Transformation of Value in Innovative Business Models: The Case of Pharmaceutical Market

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Abstract

Creating and developing innovative business models (BM) is currently one of the key success factors for contemporary business. Rapid changes in the world triggered by the COVID-19 crisis happening now reemphasize the need to better understand how BM can be successfully innovated on different markets. The digital component of BM innovation comes under a special spotlight as the NASDAQ stock index representing the aggregated value of technological companies reached its all-time high in June 2020. In this current paper, we review innovation strategies at the corporate level using the example of a company within the pharmaceutical industry through the prism of BM innovation. In particular, this study demonstrates how BM innovation can be developed and implemented in practice within the pharmaceutical market, which accelerates its digital transformation to increase the value it brings to healthcare systems around the world while sustaining the ongoing crisis. In order to do that, the current paper offers a framework for BM innovation that defines BM elements, BM innovation aspects, and BM innovation logic. This new approach is applied to undertake a deep analysis of opportunities to build innovative BM using the case of a pharmaceutical market. This paper uses the case study method to demonstrate BM innovation insights. The research described in this paper is of a cross-border nature and includes the analysis of a pharmaceutical company's BM on six markets representing different value creation systems and mechanisms (Russia, Ukraine, Thailand, Chile, Mexico, and Israel). This paper demonstrates how technological innovations can be activated using managerial tools and insights and also how they can be combined into the holistic system based on the needs of the key value chain actors.

Keywords: business model; innovation; transformation of value; corporate strategies; pharmaceutical market; case studies

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Introduction

Contemporary business model (BM) research has been increasing its focus on BM innovation. Because BM primarily deals with the complex process of value creation and delivery to the end consumer, each time a question arises as to how businesses can better align with consumer needs, the aim is to satisfy them in the most effective way that will allow to the firm not only to satisfy the consumer, but also keep businesses commercially successful.

There are many factors that force businesses to substantially change their BM, such as: increasing competition, lowering entry barriers to the industry, strengthening government regulations, and, of course, the technological boom increasing its pace every day. Economic shocks recently experienced by the world in 2020 due to the novel coronavirus (COVID-19) pandemic reemphasize the need to innovate BM and rethink innovation opportunities. Digitization, which is happening across the value chain, is accelerating now due to the pandemic's impact. The process of digitization is changing the configuration of the value chain as well as companies' BM when entering and operating on various markets. Customer-centric BM and pragmatic orientation on changing customer needs becomes a cornerstone of BM innovation directions at most companies. While the value of many businesses has been severely hit by the novel crisis (especially those representing the so-called BEACH sector – booking, entertainment, airlines, cruises, and hotels[1] [*Neufeld,* 2020]), we are currently observing a sharp increase in stock prices of companies that are in the center of fighting with the consequences of the pandemic (especially IT companies). Tech companies rule value, with Microsoft, Apple, Amazon, Alphabet, Facebook, and Alibaba being among the top 10 companies in the world by market capitalization[2], which means that technology plays a very important role in the commercial success of many companies around the world. At the same time, the rapid adoption of technologies should be accompanied by effective managerial actions to stimulate competitive and sustainable BM innovation.

An industry, where the transformation of value due to BM innovation coupled with technological advancements is especially important, is the pharmaceutical sector. The value chain in this industry becomes more complex with the increasing impact of digitization, which creates the need to reevaluate managerial technologies used to create successful BMs. With increasing costs of promotion, increasing competition, and customers becoming more and more knowledgeable and demanding, there is a strong need to transform the value that is delivered by pharmaceutical manufacturers to the key actors in their business network, such as doctors, pharmacies, healthcare institutions, wholesalers, government, and, of course, end consumers. While pharmaceutical sales representatives' detailing was a key information source for both doctors and pharmacies in the past, currently they lose their position to internet, where key customers of pharmaceutical companies search for the needed information about drugs and therapeutic practices. At the same time, the access to doctors' offices becomes more restricted, due to strengthening government regulations and also due to the limited time that a doctor can dedicate to each patient.[3] Sales force still accounts for the biggest expense in pharmaceutical companies' advertising and promotion budget, while margins are significantly reduced. Due to these changes many companies have started actively investing in digital promotion activities that are less costly and in many cases better perceived by their customers. Due to the novel coronavirus pandemic, remote promotion and remote communication with customers becomes a key building block in the strategies of the majority of pharmaceutical businesses. Companies focus on helping doctors and patients deal with the current situation and get their therapies and treatments with minimum supply disruptions.

In the current paper, we review the innovation strategies along the value chain on the corporate level using the example of a company within the pharmaceutical industry through the prism of BM innovation. As suggested by multiple research studies [*Keen, Qureshi,* 2006; *Teece,* 2010], BM and strategy research are very much interconnected. For a long time, strategy served as an overarching term that links internal company resources with its external environment and helps to define and reach its objectives. The research suggests that BM defines the principles, which are used to build the company strategy, especially considering the boundaries of a BM, which go beyond the boundaries of a single company and include other actors, such as suppliers, distribution channels, and end consumers [*Klimanov, Tretyak,* 2014]. Thus, BM describes what value is created for the customer, how it is created, and how companies generate profits from this process. For this purpose, this paper develops a framework to study BM innovation processes and outcomes, based on existing research in this area. The proposed BM innovation framework is applied to improve a pharmaceutical company's BM using the examples of markets around the world that present different value creation systems, such as Russia, Thailand, Ukraine, Chile, Israel, and Mexico. The countries were selected following the geographical and organizational structure of a studied company as well as due to the fact that they have remarkable differences in terms of the market structure and key actors and help demonstrate how a company can harness managerial technologies to create value on different markets. This paper classifies BM on these markets into several archetypes, which are then aligned with specific value transformation mechanisms that are used to drive BM innovation and to create value on the pharmaceutical market. This paper also explores how the company reacts to existing challenges to better understand how to create managerial technologies that can be used to harness the advantages of increasing digitization.

Developing a Framework for BM Innovation

Most of the existing research on BM highlights value creation, value delivery to the customer, and value capture as key ele-

[1] https://www.visualcapitalist.com/covid-19-downturn-beach-stocks/, accessed 17.06.2021.

[2] https://ycharts.com/, accessed 08.07.2021.

[3] https://www.policymed.com/2014/07/sales-rep-access-to-doctors-at-all-time-low-accessible-prescribers-down-from-77-in-2008-to-51-in-201.html, accessed 17.06.2021.

ments of BM understanding [*Chesbrough, Rosenbloom,* 2002; *Teece,* 2010; *Yang et al.,* 2017; *Leischnig et al.,* 2017]. At the same time, many authors agree that a BM is not centered on a single firm and includes other actors of a value chain, such as suppliers, distribution channels, government authorities, and also end consumers, who basically define the commercial success of a BM [*Nenonen, Storbacka,* 2010; *Palo, Tahtinen,* 2013; *Velu,* 2016]. A firm's actions cannot be seen in isolation on a market and the action of one actor can directly affect the actions of others [*Hynes, Elwell,* 2016]. It is argued that network BM is a powerful tool for innovation, exploring access to competencies via partnerships with other firms [*Lindgren et al.,* 2010; *Klimanov, Tretyak,* 2014]. To further develop this direction of research we will build our framework based on a synthesized definition of a BM that consolidates the views of the most well-known scholars studying BM [*Klimanov, Tretyak,* 2019]: *BM represents a scheme of value chain actors' interaction that is performed to create and deliver value to the customer and also to capture profits from these joint activities*. This understanding of BM also leads to a different understanding of innovations within the BM.

There is a number of research perspectives that contribute to the theoretical foundations of BM innovation. The roots of BM innovation studies lie in economics theory [*Teece,* 2010], focused on transaction cost economics, and Shumpeterian innovation [*Amit, Zott,* 2012], which then evolved into different focus areas of management studies, such as innovation management [*Chesbrough, Rosenbloom,* 2002; *Chesbrough,* 2007; *Foss, Saebi,* 2016], business strategy and strategic entrepreneurship [*Schneider, Spieth,* 2013], organizational networks theory [*Palo, Tahtinen,* 2013; *Hynes, Elwell,* 2016], resource-based view [*Velu,* 2016], dynamic capabilities [*Schneider, Spieth,* 2013], sustainability innovation, stakeholder theory, product-service systems [*Evans et al.,* 2017], and others.

While BMs have interconnections with many disciplines, some of the most obvious and holistic similarities can be found in marketing studies, and we will focus further specifically on marketing aspects of BM innovation. In general, marketing plays a crucial role in the contemporary understanding of BM as the essence of BM is strongly aligned with many key principles of this discipline [*Leischnig et al.,* 2017; *Robertson,* 2017; *Ehret et al.,* 2013; *Gatignon et al.,* 2017]. The key connections between marketing and BM research are described in [*Klimanov, Tretyak,* 2019]: value-related activities and themes (such as value proposition, value capturing/appropriation, value offering/delivery, value drivers, value creation, and value communication), value chains and networks, and other core marketing activities focused on the customer (such as customer segmentation, customer relationships, pricing and branding, and others). Therefore, marketing innovation can be studied as an essential area of BM innovation by analyzing how new approaches to promotion can affect the value creation process as well as commercial success of a BM. In the current paper, we demonstrate how marketing innovation coupled with technological advancements is developed and executed using managerial capabilities to transform and innovate the pharmaceutical company's BM on different markets in order to fit the needs of the key pharmaceutical market actors.

Based on the lessons from the literature on BM innovation, and also capitalizing on innovation management and stakeholder theory, we developed a framework to model and demonstrate the structure and process of BM innovation (Figure 1). This framework is further used to illustrate the BM transformation case study. The basis of the framework is formed by the modification of the value chain and innovations within it, which defines the BM innovation opportunities. BM innovations are reviewed in the context of a company strategy, which in turn depends not only upon the company itself, but on the whole value chain that it develops.

This framework conceptualizes a BM as a network of actors jointly creating and delivering value to the end consumer and it acknowledges the assumptions highlighted by many previous studies. There are three key dimensions: BM elements/layers, BM innovation aspects, and BM innovation logic. The assumptions of the framework are aligned with several previous concepts decomposing BM into stages linking the innovation process and innovation outcomes [*Foss, Saebi,* 2016; Schneider, Spieth, 2013], but with a broader perspective on how the innovation process can be linked with the network nature of a BM and how it can be further applied in business practice. The framework builds on the conceptual BM presented earlier in [*Klimanov, Tretyak,* 2014].

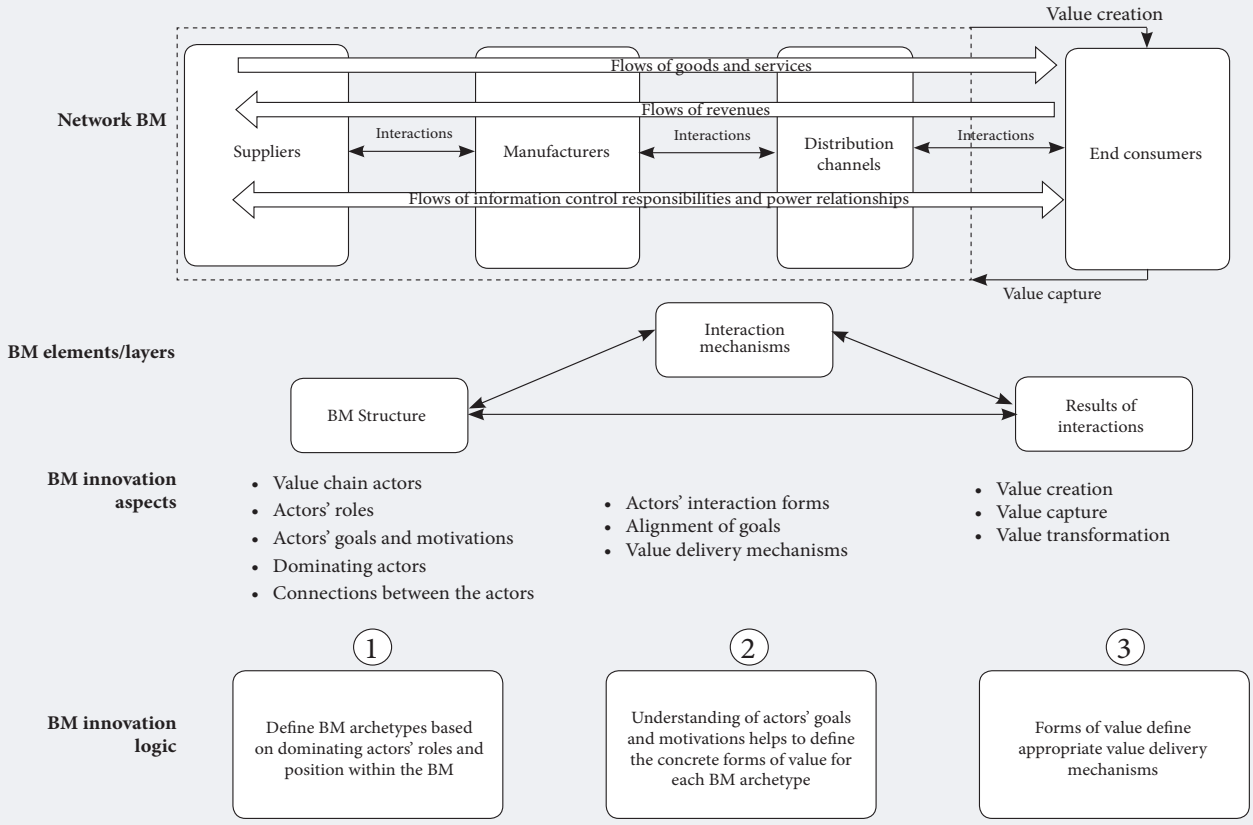
The three elements of BM include the actual structure of the BM, interaction mechanisms applied by BM actors, and the results of their interactions reflected in delivering value to the end consumers and also capturing a portion of that value as profits. The framework highlights the key flows between the actors, such as the flow of goods and services, the flow of revenues, and also flows of information, control, responsibilities, and power relationships, defining the particular ways in which value is created within the BM. Actors are linked by interaction mechanisms that identify how well the objectives of them are aligned and where there are gaps that need to be bridged to increase the value created for the end consumer and also the value captured by other actors in the form of revenue. Each of the key elements of the framework is described and followed by a number of BM innovation aspects, which represent specific opportunities to innovate BM in order to increase the value created for each of the actors and also for the end consumers.

Innovation opportunities within the BM structure include inclusion or exclusion of specific BM actors, defining their roles and responsibilities in the value creation process, defining their goals and motivations, defining dominating actors that play a key role in value creation and distribution, and also managing and optimizing the links and connections between different actors.

Interaction mechanisms between BM actors can be transformed and innovated by looking into concrete interaction forms that the actors are using, aligning their goals and motivations to eliminate potential conflicts that impact the value creation process, and also by changing the value delivery mechanisms used by the actors.

Finally, the results of interaction between BM actors reflected in the value created by the BM can be innovated by analyzing the processes of value creation, value capture, and value

Figure 1. **The Framework of BM Innovation**



Source: authors.

transformation. Here it is important to understand how to align the value processes with the needs of BM actors, including end consumers, which will enable them to receive higher value at a lower cost.

Because of the complexity of the contemporary business environment, a single company can simultaneously have multiple BMs, where each is characterized by their specific features. Hence, BM innovation logic starts by classifying BMs and combining them into specific archetypes based on the concrete dominating actors within the network. These dominating actors actively shape the BM structure and operating mechanisms, driven by their goals and motivations. Therefore, the logic is followed by understanding the goals and motivations of dominating actors, which define concrete forms of value that need to be created and delivered for each BM archetype. Finally, forms of value define appropriate value delivery mechanisms of channels that need to be applied by BM actors.

We further apply this framework to BM innovation to develop specific BM innovation mechanisms using the case of an international company operating on the pharmaceutical market.

Methodology

This paper presents a case study focused on an international company operating on the pharmaceutical market. The findings are based on internal company information and the application of a participatory observation method as well as on the recent research of companies focused on studying the pharmaceutical market (such as IQVIA, Synovate Comcon, Accenture, and PriceWaterhouseCoopers).

For the purpose of studying pharmaceutical BM innovation, we selected a number of markets, which represent different types of healthcare systems with different driving forces: Russia, Thailand, Ukraine, Chile, Israel, and Mexico. These countries are not only situated in very different parts of the world, but also differ by the interaction mechanisms between key BM actors (physicians, pharmacies, patients, and state healthcare authorities) establishing different types of relationships and value creation processes. Below we provide some key characteristics of these markets so that the differences can be better understood (Table 1):

Based on the data presented in Table 1, we can observe some key differences between the markets, which illustrate why these markets were selected for the study. Firstly, a difference comes from market structures in terms of public and private financing. Public financing implies that the market is financed by government healthcare institutions, while private means that it is driven by either end consumers or private institutions. Hence, on public markets, the dominating force driving market development are state healthcare authorities, while on private markets these are different actors, primarily end consumers or patients, who finance the market. Secondly, a difference arises from the market split in terms of the types of the products: Rx (prescription-driven products) and OTC (over-the-counter or non-prescription-driven products). On

Table 1. **Key Market Characteristics**

Characteristic/Market	Ukraine	Russia	Israel	Mexico	Chile	Thailand
Market size (bln USD)	3.4	17.9	2.12	10.4	2.6	5.6
Public/Private	13/87	34/66	91/9	19/81	38/62	75/25
Rx/OTC	61/39	48/52	93/7	80/20	80/20	80/20
Dominating actors	Pharmacies, patients	Pharmacies, patients	Physicians, state	Physicians, patients	Physicians, patients	Physicians, state

Source: authors.

Rx markets, a key role is played by the physicians, who primarily decide on therapies, which are prescribed to the patients. On OTC markets, the key players are pharmacies, who drive patients' purchase decisions as they can recommend non-prescription products. Finally, while situated in very different parts of the world, these markets are also very different in terms of their size, presenting different opportunities for companies to innovate their BM.

IIt is also important to mention that as the study was done on the basis of a specific international pharmaceutical company, we did it on a regional remit, following the geographical and organizational structure of the company. The company is divided into three regions, which include North America, Europe, and International markets (which includes everything except North America and Europe). We decided to focus on the most diverse region, which is the International market, to enable a further generalization of the outcomes. From a practical standpoint, the study was intentionally designed to help these markets analyze and transform their business models. Africa was not considered as the company studied does not have noticeable business there. It is also critical to mention that the markets selected for the study demonstrate a remarkable development of digital marketing, which can provide a good understanding of how digital BMs are constructed and executed.

In order to obtain specific BM innovation insights and qualitative characteristics of innovative changes within the BM, the authors ran structured interviews with the studied company's representatives. The results of the interviews were then processed to crystallize the findings. In each of the countries a senior marketing manager of the international pharmaceutical company was interviewed, a total of six in-depth structured interviews were conducted, recorded, and coded for further analysis. The questions were structured around the following topics in line with the framework for BM innovation outlined earlier and explore the structure of the BM, interaction mechanisms between BM actors, and the results of these interactions:

- Trends in the country that shape the development of pharmaceutical companies
- Critical needs of the market that should be addressed by the pharmaceutical companies to be successful in the long term
- Strategic gaps that a company has and ways to bridge them
- Key actors on the market and their priorities and needs
- Promotion channels used to market products to different types of actors and their development trends

The results of the interviews helped to define cross-country BM trends described further. These trends contribute to a better understanding of the forces driving BM transformation on different markets. The interviews also helped to identify the key combinations of BM actors, who drive the value creation process on each market. This helped to classify and visualize certain BM archetypes used further for assigning particular BM transformation mechanisms.

The questionnaire used for the interviews is provided in Box 1. The details on each market responses are provided in Table 2.

In the next sections, we will demonstrate how the BM can be innovated in practice using the new framework for BM innovation. To do that, we will start by exploring the trends that

Box 1. **Questionnaire for Interviewing Senior Country Marketing Managers**

1. Please describe the key market trends and characteristics that shape the development of pharmaceutical companies in your country: therapeutic areas, government initiatives, buying processes, and key decision makers.
2. What are the key needs of the market that you think have to be addressed in order to succeed?
3. Please describe your business priorities and key business lines for the next three to five years.
4. Where are the strategic gaps you feel you have between what you think is needed and where you are today?
5. Please describe key groups of customers that you interact with currently and how you think this will change in the future and why.
6. For each group of key customers please define their key priorities and needs that are to be addressed.
7. For each group of customers describe the current promotion channels that are used and how this will change in the future and why.
8. Please describe the purpose and perceived value of each promotion channel for you and your customers.
9. Please identify key market trends that will shape the transformation of promotion channels in your country.

Source: authors.

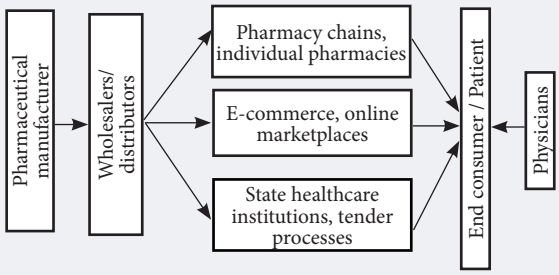
Table 2. **Key Outputs from the Interviews of Marketing Managers on Each Market**

Interviewees	Key outputs from the interviews
	Russia
Trade marketing director Cardiology franchise director	• Pharmacy chains gain more power due to consolidation • E-commerce market is growing • Marketing budget of the company is not competitive • The company does not have a tailored approach to each pharmacy, activities are not customized, which creates a gap vs competition • Need to increase awareness about the company products among customers • Already do telemarketing on a large scale (10,000 pharmacies covered) • Key drivers of purchases in pharmacies are quality, availability, and assortment • Consumers become more demanding driven by experience on other markets • Consumers compare prices on the internet instead of visiting pharmacies physically • Many physicians have begun working remotely and providing telemedicine services • The company needs to find other, non-traditional ways of differentiation • There is a need to establish loyalty programs for patients • The influence of patients and pharmacies increases in decision making, wholesalers also become more powerful
	Chile
Senior director of marketing	• Three pharmacy chains occupy 90% of the market and are very powerful • It is critical to have presence in many target areas to be highly positioned on the market • Physicians' role and power is being transferred to pharmacy chains over time • Patients look for quality and compare prices • Time constraints for physicians limit face-to-face interactions • Limited opportunities for physicians to attend meetings • Digital marketing is positively perceived, especially by young physicians • It is critical to increase brand awareness among pharmacists • The e-market is small, but very attractive, however, face-to-face is still the most popular communication channel
	Israel
Sales and marketing director	• For prescription drugs physicians are the key decision makers, and face-to-face is the most popular channel • In the future, face-to-face communication will be a challenge, and already digital marketing is very broad: telephone calls, webinars, and video calls. Critical to have an integrated multi-channel approach. • Israel is a highly digital market: 70% of physicians use smartphones for professional reasons • Patients' role becomes the key not only in the non-prescription (OTC), but also in the prescription (Rx) segment • Pharmacy chains increase their power • Competition between pharmacies will increase due to new healthcare regulations • E-commerce grows and creates price pressure for manufacturers • Pharmacies are interested in better pricing and commercial cooperation, as well as in improving the professional skills of staff. • Patients become more active in their decisions, empowered by online tools • Companies need to be faster and more responsive to customer needs, more personalized content is needed
	Mexico
Senior sales director	• Government saves money and lowers the costs • Mexico is a brand-driven market, there is need to support strong brand equity in retail • Upper- and middle-class pharmacies are the key focus • Physicians are the key decision makers for prescription drugs • Pharmacies also generate prescriptions, which helps the government to release capacity • Need to be on parity or outpace competitors' presence • Face-to-face is still very popular and there are no big risks of losing it in the future
	Ukraine
Business unit director Commercial excellence director	• Broad product portfolio and available marketing budget are key to success • Pricing and distribution should be competitive to succeed • Companies use new channels of communication more frequently • Branded generics promotion is a priority for the Ukrainian market, which are perceived as affordable products with added value • Pharmacists increase their power due to the ability to provide product substitution to the patient • E-prescription starts to be developed in a reimbursement channel and will be INN-based (International Nonproprietary Names) • The e-commerce market segment is small, slowed down by existing legal limitations • Low penetration of smartphone use for doctors limits opportunities for digital channels • Direct mail communication channel is very promising for the customers
	Thailand
General manager	• The market consists of hospitals, private clinics, and pharmacies • Clinics are visited mostly in urban areas and the overall coverage is not high • Pharmacies are mostly individual businesses and chains represent a small proportion of revenue, but they are growing • There is a growing need for digital promotion expansion, supported by the growing number of smartphones per capita • A more efficient ordering process for the hospitals is required • More value should be generated for physicians who have less time for face-to-face interactions and whose share is growing • The business in Thailand is mostly driven by rebates and personal relationships

Source: authors.

shape BM transformation. Then we will focus on defining market archetypes characterized by different dominating actors that shape the "rules of the game" on each market – physicians, pharmacies, patients, and state healthcare authorities – which show the different configurations of the value chain that need to be addressed. Finally, we will classify BM innovation levers demonstrating different interaction mechanisms between the BM actors, focused on increasing the value for key BM actors via applying innovative marketing tools. These tools will be aligned with the market archetypes to define the opportunities that can be used by various markets to innovate their BM depending on the archetype it belongs to, by bridging together technological innovations and managerial technologies used to implement them in practice.

Figure 2. **Key Pharmaceutical BM Actors**



Source: authors.

Understanding Pharmaceutical BMs

Before studying the trends for technological development, marketing, and the specifics of pharmaceutical BM innovation, it is critical to understand how this BM looks, who are the key players there, and what roles they fulfill (Figure 2). The arrows demonstrate the directions of commodity movement between the actors.

Between the pharmaceutical manufacturer and the end consumer there is a set of critical market players that influence which product will finally be purchased by the patient. The level of each actor's importance significantly depends upon the market and product specifics, however, in general we can highlight the following key BM actors: physicians, pharmacies, state healthcare authorities, and end consumers (patients). Below we will characterize each of them in more detail.

Physicians – these BM actors play a key role on the markets, where the majority of the products is sold with a physician's prescription. Physicians recommend a specific product to patients, based on his or her needs, which the patient in turn purchases at the pharmacy. Physicians' influence is stronger on those markets, where pharmacies do not have the ability to substitute the product for the patient (as pharmacies can substitute in the case that, for example, the prescriptions are made using the molecule name and not the brand name).

Distribution channels include wholesalers, pharmacies, and online marketplaces. While each of them plays an important role, we will focus here specifically on pharmacies, as they connect directly with the end consumers and capture the majority of the sales on the market as e-commerce and online marketplaces still represent a small share of sales even considering the impact of COVID-19. Pharmacies play an important role especially on the markets with a large share of non-prescription (OTC) products, where products can be purchased without a prescription, or if the prescription can be refilled without a physician's participation. Also, pharmacies' influence is high if they have the ability to substitute products prescribed initially by physicians.

The state healthcare system plays a crucial role on the markets where a large share is state financed. On those markets, usually the key customers are the state healthcare institutions and the purchases are done using a tender process, when a certain number of manufacturers compete for supplying a higher quality product with a lower price.

End consumers (patients) play a key role on the markets that are financed out-of-pocket, using the end consumer sources (retail markets), and also on the markets with a large share of non-prescription products, where the patient can personally make decisions on the products he or she would like to purchase.

Global Trends that Shape the BM Transformation

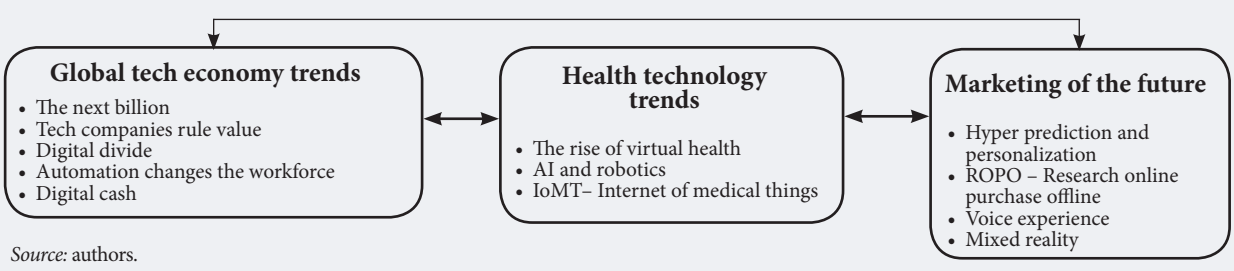
Given the nature of changes that happen in the contemporary world, we should first understand the key drivers forcing the companies to transform their BM. The effect of the COVID-19 pandemic has dramatically accelerated the technological transformation of the economy. This in turn forced companies to innovate their BM and implement new managerial technologies. Our analysis demonstrates that these drivers, or trends, can be divided into three major categories (Figure 3):

First trends to focus on will be the global digital trends that will shape the economy and drive its transformation:

1. The next billion consumers who come online will mostly come from emerging market countries [*Arora,* 2019]. They will access the Internet using their mobile devices, which will dramatically change the way they do business and commerce and how they consume content.

2. Technology companies now rule value across the globe [*Chakravorti et al.,* 2017]. Apple, Alphabet, Microsoft, Amazon, Facebook, and Alibaba are the most valuable companies in the world today. The importance of tech companies became even more significant in 2020 with the significant

Figure 3. **Trends in the Economy, Technology, and Marketing that Drive BM Transformation**



Source: authors.

shift in customer habits. For example, Accenture highlights that more than 50% of consumers are uncomfortable visiting public places, at the same time they use and expect to continue using home delivery, in-app ordering, and virtual consultation [*Standish, Bossi,* 2020]. Some of the technological companies that will benefit from significantly increased demand for their services show triple digit growth in stock price, according to Nasdaq[4], such as Zoom (+528%), Docusign (+188%), Square (+221%), and Twilio (+192%).

3. Digital divide, which primarily means that markets are uneven in terms of digital development [*Kemp,* 2019]. Almost 50% of the world is still not online, which creates a lot of potential, but also provides a big gap that businesses need to bridge in order to provide everyone with the same opportunity to enjoy online commerce and content. This trend is also reinforced by the research from Tufts University [*Chakravorti, Chaturvedi,* 2018], which demonstrates how different countries can be classified on the basis of a so-called digital evolution index. This index groups 60 countries into four categories based on their digital advancement (reflected in the level of e-commerce development, quality of digital infrastructure and regulation) and the rate of growth since 2008.

4. Automation that changes the workforce. There are around one billion jobs around the world that can be replaced by automation and that can save about 15 trillion USD in wages. Within that time more roles and functions will be automated, which will dramatically change the business landscape over the next few years [*Chakravorti, Chaturvedi,* 2018; *Chakravorti et al.,* 2017].

5. The growing use of digital cash. At the same time, most of the world still works with traditional cash as a main source of payment, which should be contended with in order to bring e-commerce to a much broader level especially on emerging markets [*Chakravorti, Chaturvedi*, 2018; *Chakravorti et al.,* 2017].

The next group of trends relate to healthcare technology, which will significantly affect all the key actors in the pharmaceutical business – consumers, physicians, pharmacies, and the government. They are extensively described in a recent report prepared by the Deloitte Center for Health Solutions called "Medtech and internet of medical things: how connected medical devices are transforming healthcare" [*Ronte et al.,* 2018]:

1. The rise of a virtual health. Virtual health relates to health services that are provided through non-personal ways of contact, such as video, phone, or health applications. These new ways of interaction will change market models for healthcare – e.g., how patients pay for healthcare, and how much availability doctors have. A recent IPSOS study demonstrates that telemedicine use was increasing sharply in 2020 and the shift has happened quickly – 80% of physicians are already using telemedicine [*King et al.,* 2020].

2. Artificial intelligence (AI) and robotics. AI and big data analytics are already changing the way healthcare systems do diagnostics. While robotics is gradually making some jobs redundant, new jobs also evolve that require a combination of and interaction between employee skill sets and transferrable skills.

3. Internet of medical things (IoMT) is defined as a connected infrastructure of medical devices, software applications, and health systems and services. This trend significantly impacts the transformation of relationships within the healthcare system and the value that is brought to various actors. This happens primarily because establishing connectivity between medical devices and systems helps clinicians streamline their work processes, which enables one to provide better care for patients.

A lot of changes in healthcare technology are also triggered by the recent impact of the COVID-19 crisis. Recent IQVIA research demonstrates that the needs of the key pharmaceutical BM actors are dramatically changing. Examples include: longer prescriptions in retail pharmacies, in terms of the number of days of prescription medication that are available at once so renewals need to be more infrequent; treatments for chronic illness could see declines in treatment initiation and switch because these require a healthcare professional's intervention; stocking up effects are possible, where patients are on chronic medications for long term conditions, such as diabetes or cardiovascular patients anticipating isolation or are reluctant to visit healthcare facilities [*Rickwood,* 2020].

The final group of trends describes the ways and means of marketing transformations. The recent research by Deloitte states that every fourth pharmaceutical company reports having implemented a digitally driven strategy or being in the process of doing so.[5] Another 46% are in the process of developing such a strategy. This highlights the growing attention toward finding the new, complementary marketing channels that can be used by companies to improve their interaction with customers and also make it more cost effective. In particular, these trends include:

1. Hyper prediction and personalization. The data that companies collect on their customers, mostly in a digital way, will impact the way they bring content and value propositions. This can be done in much more precise and personalized way, as personalization allows a firm to know the customers much better and to understand what they expect from the companies at each stage of their interaction [*Rust,* 2020]. Recent studies demonstrate that considering the changing customer landscape and needs, this is a good opportunity to revisit customer segmentation to better meet changing demand [*Cowan,* 2020]. This includes understanding if the existing customer segments are still valid, if products and services fulfill the 'jobs to be done' by your consumers, and if the positioning and messaging still resonate with the consumers.

2. Research Online Purchase Offline (ROPO). This trend describes the pattern when consumers buy offline after conducting thorough online research[6]. This affects the way companies manage their data and content online so that their patients, physicians, and other key groups of customers can find the necessary information.

3. Voice experience. Today most of the users' experience with computers and digital modes is triggered by writing informa-

[4] https://www.nasdaq.com/market-activity/stocks/, accessed 14.06.2021.

tion, but gradually it has changed into voice commands. The way people speak and write is very different, which will affect the way research is done online and the content that is provided back to the users in response to their requests[7] [*Roy,* 2019].

4. Mixed reality. It can be decomposed into virtual and augmented realities [*Flavian et al.,* 2019]. Virtual reality describes an experience when a person fully disconnects from the real world and immerses him- or herself in a virtual world, where one can interact with virtual objects. And in case of augmented reality, a digital layer appears above what is seen in the real world, augmenting the real experience of a person.

Cross Country Trends and Market Archetypes

As was demonstrated above, the global trends in technology and marketing are critical to understand in order to shape commercially successful BMs in an optimal way. However, as a BM primarily deals with the creation of value through the interaction of different market actors, it becomes specifically relevant to study and understand also the specific features of the healthcare system and the pharmaceutical market's characteristics, which define the interaction principles for various actors and influence the value creation process. These would definitely vary across markets, as countries represent different development levels of the healthcare system and varying roles of actors as well as their relative power and influence.

Five cross-country market trends were highlighted as a result of a complex study of the changes happening in the value chain, including interviews with senior marketing executives. It is critical to understand that digitization concerns all the actors of the value chain as well as the BM innovation process. Along with that, it is critical to explore how this digitization process can be effectively implemented in practice using managerial technologies and considering the specifics of the companies, which will implement the changes.

Development of an e-commerce market. While the e-commerce market can still be very small (e.g. in Russia it occupies only 2% share of the total pharmaceutical market, according to IPSOS [Feldman, 2018]), it grows rapidly and its growth is also facilitated by growth in other sectors of the economy, i.e., when consumers increase the share of their wallet spent online, it is usually increased across most of the goods that they typically consume. The implications of this trend are definitely significant for market players and this compels pharmaceutical companies to reassess different elements of the BM along the value chain. In addition, e-commerce market development shifts the power from traditional pharmaceutical retail to e-pharmacies and electronic marketplaces, forcing incumbent players to adapt to the new reality (primarily wholesalers and large pharmacy chains). This shift was especially active in 2020, when the share of e-commerce significantly increased due to various restrictions, changing ways of life, and limited mobility of the population – for example, in Russia the sales of online pharmacies are expected to triple in 2020 vs 2019 [*Rockwood,* 2020].

Increasing digitization of consumers. This trend is expressed in many ways in a number of countries, e.g., Chile is among the top countries in Latin America in terms of smartphone penetration.[8] In Russia, according to recent IPSOS research [*Feldman,* 2018], the key information source for the pharmacist is the Internet, and face-to-face meetings with pharmaceutical sales representatives are only in second place. In Israel 70% of the physicians regularly use smartphones for professional reasons.

Increase of the patient's role in the decision-making process. Consumers gradually become more demanding driven by their experience outside the pharmaceutical market. When patients are looking for the optimal treatment solution, it is easier for many of them to search for the drugs and compare prices on the Internet than physically visiting several pharmacies, which is also facilitated by the development of delivery services. Digital means provide easier and more transparent access to the information, which increases competition between various market players and forces them to better address customer needs. Recent research from EY also demonstrates that patients become "super consumers" as they make decisions based on a holistic assessment of the alternatives coupled with reduced purchasing power[9] [EY, 2021].

Consolidation of pharmacies and the increasing role of pharmacy chains. The importance of a pharmacy as an actor is hard to underestimate on many markets. Pharmacy chains increase their power when they grow their share on the market vs individual pharmacies. A pharmacy chain is a group of pharmacies consolidated under a single owner, which makes them work through buying decisions centrally. For example, in Russia, the value share of pharmacy chains is already more than 80%. In Chile, the top three pharmacy chains occupy 90% of the market [*Rickwood,* 2020]. Also on the markets, where pharmacists have significant drug substitution ability, pharmacies also play a key role as they in most cases influence which drug a patient will actually buy. These factors form a need for developing new tools and ways of increasing value created for pharmacies by pharmaceutical companies.

Decreasing access to physicians by pharmaceutical companies. This factor creates pressure for pharmaceutical companies on many markets, as it limits interaction opportunities between doctors and pharmaceutical companies, which are still the key element in the promotion process of drugs. This forms a need to develop new and effective methods for interactions between manufacturers and physicians that respond to existing challenges. This trend became especially visible in 2020, when due to the COVID-19 pandemic personal interactions of all types were minimized unless absolutely necessary. Recent studies demonstrate, however, that physicians' need for information and support remains, and data shows an in-

[5] https://www2.deloitte.com/ru/en/pages/life-sciences-and-healthcare/articles/russian-pharmaceutical-market-trends.html, accessed 17.06.2021.

[6] https://www.thinkwithgoogle.com/marketing-resources/online-research-driving-offline-purchase-for-gortz/, accessed 17.06.2021.

[7] https://brandequity.economictimes.indiatimes.com/news/marketing/marketing-in-2025-five-key-trends-that-will-drive-the-future/72208376, accessed 17.06.2021.

[8] https://newzoo.com/insights/rankings/top-countries-by-smartphone-penetration-and-users/, accessed 17.06.2021.

[9] https://www.ey.com/en_kz/digital/how-health-care-companies-can-capture-value-in-the-future, accessed 17.06.2021.

Table 3. **Four Market and BM Archetypes**

Main Actors	Description
Archetype 1. Physicians, Patients	• Mainly OOP markets where physician plays the key role in purchase decisions • Products are prescribed using brand name and not INN • Limited ability of a pharmacist to substitute • Countries with dispensing physicians, who supply patients directly with medications letting them bypass pharmacies
Archetype 2. Pharmacies, Patients	• Purchase decisions are highly influenced by the recommendation of pharmacist, and the key financing source is OOP of the patient • Large share of the market is represented by OTC products • High level of self-medication • Prescriptions can be done by INN and not brand name • Significant substitution ability of a pharmacist • Many prescription products are actually sold without the prescription / renewed without physician involvement
Archetype 3. Physicians, State healthcare authorities	• Predominantly state-financed markets where physician plays the key role in purchase decisions • Markets dominated by state / hospital / reimbursement channel • Markets where the majority of the products are purchased through state and institution regulated tender process (products are selected based on prise level and supply reliability) • Doctors prescribe products included into the hospital›s formulary, and also influence formulary decisions
Archetype 4. Pharmacies, State healthcare authorities	Mainly state-financed markets with full substitution between generics, where decision on the product is made by pharmacist

Source: authors.

crease in remote interactions. The question now, of course, is which type of remote engagement is appropriate and when [*Rickwood,* 2020].

Based on the research presented above as well as considering the modifications of the value chain for the international pharmaceutical company studied in this paper and operating on different markets, we crystallized specific BM archetypes. The archetypes will be used to group managerial strategies for BM innovation. The archetypes are based on combinations of key actors who drive the value creation process. It is critical to mention that within a single market there could be multiple BMs at the same time, based on the product specifics, promotion model, and structure of the value chain. Here with examples below we highlight the most common attributes that we found on the basis of respondents' answers (Table 3)/

The first archetype includes the markets dominated by **physicians and end consumers (patients)** (Mexico, Chile). The key financing source for this archetype is mainly patient's own money while government financing does not play a key role here. On these markets, the physician usually plays a key role in defining which drug patients will buy at the pharmacy. Accordingly, these markets are usually dominated by prescription (Rx) drugs, which means that in order to purchase a drug, a patient should first obtain the prescription from the physician. On these markets, products are usually prescribed using the brand name and not INN (international non-patented name), which creates limits opportunities to substitute the drug at the pharmacy when patient comes to buy.

The second archetype describes the markets dominated by **pharmacies and patients** (Russia, Ukraine). These are typically the markets with a large share of non-prescription (OTC) products, which significantly reduces the role of the physician. Also, on these markets we can observe a high level of self-medication where patients make treatment decisions on their own bypassing the physician's office. If the patients do go to the physician's office, the products are typically prescribed by INN and not by brand name, which provides the pharmacist with the opportunity to choose within INN. We also can attribute to this archetype those markets where prescription drugs are actually sold without prescriptions or where the prescriptions can be renewed without a physician's involvement.

The third archetype represents markets dominated by **physicians and state healthcare authorities** (Israel, Thailand). These markets are typically dominated by a state/hospital or reimbursement channel. All these types of channels require a financing source to come from state resources. Because of that, on markets of this type there is a significant share of state tender business regulated through state and state healthcare institutional processes, when the government purchases large amounts of pharmaceuticals based mainly on price and supply reliability so that the manufacturer offering the lowest price and good supply conditions can win the tender. On these markets, physicians' prescriptions are usually guided by fixed lists of drugs (formularies) approved for use by healthcare institutions.

The final archetype are the markets dominated by **pharmacies and state healthcare authorities**. These are primarily state-financed markets with full substitution between generics, where the purchase decision is dominated by pharmacists.

Digital Promotion Levers and Value Transformation within the BM

By studying the existing top performing market practices discussed in detail in both professional and academic literature [*Ramgaswamy, van Bruggen,* 2005; *Kushwaha, Shankar,* 2013; *Sharma, Mehrotra,* 2006; *Mukherjee, McGinnis,* 2007] and also considering the results of interviews with marketing executives conducted within the current study, we have identified six digital promotion levers that can be implemented to drive changes within the BM focused on value generation. These levers are spread in varying degrees across the pharmaceutical market, while some of them are already extensively used and some are simply discussed and not very widespread across companies and markets. By value generation we first of all understand this term as the introduction of a new or improvement of existing promotion practices that allow for bringing meaningful contributions for how to best address

customer needs as well as how to improve the commercial success of different commercial BM actors.

Channel mix optimization. This lever describes using data and platforms to drive the right channel mix through smarter customer segmentation and journey creation, reducing the cost per engagement and maximizing the lifetime value of customers. The recent IQVIA study demonstrates that the disconnect between what healthcare professionals say they want in terms of channels and what they get is much more common than convergence [*Dabbs et al.,* 2018]. However, the selection of an appropriate promotion channel usually depends not only upon the customer preference, but also on the relationship between the cost of the channel and revenue that can be generated by implementing the channel. This means that the customers who have higher business potential (e.g., doctors with more patients) can be addressed by more expensive and personalized channels (e.g., in-person promotion), while low potential customers or customers that cannot be reached personally are approached by low-cost promotion channels, such as emailing or virtual detailing [*Grosch et al.,* 2014]. Also, the application of a specific channel will depend on the purpose. In this sense, face-to-face communication with customers is usually used in order to convey a complex message, launch a new product, or when high conviction is needed. On the other hand, e-mails are usually used for a different purpose, such as medical and brand updates or invitations to conferences. The transformation of value is driven by channel mix optimization in a number of ways. First, it extends customer reach and the frequency of interactions due to increasing the number of ways of how a customer can be approached by the company. Second, it helps to increase sales per customer engagement due to customizing the promotion process to meet individual customer needs. Third, it drives lower cost per engagement, as enriching personal communication with digital promotion tools, which are less costly, helps to decrease overall promotion expenses.

Virtual (remote) selling approaches. This is a promotion channel, which increasingly starts to be applied by many pharmaceutical companies in order to reach more customers, who cannot be reached in a regular face-to-face setting. Remote selling is done by using special tools and platforms usually integrated with company CRM systems and this approach allows both the customer and the company to have a close to personal interaction experience, while also offering several benefits over personal communication. Those benefits include more convenient scheduling of appointments because the meeting can happen at any convenient time for the customer and also outside of working hours, the discussion becomes more practical, the meeting can usually last longer than traditional personal meetings as it better fits the customer's schedule [*Dabbs et al.,* 2016]. At the same time, virtual communication with customers should not be considered a replacement for traditional ways of communication, but more as an additional channel. A BCG study demonstrates that digital methods are complementary to face-to-face and their impact is not limitless: physician participation rates in purely digital marketing campaigns average only 2% to 5% and also less than 15% of physicians agree to receive detailed phone calls from call centers [*Grosch et al.,* 2014]. The value transformation is affected by this lever in two major ways. Firstly, it is done by extending customer reach and frequency by complementing the existing promotion mix and enabling access to more customers. Secondly, it generally allows for lowering cost per engagement, as by applying good scheduling practices, this lever allows one to have more high-quality interactions with customers in comparison to in-person communication.

Digital consumer demand generation. This lever primarily deals with utilizing new forms of digital and social media to generate consumer awareness and demand for products or awareness of disease areas. The specific importance of digital consumer demand generation is visible on the markets where consumers play a key role and have strong decision-making powers – primarily these are the markets where the out-of-pocket segment occupies a large share and also the markets where a large share is occupied by OTC (non-prescription) products. There are many markets where physicians stated that their patients' involvement in the decision-making process has increased significantly. This is also driven by the increased exposure of consumers to information published on the Internet, which helps consumers compare treatment alternatives and make an informed choice. The value transformation is done through three key areas. Firstly, it is improved media spend efficiency, which is important especially for OTC products, where advertising and direct contact with consumers is usually a key promotion investment area. Secondly, this also triggers disease area market growth, as generating more knowledge about a disease among consumers drives their demand for medicines. Finally, this also stimulates improved adherence to the therapy among the consumers, which is very critical for business success.

Self-service and B2B e-commerce. This lever allows customers (primarily pharmacies or dispensing physicians, who sell medicines to the consumers) to self-serve business-to-business needs, by freeing time from sales and customer service teams and reducing costs. This lever also implies the development and utilization of a business-to-business e-commerce platform, that allows for cross and up-selling opportunities and the improvement of customer reach. The commercial actors of pharmaceutical BM are key targets for this lever, as they participate in the selling process and are interested in both increasing their profitability level as well as in simplifying ordering and selling processes. E-commerce platforms allow for achieving both goals by implementing flexible discount mechanisms and also by introducing user-friendly ordering systems that are convenient for customers.

Smart product recommendations. This lever deals with increasing the demand for profitable products by providing recommendations that fit customer needs via automated algorithms. These recommendations also take into account multiple factors, such as product availability, competitors' activities, and the profitability of products. The recommendations are produced by customized software that is developed to reflect the customer buying process and be compatible with systems and tools that are already used by the customer to make a purchase, including business and physical customers.

Table 4. **Digital Promotion Levers and Value Transformation Mechanisms**

Digital promotion lever name	Definition	Value transformation mechanism
Channel Mix Optimization	Using data and platforms to drive the right channel mix through smarter customer segmentation and journey creation, reducing the cost per engagement and maximizing the lifetime value of customers	• Extending customer reach and frequency • Increased sales per customer engagement • Lower cost per engagement • Increased profitability
Virtual (Remote) Selling Approaches	The execution of remote selling models to drive higher efficiencies and the productivity of sales force	• Extending customer reach or frequency • Lower cost per engagement
Digital Consumer Demand Generation	Utilizing new forms of digital and social media to generate consumer awareness and demand for products or awareness of disease areas	• Improved media spend efficiency • Disease area market growth • Adherence improvements
Self-Service and B2B eCommerce	Allowing customers to self-serve B2B needs, freeing time from sales and customer service teams (reducing cost to serve). Drive applicable business to e-commerce platform to allow for cross and up-selling opportunities and improvement of reach.	• Increased sales per customer • Extending customer reach and frequency • Lower cost per engagement
Smart Product Recommendations	Increasing the demand for profitable products by using automated product recommendations based on customer needs, product availability, competitive intelligence, and profitability of the product	• Increased sales per customer • Higher profitability
Automation to Drive Effectiveness	The use of decision support to drive next best actions and process automation for sales force and marketing in order to optimize sales and marketing costs	• Increased sales per customer

Source: authors.

Automation to drive effectiveness is related to automated systems and algorithms that are developed to drive the next best actions and the automation of processes for sales force and marketing to optimize costs and revenues. The automated algorithms leverage multiple types of customer data to increase sales and reduce promotion costs for different customers. This can be done in the form of optimizing content recommendations, for example.

We summarize each digital promotion lever's characteristics and value transformation features below (Table 4).

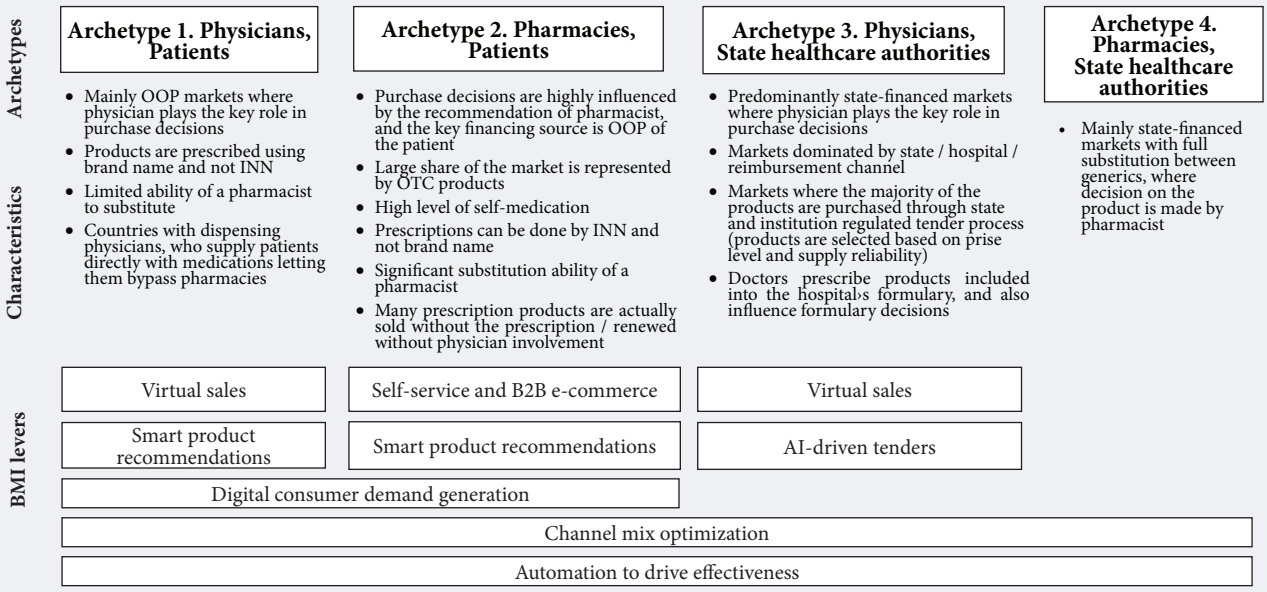
As a result of the definition of digital promotion levers and understanding the benefits and mechanisms of each of them, as well as considering the results of the literature review, participatory observation of the authors, and the analysis of the case study, we aligned them with market archetypes described earlier to demonstrate how different value creation mechanisms fit with different actors' needs (Figure 4). Following the framework for BM innovation described earlier, these digital promotion levers represent specific interaction mechanisms between BM actors that influence the results of interaction. The key objective is to develop a BM that will effectively create value along the value chain and will not fail through the collective interaction of its actors.

The physician- and patient-driven market archetype requires the levers that will primarily be able to impact the value generated for the physicians and for patients (end consumers), who act as two key driving forces of this market. These levers will enable key actors to obtain the required information to make decisions faster and in a more convenient way. Hence, the levers, which are uniquely fit for this type of market are virtual sales and smart product recommendations. Virtual sales are primarily targeting physicians, who are not targeted by traditional face-to-face promotion, or this approach can augment the existing interactions between pharmaceutical manufacturers and physicians by adding additional touchpoints for their interactions. By using the virtual sales approach, physicians can interact with manufacturers and receive necessary product and therapy information in the most convenient way, which does not distract them from daily work. Many physicians also mention that they see this format of interaction as more valuable than face-to-face and that it allows one to better concentrate on the topic at hand. Smart product recommendations are suitable for both patients and physicians whenever they are looking for the specific product or therapy that fits their needs. This lever helps consumers find appropriate solutions more rapidly and in a more effective way.

The pharmacy- and patient-driven market archetype is focused primarily on delivering value to pharmacies and end consumers, who act here as the key decision makers. The levers, which generate the value for these types of actors, include self-service and B2B e-commerce as well as smart product recommendations. B2B e-commerce is a critical value generating mechanism used with pharmacies, who want to optimize their buying process and make it easier and more automated and tailored to their needs based on past purchase history and the preferences of a specific pharmacy. This usually comes in the form of tailor-made solutions, which can also apply various discount schemes in order to increase sales volumes and pharmacy loyalty to company products.

The physician- and state healthcare authorit7-driven market archetype is guided by the state procurement processes and mechanisms and therefore value generating levers should be focused here on optimizing the tender process in order to supply the government and patients with high-quality therapies and optimal prices. Therefore, the lever differentiating this market archetype is AI-driven tenders, which are based on automated tendering algorithms, which optimize the price of a particular manufacturer over competitors' bids and allow manufacturers at the same time to maximize their profits. In many countries, the tender processes in healthcare are very

Figure 4. **The Alignment between Market Archetypes and Business Model Innovation Levers**



Source: authors.

frequent and are done on a significant scale, therefore manual bidding does not allow for maximizing profits and winning rates, while such processes also take too much time.

The channel mix optimization and automation to drive effectiveness business model transformation levers are suitable for each market archetype as they can be applied to satisfy the needs of any customer type, whether it is a pharmacy, physician, or the state healthcare authorities. Digital consumer demand generation is applicable for both physician- and pharmacy-driven out-of-pocket market archetypes, as they are primarily guided by the patient, who is a key decision maker in these market archetypes.

Conclusion

The current paper demonstrated how technological innovations should be applied in practice using managerial technologies and insights to drive BM innovation along the value chain. We focused on the case study of an international company operating in different geographies within the pharmaceutical market and on the innovation strategies at the corporate level. The BM adaptation to the specifics of different markets is forced by the differences in the value chain and key BM actors, who dominate the market and therefore significantly influence the value creation process.

It is critical to acknowledge that technological innovation comes to the next level given the rapid changes in the ways companies do business imposed by the COVID-19 pandemic. As it was demonstrated, companies have been forced to reassess the whole set of interactions with their customers driven by changing customer priorities and needs. In this sense, looking at the BM innovation process though the marketing perspective becomes especially important as it defines what should be the value delivered to the customers to meet needs and make the company commercially successful. Based on that, this paper demonstrated how to combine managerial technologies with the increasing digitalization of the BM and how to classify BM innovations based on market specifics.

The new framework for BM innovation presented in this paper understands BM broadly on an organizational network level, spanning the boundaries of a single firm and it allows for decomposing the BM innovation process by looking at key BM elements (BM structure, actors' interaction mechanisms, and the results of those interactions) as well as the BM innovation aspects linked to each element. It also outlines a BM innovation logic by archetyping BM based on dominating actors' characteristics, defining concrete forms of value for each archetype, and value delivery mechanisms.

The framework was applied to illustrate the BM innovation case study on the pharmaceutical market. Following the results of a literature review, the participatory observation of the authors within the studied company, and interviews with senior marketing executives, we demonstrated how the BM can be classified into archetypes based on different configurations of the value chain and dominating actors. The archetypes allowed the authors to group the managerial strategies for BM innovation that are required to further classify digital promotion levers and align them with different configurations of the BM to show how value can be created considering specific customer groups and their needs. The essence of BM innovation was demonstrated through the transformation of interaction mechanisms between BM actors reflected in crystalizing digital promotion levers and aligning them with each market archetype. This provides managerial insights on how to develop a BM that will effectively create value along the value chain and will not fail during the collective interaction of its actors.

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