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E-Detailing: Keyways for Successful Implementation of Digital Technologies in the Pharmaceutical Marketing

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Abstract

E-detailing describes the use of IT tools for promotional activities—delivering information for pharmaceutical products to customers (health professionals, medical personnel, and patients). It includes using electronic channels to interact with customers, as well as electronic support for sales reps in their everyday work. It is a strong and potential tool in the pharmaceutical marketing. This chapter describes the advantages and the challenges in the use of e-detailing.

Keywords: e-detailing, electronic visits, pharmaceutical marketing, pharmaceutical detailing, healthcare professionals, pharmaceutical sales representatives, digital marketing

1. Introduction

E-detailing (electronic visits, e-visits) is the generalized term to describe the use of digital technology for promotional activities for pharmaceutical products, mainly via the Internet. This approach is more commonly used in the United States but is slowly making its way into Europe.

2. Methods

A literature search was conducted in several databases (Google Scholar, Science Direct, and Scopus). A narrative review was undertaken from the published literature on original studies, and systematic reviews published from 2000 to 2019 were included to provide insights into the use of e-detailing. The search was limited to the English language. The data were revised and summarized into a full body review that describes e-detailing as a marketing tool and its implementation in the pharmaceutical industry.

3. Overview of the pharmaceutical industry

The pharmaceutical industry is one of the largest and dynamic economic sectors. IQVIA indicates that the global spending on medicines will grow to nearly \$1.5

trillion by 2023 at a 3–6% compound annual growth rate over the next 5 years—a notable slowdown from the 6.3% seen over the past 5 years. The patent cliff and the aggressive approaches of the generic companies determine a huge competition on the pharmaceutical market as generic usage in the unprotected market is expected to exceed the health ministry target of 80% a year early in 2020 [1].

Generally, the pharmaceutical industry is strictly regulated. Promotional activities are under strict legislation. These activities are burdened with ethical consideration and public attention. In the case of pharmaceutical products, the aim of promoting is to inform consumers and healthcare professionals about new treatments available via either direct-to-consumer (DTC) advertisement or in the form of outreach to healthcare professionals by sales representatives who provide to the former up-to-date and accurate information about new chemical entities [2].

The development of new medicinal products, their manufacturing, authorization, and subsequent use (post-marketing surveillance) are closely inspected and controlled. The basic requirements a medical product must meet are in terms of quality, effectiveness, and safety. While quality and effectiveness can be proven in the preclinical phase of development, before marketing authorization, safety data can also be collected after a product's release to market. Furthermore, the development of a new, innovative medicinal product can be an expensive and long process (between 10 and 15 years). There is a need for more investments in research and development (R&D), often accounting for over 20% of yearly revenues. Because of that, all new medicinal products are insured and covered by a patent which allows innovative companies to recover the funds used for R&D and invest into the development of new molecules. The so-called innovative products do not have an analog in the current market and are being developed by R&D companies. If a patent expires, any company has the opportunity to produce its own generic product. Significant specifications of the industry include taking into consideration patient rights and other ethical norms, for example, animal rights and environmental impact.

Generic products are sold at a considerably lower price, because companies do not have to invest additionally into development, research, and patents. The tendency to remove patents and the decrease in amounts of new medicinal products to reach the market create a very competitive environment at all levels of the pharmaceuticals market.

Increased competitiveness in the traditionally large markets (the United States, Europe, and Japan), as well as the pressure coming from generic producers, forces the big multinational pharmaceutical companies to intensively strengthen their efforts to penetrate and position themselves in the underdeveloped markets. This market expansion is mainly focused on the growing markets in Eastern Europe, the former Soviet Union countries, China, and Latin America. Another approach to address competition is through acquisition and/or merger of former competitor companies [1, 3].

Marketing efforts within the pharmaceutical industry differ depending on the relevant recipient; they are not aimed at the product (medicine) user—the patient—but at the medical professional prescribing therapy. The main marketing approach is using sales representatives who meet with medical professionals and present their products' advantages and discuss what types of patients can benefit from the specific medicine. Such meetings, often referred to as “visits,” are regulated and scheduled, so that individual sales reps visit multiple doctors per workday.

4. Pharmaceutical marketing

One characteristic of pharmaceutical marketing is that, in most cases, it is not directed to the end user of the product—the patients. Exceptions are

over-the-counter (OTC) products sold without a prescription. In these cases, marketing campaigns are “Direct to Consumer.” Pharmaceutical marketing is directed to medical professionals who prescribe medication and have to convince patients that it is the suitable treatment for them. Then patients purchase medication from pharmacies and are responsible for the adherence.

The main aspects of pharmaceutical marketing are the following: (a) stricter regulation of the industry than standard consumer markets where the level of regulation can only be compared to a handful of other sectors (e.g., airline companies), (b) the need for larger investments in R&D which often account for over 20% of the revenue, (c) protection of patients’ rights, and (d) a variety of ethical factors, as animal rights, environmental protection, and others. The main differences between the pharmaceutical and consumer markets are presented in **Table 1** [3].

The direct consumers of pharmaceutical marketing are health specialists. They seek out medical knowledge, administer databases with their patients’ medical history records, and to some extent abide by the “price-value” principle. Pharmaceutical companies, which promote products from different therapeutic areas, are usually in contact with numerous health specialists. One of the most important criteria when categorizing those customers is their professional rank, specialty, or professional title. An example for division of medical professionals is general practitioners (GPs), medical specialists (e.g., cardiologists, rheumatologists, endocrinologists), and academic lecturers (associate professors and professors). On the other hand, medical specialists can be divided into specialists involved in outpatient care (ambulatory) and in hospital (inpatient) care. This distinction determines the relevant patient group doctors work with and subsequently their potential for every company. A doctor’s professional rank is defined by a hierarchy, which can be observed on all markets (**Figure 1**) [3].

On the top are the “opinion leaders” (OL), usually university professors or chairpersons of medical associations. Those are the medical professionals who dictate the trends in a specific therapeutic area. They have earned peer respect due to their experience and extensive practice closely connected to using the newest medical products and treatment methods. In terms of influence, OL are followed by managers of clinics or heads of departments, who lead teams of multiple medical doctors. In some cases, the clinics’ managers can be the ones to choose the treatment of a specific condition available in their clinic or department. Medical specialists are the next hierarchical level. Their expertise and long-standing experience in their specialty make them valuable consultants in the specific therapeutic area. Next

	Pharmaceutical market	Consumer market
The consumer makes the decision	False	True
The consumer pays directly the product	False	True
Brand loyalty	High	Low
Ethical regulations	High	Low
Level of government regulation	High	Low
Manufacturer’s responsibility	High	Low
Degree of R&D complexity	High	Low
Human studies necessity	Yes	No
R&D price	High	Low

Table 1.
Comparison between the pharmaceutical and consumer markets [3].

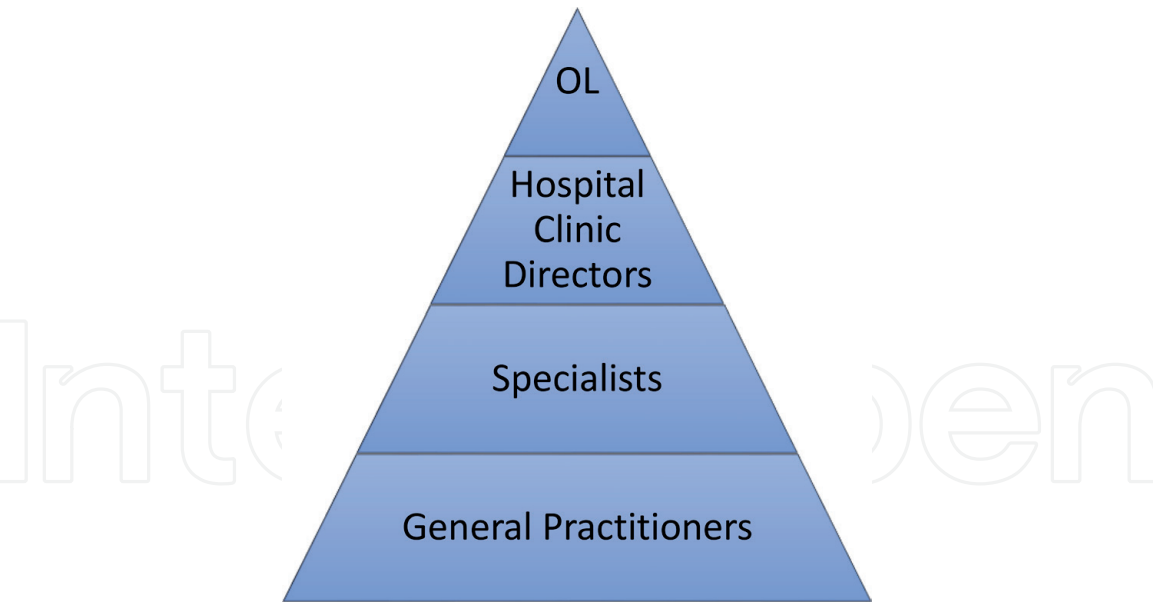


Figure 1.
Pyramid of influence of health specialists—Opinion leaders (OL) [3].

come general practitioners who are not specialized in a particular area and provide care to patients with various health conditions. Usually, they would refer more complicated patient cases to the respective medical specialist.

The pyramid of influence describes the flow of knowledge and influence from opinion leaders all the way to general practitioners (GP). The same flow must be followed by pharmaceutical marketers when introducing a new product to market. In other words, early approval from key industry opinion leaders can be used to cascade influence and share knowledge, aiming to show the advantages of new products down the pyramid. Opinion leaders are often introduced to new products early on during clinical testing processes, making this stage a major responsibility for medical marketing managers.

The decision to prescribe a specific product is a process which attracts the attention of marketers, psychologists, etc. Determining the steps that define decision-making in prescribing a medicine, as well as the factors influencing the decision-making process, can contribute to successful marketing efforts to promote pharmaceutical products to medical professionals. The decision-making process in prescribing medicines starts with choosing a medicinal product from a therapeutic area that is most suitable for the respective health condition, followed by selecting a specific commercial brand out of the whole range of available products in the same area. The steps of both processes are the following: (a) defining the problem, (b) informed search for a suitable treatment, (c) assessing existing alternatives, (d) actual decision-making to prescribe a product, and (e) assessing results from the chosen treatment [3].

5. Traditional (face-to-face) visits

The primary promotional channel for pharmaceutical companies to reach medical specialists is in the form of meetings between them and sales representatives, or “visits.” During such meetings, the sales representative discusses with doctors the advantages of their company’s products and aims to identify suitable patients whom the products can be prescribed to. This process is the biggest expense for pharmaceutical companies [4]. In the United States, the cost of visits accounts for somewhere between 45 and 70% of the marketing budget. In the period in between

2009 and 2010, American companies spent about 28 billion dollars for promoting medicines to doctors, some 15.3 billion having been allocated to visits. That makes up for over 54% of the overall promotional budget. In Europe the percentage is much higher, as direct marketing to patients is not allowed (except for OTC products); subsequently, this item does not even exist within the European companies' marketing budgets. In Europe's five largest markets (France, Germany, Italy, Spain, and the United Kingdom), the overall promotion expense in 2009–2010 exceeded 18.5 billion dollars, with 11.8 billion (or about 60%) in costs for visits of health specialists [5]. The reason behind this is simple—the approach works. It generates sales for pharmaceutical companies and is beneficial for medical professionals—they receive useful information about new products, which increases their medical competence. If doctors did not receive extra benefits, their access to sales reps would have been curtailed a long time ago. However, the number of pharmaceutical sales representatives rises continuously in recent years, which leads to a decrease in the quality of visits. Considering this, it is very important to be focused and deliver what is exactly needed by the doctors, and the pharmaceutical companies are looking for new approaches to presenting their products. Still individual sales visits continue to have the most important impact on medical doctors' confidence in pharmaceutical brands, and when deployed well, the combination of digital and physical channels creates flexibility in the promotion effort that can be modeled to meet sales goals with the appropriate resources. At present, healthcare professionals (HCP) do not have sufficient time to see pharmaceutical sales reps, but when they do see them, they expect more educational information from representatives than ever before. Pressured, pharmaceutical companies search for new approaches to introducing their products [6–11].

Campaigns employing digital channels can be more effective than traditional field force promotions. They can offer the opportunity to stand out from competitors through more frequent interactions with target physicians, presenting more varied content, and by leveraging other services (e.g., meet the expert), deploying interactive content and services, exploiting the full potential of new technologies (e.g., tablets), systematic real-time user feedback, and analysis through CRM tools and potential unlimited direct communication between the field force and physicians. In addition to increasing share of voice with current customers, digital marketing solutions can also be used to extend target coverage to other physicians involved in the diagnostic therapeutic path (secondary targets), as well as to other relevant stakeholders [7].

The following challenges can be pointed out when discussing traditional sales representative—medical doctor visits:

Opportunities for individual meetings with medical doctors decrease continuously. Medical specialists get busier and have limited time to spare for meetings with the growing number of sales reps. In the United States, for example, one of five visits with a doctor is successful. Longer distances between specialists from different geographic areas further limit opportunities for personal visits [8]. It turns out that access to specialists working in clinics and hospitals is relatively limited. In just 8 out of 100 attempts to arrange a meeting with professionals practicing in hospitals or clinics do sales representatives manage to talk to doctors [12].

Longer intervals between meetings. The reduced frequency of these meetings leads to limited possibilities for personal contact and can thus prolong the period between a product reaching market and a health specialist getting acquainted with it [8]. Thus far, this problem, for example, has not occurred in Bulgaria, as, despite their busy schedules, Bulgarian health professionals are easily accessible to sales reps. The frequency of visits with key customers can reach up to three times per month.

Shorter duration of visits. In the United States, a visit lasts between three and four minutes on average, half of these visits lasting no longer than 2 minutes. This span is insufficient for a good enough product presentation for the customer. In 43% of cases, attempts to reach medical doctors do not make it beyond the reception, and 35% of US physicians do not meet with sales reps at all. With an average of eight visits daily, the US pharmaceutical sales reps spend 90% of their time traveling and waiting [8, 9, 13].

Higher prices per visit. The higher prices are associated with travel costs and waiting time before meeting up with medical doctors, the expenses amounting to 665 British pounds in the United Kingdom and to 2000 dollars in the United States per hour for an effective visit [8]. A study conducted in 2003 on the financial effects of traditional visits shows that the return on investment (ROI) decreased by 42% compared to 1994 [14].

Inability to provide sufficient information during the visit. During a visit to a medical professional, sales representatives often do not have all information on hand or do not have the knowledge to answer all doctors' questions. On the one hand, this can lead to a beneficial follow-up meeting to discuss the question in detail; on the other hand, this may lead to unwanted delay of the information flow to the doctor or additional work for the sales rep [8]. In Bulgaria, during the last 2 years, using electronic devices (primarily tablets) has become more and more popular and has to a big extent replaced the use of traditional brochures. These devices allow sales reps to have all the needed information handy at every visit and thus limit the problem.

Standardizing communication. During traditional visits, the personality and knowledge of sales representatives are of utmost importance. These qualities can be used as an advantage, but at the same time, it is hard for pharmaceutical companies to assure that their marketing messages are interpreted in the same way throughout the markets [8].

A tendency to incorrectly determine a client's potential. Doctors are divided into different target status groups, according to their potential in relation to a certain product: ones with high potential are with a target "A" status and are to receive the most visits; ones with lower potential are identified as targets "B" and "C." Clients with a target rating "A" are of interest for most companies, and meeting with them becomes harder over time, whereas clients from the target group "C" are noticeably more easily accessible—this leads to incorrectly determining a client's potential. This is why the barely accessible "A" clients are often rated as "B" targets instead, as this helps sales reps reach their monthly or yearly targets. The same can be observed with "C" clients who are also sometimes regarded as "B" clients. This leads to ineffectiveness in sales and marketing campaigns [8].

The outcomes are negative tendencies in the sales representatives' results. During the recent years, in the United States, a decrease in the number of medical sales representatives can be observed—from 105,000 in 2005 to 75,000 in 2012—or a decline of 25% over a 7-year period [5]. Some of the US doctors tend to decline meetings with sales reps more often than ever. The overall accessibility of health specialists has dropped by half (49%) in the period in between 2008 and 2014. This trend can be explained with the reduced amount of time available to doctors, as well as with the increasing number of young specialists who prefer receiving information via digital channels and mobile devices [15]. Although a decrease of costs for sales reps can be observed compared to 2005, sales rep visits remain the strongest marketing tool for introducing new products, especially in Europe [16]. Medical specialists still perceive sales representatives as a valuable source of information. Therefore, it is important for pharmaceutical companies to find new ways to reach their customers [15]. Yet, pharmaceutical companies continue to invest substantially in physician-oriented marketing as it has proven more important and effective [17, 18].

A 2014 study in France concludes that individual sales visits continue to have the most important impact on medical doctors' confidence in pharmaceutical brands [19].

6. Electronic visits (e-detailing)

As stated above, many factors such as the decline in effectiveness of sales reps, the increased costs for traditional visits, business of medical doctors, and the increasing popularity of online resources result in more frequent use of electronic channels to contact health professionals. A need to search for new communication approaches is generated. Ideas for using modern IT to present new medical products are being explored to support the sales representatives' functions. These integrated approaches are referred to as e-detailing [20].

6.1 Definition

E-detailing describes the use of IT tools for promotional activities—delivering information for pharmaceutical products to customers (health professionals, medical personnel, and patients). It includes using electronic channels to interact with customers, as well as electronic support for sales reps in their everyday work. Another definition introduces e-detailing as “a new communication channel for promotion of pharmaceutical products, using digital technologies, mainly via the Internet” [6].

Immediately when pharmaceutical companies begin to plan to use IT in their promotional activities, computer companies introduce e-detailing services. The first company to use e-detailing for its services was founded in 1998—Physician Interactive [21].

The process of using an electronic visit includes the following stages: initially, the pharmaceutical company has to choose a provider of e-detailing services, as well as to determine the end users to be reached via this promotional channel. After that, the service provider must arrange for the technical equipment to be set up for the chosen end users of the pharmaceutical company. Thus, the service provider establishes the connection between the company and customers (**Figure 2**). During this process, both the pharmaceutical companies and end users are regarded as customers of the electronic service provider [20].

6.2 Development

Traditionally, most of the information available on the Internet to medical professionals is static and is mostly found on the company's webpage. This can be useful to medical doctors but only in the sense of one-time visits, as it cannot keep the doctor's attention for longer. This is the main reason why interest toward this communication channel is not developed. The problem is solved by introducing electronic visits, which allows the use of information technologies within the



Figure 2.
Communication route in e-detailing [20].

process of marketing a new medical product. This is believed to be the e-visit's greatest advantage [20].

A variety of formats of e-detailing exist. They mainly differ in the relationship between medical specialists and the pharmaceutical company's sales representative. In some cases, there is a direct connection between the customer and the sales rep. This connection can be made in real time, through video calls or chat rooms, or at convenient time (e-mail correspondence). In other cases, customers "communicate" with a program and can themselves choose the content they wish to receive. Alternatively, the information the customer is exposed to is not influenced by his/her behavior. An example for that are Internet websites or news sent via e-mail. The differentiation among the previous three types of interaction is connected to the flexibility of the communication—in the first case, the customer has a larger influence on the flow of information he/she receives [8].

The main communication channels used now—the Internet (accessed through personal computers or mobile devices), interactive digital television, telephone conversations, and personal meetings—are significantly different in their way of communicating, distribution among customers, and ability to present information. A personal computer with access to the Internet as a communication channel allows both synchronistic (chat, video conferences) and asynchronistic (electronic letters) forms of communication. Depending on the available equipment, it could allow forwarding of text, graphics, animations, and videos. On the other hand, using a phone as a communication channel is limited to a synchronistic transmission of sound [8].

In the United States, e-detailing is significantly more developed than in Europe. Data from one of iPhysicianNet campaigns from 2001 shows that sales representatives make 13 video calls per day (compared to the average of 8 with the traditional personal visits). During a video call, they are able to discuss an average of 2.7 products per visit (1.6 per personal visit), where the price of a meeting goes down to \$46 (compared to \$106) [22]. A research by HyGro Group on the advantages of preparing a script for visits in advance (scripted detailing) shows that using such programs specifically made for products already established on the market results in an increase in prescription rate in the test group from 3.2 to 9.9 percent in 4 months, where group members participated in two e-detailing sessions per month. About 68% of participating medical professionals rated the program superior to traditional meetings. For this type of visits with high-potential customers, researchers calculate a return on investment (ROI) of 480% (and increased prescription rate compared to the costs for development of the program) [14].

A number of researches show that the main reason why medical specialists participate in e-detailing campaigns is the opportunity to receive product information at their convenience [20–22]. Convenience has many dimensions—the use of and access to an e-visit are easier [14], meetings with sales reps take shorter [23], and making appointments for visits are at times suiting medical doctors, and the overall time-saver aspect is substantial [21]. About 73% of electronic visits are conducted after working hours, where 34% are made during days off and 34% after 5 pm [14].

6.3 Types

The main types of e-detailing found in the United States are the following:

6.3.1 Video visit

In this case, medical doctors communicate with representatives of the pharmaceutical company through computers connected to the Internet, with a

camera and microphone. In this way, specialists can receive details about different products, ask questions, or inquire for additional information [8]. This allows the visualization and presentation of the needed information in a quick and convenient way. Furthermore, doctors are able to schedule the meeting at their convenience and be in control of duration. A visit of this sort usually lasts for about 10 minutes [20]. The main provider of this type of services in the United States is iPhysicianNet. They support a video conference platform financed by pharmaceutical companies. Medical professionals are provided with a free computer and connection to the Internet. In return, medical doctors have agreed to participate in at least one video session per month with every one of the pharmaceutical companies supporting the platform. Video visits are, to a great extent, similar to individual meeting between a doctor and sales rep while allowing freedom in the formats of presenting information [8].

6.3.2 Telephone conversation while jointly browsing the Internet (co-browsing)

Just as in the case above, the real-time communication between the medical sales representative (or a call center) and the medical professional is discussed here, where the pharmaceutical company's rep has remote access to the doctor's computer. This allows the sales rep to show the doctor exactly what he/she wants. The doctor and sales rep talk to each other on the phone or through Internet-based telephone lines (IP telephones) and browse Internet-based content simultaneously. The visual connection is missing which renders the method somewhat less personalized than the previous one, hence the more limited use. This type of promotion is used by Novartis in France [8, 20].

6.3.3 Visits with texts prepared in advance (scripted detailing)

In this case, medical specialists have access to Internet-based interactive multimedia programs—a blend of flash-based online presentations and online training for a specific product. As a rule, the duration of a presentation like that is somewhere between 4 and 8 minutes. During these presentations, the doctor has the possibility to ask for additional information, for samples, or to get in touch with the sales representative. This method is considered particularly attractive for pharmaceutical companies for its any-day-any-time access to medical doctors and its fairly low price. It is especially effective when a large customer base has to be reached simultaneously. Some of the prominent users of this approach are Johnson & Johnson, Aventis, Novartis, Amgen, and GlaxoSmithKline [7, 19].

6.3.4 Interactive voice reply

This is a type of scripted detailing based on telephone conversations. Customers receive a product presentation over the phone and can participate in it by using voice commands or by pressing the phone's buttons (e.g., to ask for samples). This is a less preferred approach, because it does not include the use of visualization for presenting information [7, 19].

6.3.5 E-mail

These are personalized electronic messages made to suit the customer's needs that can be used for product presentations, as a separate marketing tool, as well as a part of other marketing strategies. Together with e-detailing, companies use e-mail to invite medical professionals to Internet-based e-detailing programs [8].

6.4 Factors defining the development of e-detailing

The electronic visit is solely based on modern technologies, and because of that a leading factor in the development of this communication channel is the technology. If an organization uses video visits, the requirements include having a computer camera and microphone to establish a connection between the medical sales representative and the doctor. For such channels to be used, the provider companies need to supply to participating doctors the required equipment, as well as educate doctors on how to operate it. A problem with equipment supply can occur in Europe, because in many EU countries, unlike in the United States, the regulations do not allow pharmaceutical companies to purchase equipment for medical doctors [20].

Compensations are another limitation. A study conducted among medical professionals in the United States shows that additional financial incentives can significantly increase participation rates for electronic visits. About 85% of the surveyed medical doctors state that “adequate compensation” would motivate them to spend more time on virtual meetings with sales reps (electronic visits) [24]. Another study shows that 40% of the respondents mainly participated in electronic visits because of the financial compensation they receive [16].

Under the Pharmaceutical Research and Manufacturers of America (PhRMA) Ethical Code on Interaction with Health Care Professionals, compensation for health specialists cannot exceed 100\$ [25]. In the United Kingdom, the amount is 6£. The legal limitations for further development of e-visits are significantly stricter in EU, and this could be considered as one of the reasons for the slower implementation of this method in comparison to the United States.

Another factor which could influence the development of e-visits is connected to cultural differences. In some countries, such as Sweden, the traditional medical doctor-sales rep meetings are conducted during lunch time. Physicians are provided with information about new products while eating. E-detailing could face challenges trying to overcome this standard [26].

6.5 Potential advantages

In an article published in 2003, the potential advantages and disadvantages of e-detailing in Europe are described [8]. Other resources focusing on the benefits are also available online [27, 28].

6.5.1 *Low costs per visit*

The absence of travel costs and time spent in waiting for medical doctor, as well as personal expenses, show that introducing products via electronic channels is cheaper. According to a 2001 study, the decrease of expenses with e-detailing in the United States is between 25 and 90% [29].

6.5.2 *Opportunities for a larger customer reach*

Medical doctors who have a lower potential for prescribing specific medicine and for whom standard visits prove unfeasible can be reached thanks to the lower prices of electronic channels. The flexibility of these channels as well as the ability to present a large amount of information in various formats makes access to medical doctors, who previously limited their meetings with sales reps, easier [8, 20].

6.5.3 More information available to customers and better ways of classifying it

E-detailing is an electronic channel, which allows collecting additional information on medical doctor and their interests and practice. If a particular customer shows interest in a specific product or therapy, this allows the pharmaceutical company to better understand the individual interests than a modality where a prescriber passively receives materials from sales reps. It is to be noted that in Europe, distribution of specialized medical information is limited by various regulations [8].

6.5.4 Reinforcement (synergy) of the effect of standard face-to-face visits

Up to now, e-detailing is considered more as supplementary to the standard communication methods with health specialists, rather than a replacement. Examples for this supplementary aspect can be receiving information from one channel and using it in another one; medical sales reps have access to content available on the Internet during a visit, and rates of meetings between pharmaceutical companies and medical professionals increased [8].

6.5.5 Better approval rates from health specialists

E-detailing allows medical doctors to choose the time, place, and content of a specific meeting themselves and thus avoids disturbance of their workflow. This makes them more prone to receiving information they are interested in and promotes satisfaction [8, 9]. Medical doctors report that they appreciate the flexibility of e-detailing and use it to arrange meetings outside of their typical working hours [22]. On the other hand, receiving compensation to take part in e-detailing programs is also referred to as an advantage in the United States. It additionally increases loyalty in health specialists, both to the program itself and to the pharmaceutical company [20].

6.5.6 A more elaborate and faster access to information

Electronic visits allow the use of various formats of multimedia presentations, which are available to doctors at any place and time [8].

6.6 Use

A case study of IQVIA for the European market shows that virtual-only activity improves sales by 65%, as does face-to-face activity alone, while combining face-to-face visits with virtual calls results in more than 95% increase in sales. The time spent on the virtual platform is on average 78% longer than audio-only calls [30].

A pharmaceutical company's motivation to engage in e-detailing is determined by different factors: among which the increasing use of Internet among medical doctors, the pharmaceutical companies' wish to provide customers with various alternatives to better understand their medication and increase their customers' brand loyalty, and fear of falling behind of using new channels and subsequently losing market share [20].

Within the past decade, funds invested into e-detailing programs have sufficiently increased. According to a report by Jupiter Research, companies like Aventis, Novartis, and Pfizer invest heavily in programs using electronic visits. In 2002 these expenses amounted to 1–2% of the company's overall promotional budget, and in 2009 the expense has increased to 9%. Jupiter Research points out that 56% of

pharmaceutical companies invest in e-detailing programs. A study conducted by the same organization aims to show a more in-depth representation of the health specialists' perception of e-visits. Thirteen questions were sent out via e-mail to over 10,000 professionals. Response rate was 9.61% (961 doctors). About 651 doctors were in primary care and 310 specialists. And 76% respondents say they currently use an e-detailing program and are completely satisfied with it, 12% show interest in such a program, and only 12% are not interested at all [20].

Another study was based on 30-minute interviews with 755 doctors. Results show that 75% of professionals, who were invited to participate in electronic visits, become regular users. In 2002 doctors spend less than 10% of their time receiving pharmaceutical information through e-detailing, and this amount is expected to rise to 66% in 2008 [23].

A number of studies focus on another important indicator for the pharmaceutical industry, namely, the return on investment (ROI). In one particular study Aventis Japan compares the advantages of e-detailing by creating a control and a test group. Participants in the control group receive standard visits, and the test group—both standard and electronic visits. Results show that the test-group doctors prescribe the promoted medicine more often—19–25% compared to the control group. This increases profits for the pharmaceutical company. E-detailing has a profit/price ratio of 3.2:1, which indicates that for every dollar spent, the company receives 3.2 dollars in profit. Traditional visits have a return of 2.5:1, meaning the ROI of e-detailing is 1.3 times higher than traditional visits [31].

Physician Interactive conducted a research aiming to determine whether the e-detailing program they offer leads to an increase in prescribing medication. The research included 5050 health specialists, who participated in the company's e-detailing program. As part of the program, the duration of interaction between a sales representative and doctor was on average 9.63 minutes and took place over the phone or the Internet. Results show that medical doctors, who participate in the e-detailing program, prescribe the presented product 63% more often than ones that did not take part in the program.

Another study, conducted by iPhysicianNet, aims to measure the effectiveness of e-detailing programs. An increase of 58% in the volume of prescriptions has been observed. Further results demonstrate that electronic visits allow for 13 conversations daily, compared to 8 with standard visits. The duration of a visit is 9 minutes on average, compared to 3 with standard visits. With e-detailing, 2.7 products per conversation can be discussed, compared to 1.6 with standard visits, where expenses decreased by 18 K dollars per year.

Overall, results from these studies show that e-detailing is well received among health professionals and has a positive effect on pharmaceutical companies [20].

6.7 Challenges

Using electronic channels to promote medicinal products can burden the marketing budget with additional expenses, at least in the short term. At the same time, there are factors which can cause doubts about the effectiveness of these promotional channels on the market [8].

6.7.1 Decreasing the overall marketing expenses

The experience until now shows that e-detailing cannot fully replace traditional meetings of sales representatives with health specialists, at least not in the foreseeable future. Neither specialists nor medical sales reps want to cease face-to-face meetings; therefore, e-detailing campaigns are conducted in parallel

with traditional visits. Because of that, e-detailing will not lead to a decrease in the pharmaceutical companies' promotion expenses [8].

6.7.2 Service providers and market structure

Up to now, the providers of e-detailing platforms are concentrated in North America. The active penetration of these communication channels in Europe is additionally complicated by the heterogeneity of the European markets, compared to the US one. Language and cultural differences among the European countries and regions lower the potential to reach any economies of scale [29].

6.7.3 Legal restrictions

Legal requirements and codes of conduct for pharmaceutical companies lower the opportunities for compensating medical doctors for the use of e-detailing. The payment and support models for medical doctors used in the United States cannot be replicated in EU. European companies face the challenge of finding other ways to encourage medical doctors to use these communication channels. There are also differences in the area of personal data protection: it is hard for European companies to collect and process some personal data, and in some cases, this can only be done with the participating persons' explicit consent [8].

6.7.4 Skepticism and internal resistance

The team of medical sales reps has an important role in every pharmaceutical company. The fear of losing one's job or of unwanted changes in work practices can lead to resistance to the decision to develop standard visits and can hamper the development of new projects [8].

6.7.5 Objectivity of information

More and more health professionals have access to the Internet and use it to search for medical information. Nevertheless, information provided by pharmaceutical companies is still not regarded as trustworthy. Medical doctors rank pharmaceutical companies' web pages low on their list of pages they visit and believe they are not useful. They often refer to their colleagues' opinion, medical literature, and publications as more independent and having bigger influence when receiving information [8].

6.7.6 Medicinal products' safety

Additional research is needed to explore the connection between e-detailing and pharmacovigilance. Do doctors participating in such programs receive a better understanding of the mechanism of therapeutic action of a specific medicine and its side effects, compared to standard visits? It is a responsibility of every pharmaceutical company to select information to be presented to medical doctors and to make sure it is clear and correct [20].

6.7.7 Adopting new communication channels

The more complicated communication formats, like video conferences or telephone conversations and co-browsing, require effort from the parties engaged, to get acquainted with and accustomed to the technological environment, as well

Criteria	E-detailing	Traditional visits
ROI*	High	Low
Access to doctors	Easy	Difficult
Average duration of visit	Longer	Shorter
Cost effectiveness	High	Low

*ROI: Return on investment.

Table 2.
Traditional visits versus e-detailing [20].

as with the opportunities it offer [32]. This leads to barriers at the customers’ end which pharmaceutical companies have to overcome, e.g., through providing additional training for medical doctors [8].

Another limitation, which could arise while using e-detailing, is the physical inability to leave samples during the visit. This could be easily resolved by providing medical doctors with the opportunity to order samples immediately after the end of an electronic visit [20].

Table 2 shows a comparison between traditional visits and e-detailing.

6.8 When would e-detailing be most effective?

It is interesting to discuss at which stage of the product life cycle it is most effective to use e-detailing. At different stages of the product life cycle, the reasons behind a medical doctor’s decision to prescribe a product differ. At the beginning and at the end of the product life cycle, the decision is made preferably on an emotional basis, and in the middle, it based on facts or on a rational basis (**Figure 3**). This leads to pharmaceutical companies’ resorting to different approaches. Intuitively, many pharmaceutical companies choose to use e-detailing at the end of a medicine’s product life cycle, as an effective way to revive a slowly dying business.

However, this might not be the most suitable moment for using electronic promotion. Effectiveness can be defined by using the rate on which the medical doctor’s

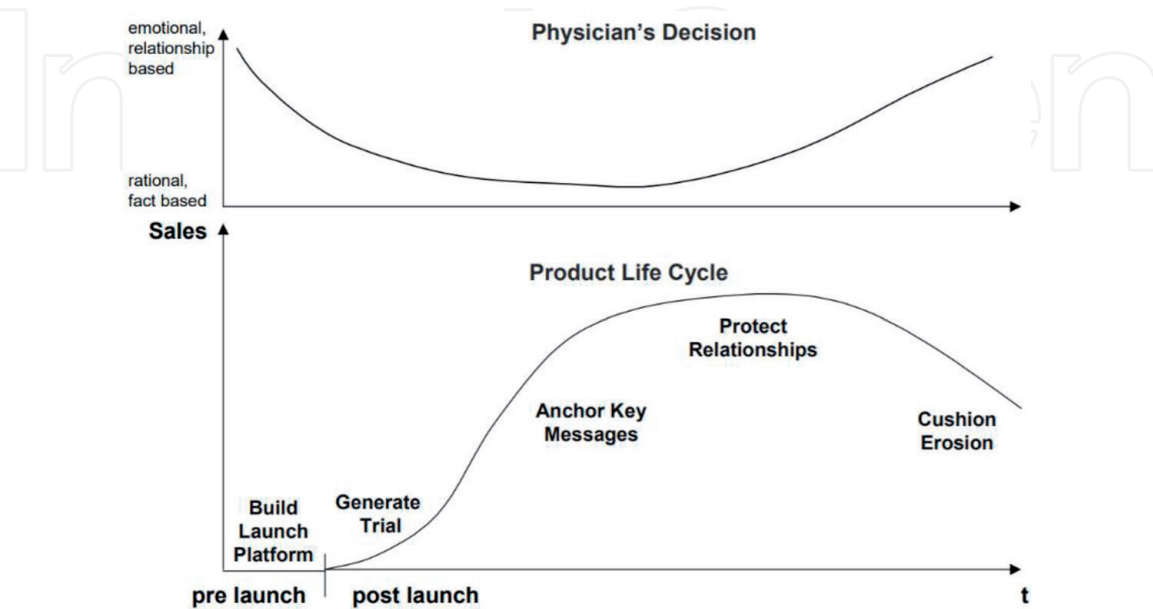


Figure 3.
Marketing objectives and factors influencing a health specialist when prescribing a product, depending on its product life cycle [9].

decision to use a certain product is influenced by emotion, based on brand perception or sales rep attitude, or rational, based on facts. Before launching a product to market or immediately after its introduction, there is not much available information on it. A medical professional would base his/her opinion on the trust he/she has in a brand or a sales rep, previous experience, etc. All of these are emotional factors. Over time, when a product is used more often, new studies are made, experience with the product increases, and medical doctors begin to make decisions more on the basis of facts or rationally. When moving into the maturity stage of a product and new, supposedly better medicines enter the market, the medical doctor would continue to prescribe the same product, because he/she believes in it, is used to it, has a good relationship with the company reps, etc. At this stage the medical doctor switches back to taking decisions on an emotional basis. This is the reason why at this stage replacing face-to-face communication with e-detailing can prove a mistake.

IT-based promoting should work best when a large amount of information about a specific product can be provided, so that facts can be presented through using different types of charts, 3D models, animations, etc. The best stage of the product's life cycle could be the stage immediately after launching a product to market, when the company wants to establish the key messages and support them with facts and information [9].

6.9 Physicians' adoption of pharmaceutical e-detailing

In 2010 Fadi Alkhateeb published a book on the factors influencing the rate of adoption of e-detailing among physicians [16]. A survey was sent out to 2000 randomly selected health specialist in Iowa, USA. The study explores the influence of innovative characteristics, communication channels, specifications of the specialists, and the social environment on the rate of adoption of e-detailing among medical doctors. The percentage of respondents using e-visits in the sample is 21. This study repetitively shows that e-detailing is perceived well as a supplement to traditional meetings with sales reps. It turns out that even medical doctors who meet with a sales specialist more often are willing to use e-detailing more often—80% of those who use e-detailing meet with four or more medical reps monthly (this is a relatively high rate of meetings for the American market). This also shows that pharmaceutical companies use e-detailing as a support tool to traditional visits, rather than as their replacement. Results also show that the framework for determining adoption rates described by Rogers (**Figure 4**) explains the attitudes of health specialists toward e-detailing.

Better understanding of the advantages of the electronic visit (effectiveness, convenience, use, and work compatibility) on the part of medical doctors increases their proneness to use this communication channel. On the other hand, the study shows that complicatedness when using e-detailing does not have a particular influence on adoption rates. A possible explanation is the fact that pharmaceutical companies and service providers make a great effort in developing easy to use, user-friendly programs and train professionals to work with them. Another factor with a positive influence on e-detailing adoption rates is positive peer experience. Specialists who positively rate the e-detailing approach help the decision-making process of others.

Another aspect researched in the study is the connection between the adoption rates of e-detailing and access limitations to medical doctors. Data shows that medical professionals who have limited access to meetings with sales reps have a lower adoption rate of e-detailing than the ones who are able to meet with medical sales reps on a regular basis. Authors explain the correlation with the fact that medical doctors who practice in inpatient settings where access for sales reps is limited rely on alternative sources of information.

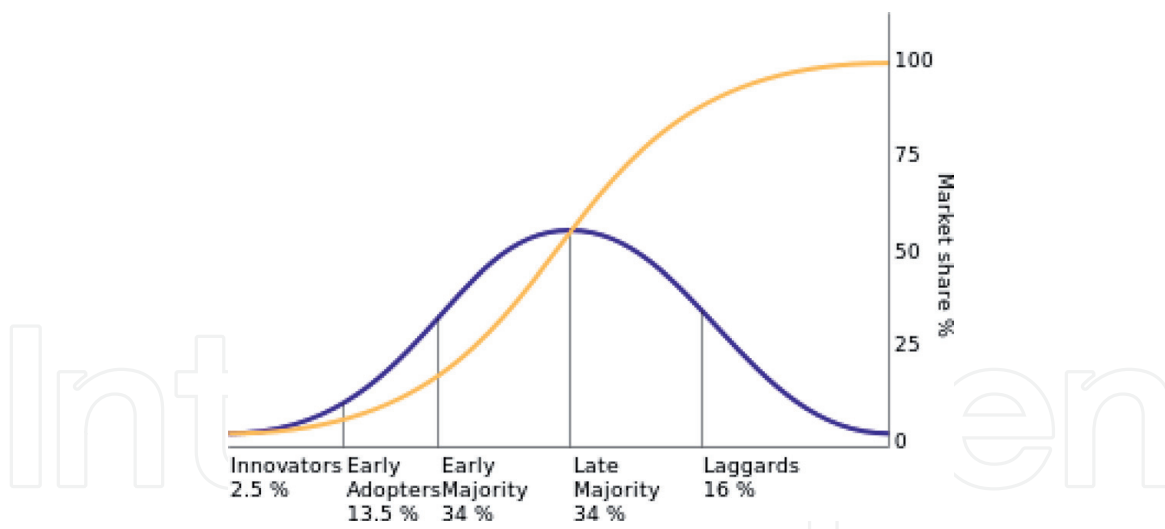


Figure 4.
Perceiving innovation [33].

A result of this study is also the connection found between the years of experience of a medical professional and the adoption rates of e-detailing. The longer the work experience, the stronger the negative effect on adoption rates of e-detailing. This shows that more inexperienced doctors are more inclined to participate in such method of communication, than ones with longer experience (at least 20 years). Younger health specialists are more willing to experiment with new technologies and use new communication channels, as opposed to older ones, who prefer more traditional approaches.

An interesting finding of the study is that practitioners in primary care (ambulatory) are more prone to use e-detailing than specialists. The underlying reason can be that primary care practitioners prescribe a larger variety of medication than specialists. Because of that, primary care practitioners need information on a wide range of medicines and are willing to receive information from multiple channels.

The study shows that men are more inclined to use e-detailing than women. Incorporating some sort of a “gift” as incentive has a positive effect on the adoption rate of e-detailing. The amount of prescriptions issued by health professionals turns out to be a significant factor in using e-detailing—medical doctors who issue fewer prescriptions are less willing to adopt the approach, than those who issue 100 prescriptions per week. The size of a health specialist’s practice also greatly influences e-detailing uptake—individual practitioners are more willing to use e-detailing than ones who operate within a group practice [16].

The author of the study points out that the collected data is valid for the state of Iowa and does not claim that the same relations will necessarily be observed with medical professionals elsewhere in the United States or globally. Nonetheless, the study presents robust guidelines as to the possible factors that influence the rate of adoption of e-detailing.

7. Conclusion

Our review based on detailed literature search describes e-detailing as a marketing tool and analyzes its potential for implementation in the pharmaceutical industry. Based on our research, we can make the following statements about this method:

- E-detailing tends to supplement traditional meetings between sales reps and health professionals rather than replace them altogether. The main advantage

of e-visits is not so much to decrease marketing expenses, as to increase the influence over customers. If pharmaceutical companies want to use these advantages, they have to be sure that valuable information about the customers is being received and this information can be used in all other communication channels.

- It is important to define an adequate communication mix when presenting different products. In the earlier phases of the life cycle of a pharmaceutical product, e-detailing can seem rather to attract medical doctors, engage their interest, and satisfy the need for information about a new product. Understandably, customer preferences and their willingness to adopt new technologies are of crucial importance to the success of any new communication mix.
- Although product information is an important factor, its reception will not likely to be a sufficient motivator for a medical doctor to use e-detailing. Because of that, pharmaceutical companies will have to consider other incentives to convince specialists to use the new communication channels. This is also a major problem when discussing development of more projects like that in Europe.
- The electronic visits have the potential of decreasing marketing expenses, increasing access to medical doctors, and preserving at the same time many of the advantages of standard face-to-face meetings. It is a revolutionary method for promoting pharmaceutical products which increases both the quality and the variety of promotional activities of pharmaceutical companies. It proves its benefits for medical doctors and pharmaceutical companies alike. The approach is a major time-saver for the former while ensuring higher ROI for the latter. E-detailing is not a substitute for standard visits but allows medical sales reps to be more effective instead. Therefore, it should be regarded as a supplement to the standard company marketing mix to complement and strengthen the approaches currently in use.

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