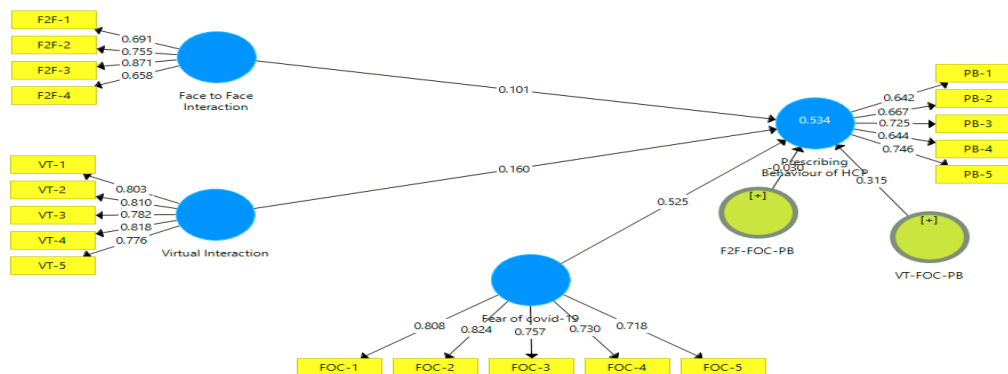


Figure 2: Factor loading of items.

Structural Model: After analyzing the measurement model for reliability and validity, the structural model was assessed. For this, a descriptive statistics was run on data to check for normality, although it is not a necessary condition in Smart-PLS. Descriptive analysis revealed that majority of the data was dispersed around the means, with standard deviation (SD) values ranging between 0.885 and 1. As a result, it was apparent that the data had met its objectives in a substantial way. To check the path coefficients, a bootstrapping procedure was applied to a subsample of 5000. Table 5 reveals the relationships between constructs.

Table: 5 Path Coefficient and Specific Indirect Effect

	STDEV	T Value	P Values	Result
F2F-FOC-PB -> Prescribing Behavior of HCP	0.055	0.551	0.582	Not Supported
Face to Face Interaction -> Prescribing Behavior of HCP	0.041	2.486	0.013	Supported
Fear of covid-19 -> Prescribing Behavior of HCP	0.056	9.439	0	Supported
VT-FOC-PB -> Prescribing Behavior of HCP	0.047	6.636	0	Supported
Virtual Interaction -> Prescribing Behavior of HCP	0.063	2.526	0.012	Supported

The path analysis indicated that the beta coefficient obtained the anticipated results as per our hypothesis. Face-to-Face Interaction Testing had a substantial influence on HCP prescribing behavior (p-value=0.013). Similarly, the effect of Virtual Interaction on HCP Prescribing Behavior was also substantiated (p-value=0.012). Likewise, fear of covid-19 showed a considerable influence on HCP prescribing behavior. The moderating effect of fear of Covid-19 on the relationship between virtual interaction and HCP prescribing behavior showed positive impact; whereas, it showed no significant effect on the relationship between face-to-face interaction testing and HCP prescribing behavior. The result of structural model is illustrated in Figure 3.

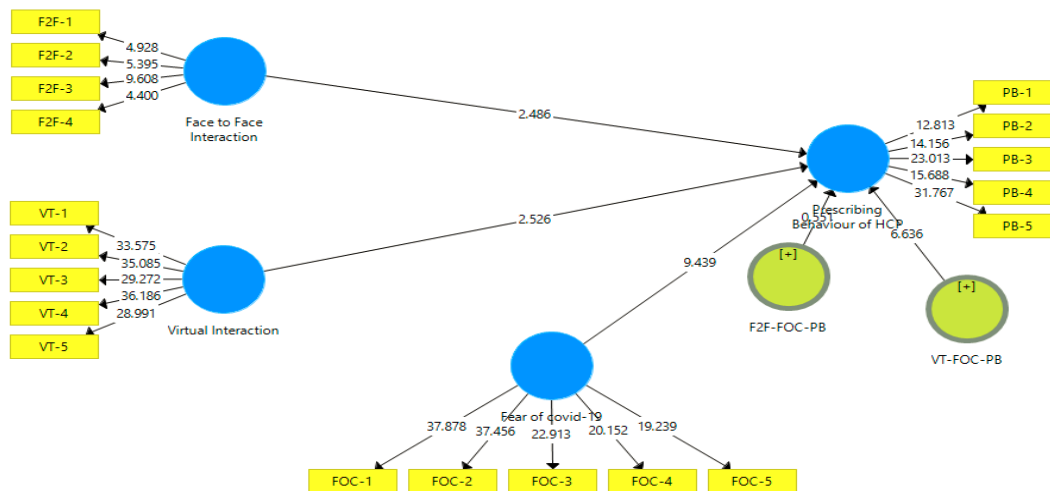


Figure 3: Path Analysis

Furthermore, the model fitness indicator i.e. SRMR was assessed which must not exceed 0.10 (Franchignoni et al., 2010). The SRMR value obtained was 0.092 which is less than 0.10, demonstrating that our model works effectively.

Discussion

The study acknowledges the shift from traditional face-to-face encounters to alternative marketing strategies in the pharmaceutical industry, prompted by the COVID-19 pandemic. The adoption of multichannel strategies, such as phone calls, details, webcasts, and physician product portals, reflects a transition toward a more individualized and high-touch approach to connect with physicians (Yaneva, 2018). This approach aligns with the goal of providing exceptional customer service and establishing a stronger rapport with physicians, emphasizing the importance of online platforms in influencing prescribing behavior (Shahriar, 2020a).

Face to Face Interaction and Prescribing Behavior of Health Care Professional (H1)

The finding confirmed our hypothesis H1, face-to-face interaction positively influences on Prescribing Behavior of Health care professionals. The relationship gives a pharmaceutical firm a comparative edge over the others and gains market share (Lotfi et al., 2016). Pharmaceutical companies generally provide face-to-face detailing, medicine samples, sponsor additional training, and provide rewards (Ijoma et al., 2010).

Virtual Interaction and Prescribing Behavior of Health Care Professional (H2)

The finding confirms our hypothesis H2, virtual interaction positively influences on Prescribing Behavior of Health care professionals. Thus, pharmaceutical firms should prioritize virtual marketing strategies to compete in the highly competitive environment. Traditional techniques for maintaining social distances are quite difficult, whereas modern technologies open up various avenues for steering consumers, product promotion, and provide a platform (L. Kumar & Panigrahi, 2014). The virtual marketing strategy gain higher response, showing faster selling and steadied consumers despite the need for urgency via data-driven methods and in a cost-effective manner (Khan & Basak, 2021b).

Fear of COVID-19 Moderating Prescribing Behavior of Health Care Professionals (H3 & H4)

Although the findings did not support the third hypothesis H3, but supported the fourth hypothesis H4, that is Fear of COVID-19 influences the Virtual and Prescribing Behavior of Health care professional whereas hypothesis H3, Fear of COVID-19 has no significant influence on the Face-to-face and Prescribing Behavior of Health care professional. It specifically investigated the relationship between fear of COVID-19 and workplace panic anxiety and behavioral problems. (Malik et al., 2021). Due to this situation, healthcare professionals are avoiding meeting medical sales representatives and so this study shows that fear of covid 19 moderates the prescribing behavior of HCPs.

Managerial Implication

The Managers of pharmaceutical sector can use these results to improve their multichannel marketing strategies for sustainable competitive advantage. To increase the usage of virtual interaction in the post-COVID-19 era. Whereas our hypothesis that Fear of COVID-19 has a negative but little influence on face-to-face interaction has just been dismissed, and Fear of COVID-19 has no meaningful influence on HCP prescribing behavior has also been denied. Managers can improve face-to-face interaction which greatly influence HCP prescribing behavior and fear of covid 19 has also greater impact on the prescribing behavior of HCP so managers can also use tools of virtual interaction and improved performance as well which will reflect in sales. There is a higher response for virtual marketing strategies, showing greater selling and soothe consumers in spite via data-driven approaches and in a cost-effective way (Khan & Basak, 2021b).

Limitations and Future Research

The study has been conducted in Karachi. Therefore, this study population limited to a particular area, that might have an impact on generalizability of its findings. Therefore, in future a country level survey can be conducted that includes other major cities and its physicians. Thus, getting opinion about virtual interaction and prescription behavior of health care professionals practicing in those cities as well. In this way other issues will be highlighted and then exterminated at the country level. Forthcoming researches may determine the extent to which all the interactions way out like Hybrid (50%-65% face to face and 35%-50% virtual interactions) which need to be more elaborate and its influence on prescription behavior of health care professionals.

Contribution

The key outcome of the study was that multichannel marketing methods work in Karachi and have a larger impact on HCP prescription behavior. Virtual engagement was also found to be more convenient for HCPs because they could participate at work or at home, according to the study. Because it featured a face-to-face conversation with the HCP, decision-making was streamlined, and the customer felt more secure that all issues had been mentioned and handled in a face-to-face call, and that they were safe from covid-19. Our study's contribution is to provide an in-depth of how pharmaceutical companies are using digital

transformation as a marketing strategy to remain in business during a pandemic. The pandemic situation has slowed all businesses' marketing implementations and forced them to adopt new approaches to operating their day-to-day business functions whereas covid-19 may arise again so this study will help to choose marketing channels. Pharmaceutical industries are performing well in comparison to all other types of businesses. The study contributed in literature encompassing the digital transformation, marketing, sales and promotion strategies of country's pharmaceutical industry companies and its impact on the prescription behavior.

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