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Vasja Roblek
Faculty of Management,
University of Primorska,
Cankarjeva 5, Koper, Slovenia
Email: vasja.roblek@gmail.com

Abstract: Pharmaceutical companies have been forced to change their approach to selling over-the-counter (OTC) medicines because of the increased pressure on sales margins. The development of Web 2.0, Web 3.0, and social media technologies allow low-cost online marketing, including e-commerce. An organisational adaptation has to cope with the changes in the OTC drug market is required because of the widespread use of the internet and social media. The increased importance of digital media for marketing has convinced the OTC medical industry to include the use of social media in its customer relationship management strategy. Qualitative research on the impact of the internet and social media on the marketing of organisational change management for OTC medicines is based on new-age digital marketing, which is replacing Kotler’s 4 P’s of marketing (product, price, place and promotion). This paper has found a high correlation between anchoring theory, data analysis, and theoretical returns that accrue by linking research findings, practical initiatives, and internet and social media operating guidelines in the pharmaceutical industry.

Keywords: over-the-counter medicines; internet; social media; e-marketing; qualitative research.


Biographical notes: Vasja Roblek is a PhD student at the Faculty of Management, University of Primorska, Koper, Slovenia. He completed his Bachelor’s studies in Banking in the Faculty of Economics, University of Ljubljana and finished his Master of Science Study at the Faculty of Management, University of Primorska He is a professional consultant with extensive experience in strategy and business development. His research experience includes management, innovative economy, sustainable development, web marketing and qualitative methodology. He has published several scientific papers in international journals and he is a co-author of the two book chapters (Springer) and book on sustainable development.
1 Introduction

Changes in macro trends are affecting the uncertainty in the business environment. Organisations are being forced to adopt a comprehensive infrastructure that is based on a more flexible organisational structure for implementing on-demand marketing and technological innovation (Autry et al., 2013). At the same time, it is necessary to realise that the ability to develop or gain the basics of modern information and communication technologies plays an important role in the economic and social development (Bertot et al., 2012). Organisations are attempting to achieve the strategic goals affected by the increase in productivity and efficiency, added value and, thus, to develop economy and society (Bisson et al., 2010; Kaplan and Mikes, 2012; Roblek et al., 2013).

In such a business environment, it is difficult to define and determine an appropriate margin. Business rivals are not only competing with similar (or identical) business models, but new ones are emerging with different approaches, techniques, and thoughts that challenge traditional dimensions of the market shares (Bertoncelj and Kavčič, 2011; Valacich and Schneider, 2012).

The emergence of the internet in the new economy of the early ‘90s has brought about the rise of a third industrial revolution (Antonelli, 2003). During the current economic crisis and recession, there has been a process of integrating the internet and digital technology. New technologies are seen in the hybridisation of the internet, digital signage, semantic technologies and business intelligence, which is leading to the development of social business (Hinchliffe and Kim, 2012; Schimmenti et al., 2014). It is striving for the internal use of social media in creating meaningful, strategic outcomes. These new social business models are reflected in different ways on the value chain partners. They arrange them access to the highest level of mutual value creation (Goh et al., 2013; Hoyer and Maclnnis, 2010).

According to Brown and Sikes (2012), research conducted by McKinsey shows that, among ten global trends, the three leading technological trends are the following: profiting, from online organisations, networking among organisations and virtual collaboration (clouds, big data, and smart assets).

Pharmaceutical companies have been forced to change their approach to selling over-the-counter (OTC) medicine because of increased pressure on sales margins. The development of Web 2.0, Web 3.0, and social media technologies allow low-cost online marketing, including e-commerce (Pejić Bach et al., 2013). An organisational adaptation has to cope with the changes in the OTC medicine market is required because of the widespread use of the internet and social media. The increased importance of digital media for marketing has convinced the OTC medicine industry to include the use of social media in its customer relationship management strategy.

The pharmaceutical industry has dealt with intense changes in marketing strategies in the last decade. Patients have increased their awareness on the importance of the medication preparation characteristics. They have begun to take control over their own health and life activities (Chetley et al., 2007; Severin Benshimol et al., 2012).

Customers are also protected by the regulatory rules. In the European Union, it is forbidden to advertise prescription medicines, and direct-to-consumer advertising is not allowed (Directive 2001/83/EC, 2001). Only the USA and New Zealand allow advertising of prescription medicines directed to patients (Egilman and Druar, 2012).
Research on the importance and impact of the internet and social media marketing of OTC medicines has, as far as we are aware, not been carried out yet. The paper presents the results of qualitative interviews on the impact of the internet and social media on the organisational changes and adoption of the OTC market.

The specific research questions addressed in the paper are as follows:

RQ1 What is perception of internet and social media use in patient-(physician) – pharmacist communication?

RQ2 To what extent is the usage of internet and social media for OTC harmonised with the corporate social responsibility (ethics, customer confidence and safety)?

RQ3 To what extent do pharmaceutical industry firms utilise the potential of the internet and social media for OTC marketing management?

The paper is structured as follows: After the introductory part of the paper, the second part explores the theoretical frameworks with an emphasis on OTC medicine marketing, followed by the results of the research and explanations. In the conclusion, a structured proposal for a successful implementation of internet and social media in OTC medicine marketing is presented.

2 Background

The pharmaceutical industry is knowledge-based and therefore heavily involved in research and development (R&D), as well as sales and marketing (S&M) to ensure that its competitive advantage is sustained (Zack, 2003). In recent years, digital technologies have forced organisations into making organisational changes in accordance with consumer behaviour. Organisational changes are increasingly being influenced by interactive systems that can adapt to user needs (Dominci and Palumbo, 2013). These systems do not only include on-demand marketing, but can also be used to acquire the necessary data for the development of new products and services by collecting and analysing user demands (Dahlström and Edelman, 2013; Meško Štok et al., 2010). Internet-related technological innovations are increasingly involved in creating and using new applications in marketing management across the industry.

The global pharmaceutical industry can be divided into three groups (Kesić, 2007):

1. brand pharmaceutical companies (originators), which are involved in basic R&D and sales of innovative (original) pharmaceuticals
2. branded generic pharmaceutical companies (generics), which work on the development and sales of generic (copycat) medicines
3. pharmaceutical companies (specialists) which focus on basic R&D of biotechnology and pharmacogenomic products, as well as new delivery system technologies.

The goal of pharmaceutical companies is to meet their customers’ needs for a higher quality of life. This is achieved through development cycles, which are an essential part of inventing and marketing. In the case that pharmaceutical companies do not achieve the expected results in these two segments, they will not be competitive in the market (Allarakhia and Walsh, 2011).
According to Kesič (2008), large pharmaceutical companies invest on average around 16% of their revenues into R&D, and an even larger share – around 25% – into S&M activities. In the OTC market, marketing activities are regulated by rules which are specific to each individual country.

In the USA, the power to control the sale and advertising of non-prescription medicines online is held by the Food and Drug Administration (FDA) and the Federal Trade Commission (FTC). Non-prescription medicines are equated to other consumer products. A study on the advertising of non-prescription medicines has shown that products with insufficiently documented side effects fall under the jurisdiction of the FTC. The risk of non-prescription drug side effects remains a major cause of emergency medical treatment, hospitalisation, and death (Greene et al., 2012).

European countries are gradually widening access to the OTC market: Denmark deregulated OTC sales in 2001; Norway allowed the sale of the key therapeutic categories of OTC medicines outside pharmacies in 2003; the OTC market in Hungary was liberalised in 2007; in Italy, all OTC medicines became available in supermarkets under pharmacist supervision in 2006; the state pharmacy monopoly in Sweden ended in 2009, and saw the return of private pharmacies to the country for the first time in nearly 40 years (Vogler et al., 2012).

Pharmaceutical companies are being forced to change their approach to the OTC drug market because of increased pressure on sales margins. The development of the internet (Web 2.0 and Web 3.0) and social media technologies allows low-cost online marketing, including e-commerce. Organisational adaptations for coping with changes in the OTC drug market are therefore required.

In 2012, McNeil, a pharmaceutical company, launched its ‘Be a Calpol Star’ Facebook advertising campaign. Its intention was to be a social celebration of happy and healthy children. Mothers were asked to share videos and photographs of their children behaving ‘normally’ for the chance to star in the next Calpol television advertisement (Facebook, 2013).

This is a business case where the online media were identified as a means to engage with the target audience. The Facebook page was interactive and visually pleasing, and also featured a forum for mothers, which ensured a high return rate.

McNeil also made use of a YouTube channel to advertise another of their products – Listerine. The YouTube channel featured people dressed as teeth and gums inside a giant mouth. They were being bombarded with chewed pencils, house keys, bitten-off nails, lollipops, and a whole range of other things that people put in their mouths on a daily basis. Social media allows pharmaceutical companies to adapt to the information requirements of each customer, both in terms of content and implementation for specific business purposes, such as e-commerce. Such an approach can result in higher margins because it functions as an additional source of customer-tailored information (Weinberg and Pehlivan, 2011; Solis, 2010).

In the fall of 2012, Novo Nordisk introduced a mobile application called HemaGo as a competitive response to Bayer’s TrackTM Factor application. These applications allow patients with haemophilia and their carers get information on treatment (including medications and dosage), as well as information on the state of the blood, and the impact of haemophilia on personal lives (Novo Nordisk, 2013; Bayer Inc., 2013).

GlaxoSmithKline launched its e-commerce platform in 2010, and is planning to establish further direct selling channels for its consumer healthcare brands. They acquired the Maximuscle brand in 2010 and began direct selling operations.
Maximuscle started as a direct mail business and has been selling directly to consumers online for around seven years. Almost a third of its revenue comes from direct sales, while the rest is through retail partners. Direct selling provides the brand with an opportunity to add value beyond a transaction with content. It offers training and diet plans and advice from expert nutritionists. The platform was designed for the purpose of a better understanding of its customers’ online shopping habits with a view to improving marketing (Baker, 2013).

Social media creates opportunities for improving the value chain. It thus creates additional value, and not only in the form financial benefits, but also in the form of intangible assets, such as improved networking, communication and e-customer service.

The modern wave of communication brings challenges and risks in developing new communication channels between organisations and customers (Pejić Bach, 2014). Customers want organisations to listen to their opinion, to engage and respond. Organisations therefore need to change their attitude towards communication with consumers (Vinodhini and Chandrasekaran, 2013). Pharmaceutical companies have transferred their communication channels to social media in the last few years. Organisations such as Pfizer, Johnson & Johnson, Novartis, Merek, Bayer, and GlaxoSmithKline currently operate Twitter accounts, run YouTube channels (Pfizer, Johnson & Johnson, and GlaxoSmithKline) or have their own blogs (Pfizer).

Pharmaceutical companies and other healthcare organisations are increasingly recognising the importance of the web and social media applications for the creation business-to-business (B2B) connections within the industry. One of the leading business-oriented social networking sites is LinkedIn®. It provides online marketplaces for networking among businesses and professionals, who can create industry-specific groups, including dedicated pharmacy and medical device groups.

Pharmaceutical companies provide their own secure online B2B communication. They are being used to enable collaboration, deal-making, and sales (Lapidus and Bond-Dryankova, 2014).

In the business environment, it is necessary to be aware of the negative consequences of IT developments such as the emergence of high-tech crime and abuse of information. Abuses of information technology are on the rise. Due to increasing sales of counterfeit medicines and information about medicine that is misleading the customer, it has become important to provide stricter control on the internet and social media content (Cooper, 2013).

3 Driving force for organisational change of OTC medicine marketing

Figure 1 represents the concept of research that includes major items of the internet and social media that have influence to organisational changes in the OTC market and communication relations between physicians, pharmacists, medicines industry and customers. The conceptual model of research is proceeding from the von Krogh’s (2012) thesis that the social media lead to the fact that is not discussed about knowledge management, but about enabling access to knowledge.
Personal characteristics of the OTC medicines virtual market users and gaining the confidence in the medical web portals are influenced on the creation of the virtual business environment (Roblek and Bertoncelj, 2014).

Different authors such as Davenport (2013), Park and Lee (2014), and Mueller et al. (2011) emphasise the importance of the virtual business environment for creating, sharing, and accessing information. Virtual networking promotes the importance of supply chain management in providing new knowledge and preparing for the changes brought about by the development of social media and their introduction into business operations (Cummings and Worley, 2014; Ramero and Molina, 2014). Pharmaceutical companies have to invest in customer intelligence technologies. These technologies could personalise customer experience by analysing the data collected about customer
preferences (Bosilj et al., 2013). According to customer intelligence systems, pharmacy organisations could prepare a marketing strategy that provides market positioning and design of brand loyalty (Bonabeau, 2009). These resources constitute social capital, which occurs in two forms: as an internal adhesive to create the organisational culture or as an external relationship agent (Li and Xu, 2011).

Social media does not require expensive and complex technical implementations, but it does play an important role in organisational culture changes and adaptation of knowledge processes (Chui et al., 2009). Widespread use of the internet and social media is connected with generational change and adaptations of older generations to the use of new technologies. Thus, organisational change arises from personal changes (Tapscott, 2009). An individual who wishes to pick up specific messages from the environment has to be physically exposed to it. A person should become attentive to a message, detect it, mentally process it, and then remember it. In the end, an individual has to adopt certain attitudes and ultimately create the decisions and actions that are in accordance with his or her aspiration (Schunk and Usher, 2012). The differences in the use and management of information and communication technology, and the resulting impact on the performance of business processes also occur because of personality differences and norms between generations that are known as the baby boomers, Generation X, Generation Y, and the new upcoming Generation Z. The reason lies in different views on the acquisition and dissemination of knowledge. The differences between generations leading to different value systems influence their view on work habits. These values include ideals that dictate judgments, decisions, and behaviour (Gelston, 2008).

4 Methodology

The qualitative interview that was conducted is based on the social constructionist paradigm. To research topics where extensive scientific data are still lacking, such as social media and its impact on operational changes, the most appropriate approach is the use of a qualitative exploratory interview (Creswell, 2003; Patton, 2002). Its focus is on social processes, rather than social structure (Yin, 2003). The primary data were analysed by using the thematic network analysis. Thematic network is a way of organising a thematic analysis of qualitative data. This approach explains the impact that the internet and social media have on organisational changes in OTC marketing management (research phenomenon) (Stirling-Attride, 2001). Thematic network analysis is driven by both data and theory, which enables the use of an inductive, deductive or combined inductive-deductive approach in the data analysis process (Fereday and Muir-Cochrane, 2008).

The qualitative part of the research focuses on social media strategies as a tool for organisational change and adaptation that enables organisations to ensure competitive advantage and added value.

4.1 Data collection

The interviews were conducted in Slovenia between October and November 2013.

In the first phase of these interviews, data were obtained from semi-structured interviews. The semi-structured questions were designed to let us explore specific themes (Patton, 2002).
Kvale (2007) recommends that it is better to have fewer, but longer and more intensive interviews. The questionnaire was developed on the basis of the literature. The theory was used for testing the generality of the semi-interview findings. The smaller number of semi-structured interviews had an influence on the responses that were acquired. Fifteen semi-structured interviews were conducted altogether (Table 1).

Table 1: Qualitative interviews and respondents

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Interviews and respondent summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1: Semi-structured interviews</td>
<td>5 Physicians  Interview length: between 25-60 minutes</td>
</tr>
<tr>
<td></td>
<td>5 Pharmacists  Average: 38 minutes</td>
</tr>
<tr>
<td></td>
<td>2 Top management Transcription: 87 pages (38, 750 words)</td>
</tr>
<tr>
<td></td>
<td>1 CIO</td>
</tr>
<tr>
<td></td>
<td>1 IT professionals</td>
</tr>
<tr>
<td></td>
<td>1 Procurement management</td>
</tr>
<tr>
<td>Phase 2: Review of the results</td>
<td>5 Physicians  Meeting length: 90 minutes</td>
</tr>
<tr>
<td></td>
<td>5 Pharmacists</td>
</tr>
<tr>
<td></td>
<td>2 Top management</td>
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<td></td>
<td>1 CIO</td>
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<td></td>
<td>1 IT professionals</td>
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<tr>
<td></td>
<td>1 Procurement management</td>
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</tbody>
</table>

The purpose of the study is to explore and describe the views and perspectives that physicians, pharmacists, and representatives of the pharmaceutical industry have about the influence of the internet and social media on the OTC market.

Physicians and pharmacists were included in the interviews because they represent a link in the value chain between the pharmaceutical industry, wholesalers, and consumers (Burns-Chisholm et al., 2011). Physicians and pharmacists as decision makers choose the manner and type of medication, and advise their patients. Pharmaceutical companies are directly or indirectly informed of the effects and side effects of medicines through physicians’ and pharmacists’ reports.

In the second phase of this qualitative research, the results and solutions of particular management, development, and operational functioning networks were reviewed together with the interviewees (Easterbey-Smith et al., 2004). Finally, the results were generalised by using triangulation. By reviewing the results, the primary and secondary data were checked for interviewer reliability and validity of interpretations (Creswell, 2003; Kvale, 2007).

4.2 Data processing and research findings

In this qualitative research is used the thematic network analysis approach. The thematic network approach aims to explore and explain the topic and the content of the research (Bazley, 2013). Thematic networks use similar principles and implementing steps of the analysis as are used in analytical content and fundamental analysis. In both techniques, thematic network coding is used as a key process in the analysis, which is used to generalise qualitative data (Creswell, 2003; Bryman and Bell, 2003; Stirling-Attride, 2001). This technique involves practical and effective procedures for conducting an
analysis with methodical systematisation of written numerical data, which in turn facilitates the disclosure of individual steps in the analytical process, while also helping in the organisation of the analysis and presentation of its results. The main feature of the analysis is to create meaningful categories of data. It is important that each category allows a sufficiently precise classification of the analysed data according to the importance of content codes. Based on units of analysis that we got from primary data, we identified major themes (Easterbey-Smith et al., 2004; Stirling-Attride, 2001).

The analysis of thematic networks is akin to ‘digging up’ topics from various texts. Topics appear in the following order (Stirling-Attride, 2001):

- the most general description of the events: basic themes
- categorised basic themes, combined to give a short review and define more abstract principles: organising themes
- linking major ideas: global themes.

What follows is a detailed description of the research potential (including aspects of the internet and social media use in the OTC medicines market). The evaluation is primarily based on our research supplemented with other reliable, easily accessible sources (official websites, social media, applications, etc.), and is presented with a thematic network. The method is provided with a logical explanation based on the themes that have been identified in the analysis of empirical data (Bazley, 2013). A summary and assessment of the overall situation are also made. Thematic network analysis is not a linear process, but a back-and-forth movement between different stages of the analysis (Braun and Clarke, 2006). The data that were acquired through semi-structured interviews and theory were analysed according to the Stirling-Attride (2001) six steps thematic network analysing process.

4.2.1 Step 1: Coding the material

An open-coding framework was used, as it enables the classification and labelling of concepts in the qualitative data analysis process. As researchers, we have the opportunity to propose codes (Table 2) resulting from our research and issues which we covered with the help of the resulting data (Babbie, 2007; Easterbey-Smith et al., 2004; Stirling-Attride, 2001).

In our case, the 26 codes were derived from theoretical explanations of the influence of specifically theoretical interests regarding the role of social media as a marketing communication channel, as well as from the questions about the impact of social media on the business processes and added value chain. These two foci were combined and, going through the transcripts, the most important constructs in the discussion were identified and shaped into a finite set of codes that were discreet enough to avoid redundancy, and global enough to be meaningful. The transcripts were then dissected, classified and organised according to these codes.

For example, the code ‘trust’ included text segments such as, “official social portals of pharmacist firms provide consistent information to consumers about non-prescription medicines”. By encoding large portions of the text, and not individual sentences, we were able to focus on the objective of our analysis.
### Table 2  From codes to themes

<table>
<thead>
<tr>
<th>Codes (Step 1)</th>
<th>Issues discussed</th>
<th>Themes identified (Step 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Trust</td>
<td>The content of web pages</td>
<td>1 Growth of the interactivity applications for communication and collaboration</td>
</tr>
<tr>
<td>• Knowledge</td>
<td>Age</td>
<td>2 Appropriate form and content created blogs allow well-documented presentation of views on medicines and their effects</td>
</tr>
<tr>
<td>• Personal relations</td>
<td>Habit</td>
<td>3 The issue of surreptitious advertising</td>
</tr>
<tr>
<td>• Social behaviour</td>
<td>Viral communication</td>
<td>4 The possibility of adjusted information about the product in order to promote sales</td>
</tr>
<tr>
<td>• Blogs</td>
<td>Ethics</td>
<td>5 Regulation of sales and advertising</td>
</tr>
<tr>
<td>• Social media</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Commenting</td>
<td>Medical portals for B2C</td>
<td>6 Information filtering</td>
</tr>
<tr>
<td>• Monitoring</td>
<td>Medical portals for B2B</td>
<td>7 Social behaviour</td>
</tr>
<tr>
<td>• OTC medical</td>
<td>Pharmaceutical brands portals</td>
<td>8 The verifiability of information</td>
</tr>
<tr>
<td>• Value chain</td>
<td>Mobile app</td>
<td>9 Communication channel</td>
</tr>
<tr>
<td>• Personalisation</td>
<td>Sharing and trust</td>
<td>10 Virtualisation of the social and business environment</td>
</tr>
<tr>
<td>• E-pharmacist</td>
<td>Undeclared sell</td>
<td></td>
</tr>
<tr>
<td>• Information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Selling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Supply chain</td>
<td>E-detailing</td>
<td>11 Corporate communication</td>
</tr>
<tr>
<td>• Virtual organisation</td>
<td>Customers</td>
<td>12 Supply chain</td>
</tr>
<tr>
<td>• Communication</td>
<td>Pharmacists</td>
<td>13 Business intelligence</td>
</tr>
<tr>
<td>• Intelligence system</td>
<td>Physicians</td>
<td>14 Social feedback information about medicals</td>
</tr>
<tr>
<td>• Development</td>
<td>Order</td>
<td>15 Social behaviour</td>
</tr>
<tr>
<td>• Feedback</td>
<td>Control</td>
<td>16 Risk prevention</td>
</tr>
<tr>
<td>• Viral marketing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Monitoring risks</td>
<td></td>
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</tr>
</tbody>
</table>

#### 4.2.2 Step 2: Identification of the themes

After the copying of data, depending on the importance of codes recognises the broader topic or topics that have substantive meaning of the whole set of codes defined by the identified issues.

In fact, read the summary text that identifies individual code, and content-based combined semantically related code in the topic. Each topic must be substantive and meaningful designed to be specific to one idea and also wide enough to capture different segments of text (Stirling-Attride, 2001).
4.2.3 Step 3: Construction of the network

In the third step out themes linked to the thematic network. In doing so, we keep the principles that unite substantially aligned groups and, where appropriate, on the basis of theoretical considerations (organising themes).

If themes are too many and they are relating to different issues, it is consequently necessary to create a larger number of groups that are included in the new network.

Based on the identification of themes and topics are organised forms a brief overview of each of the broad themes. They actually unify and uniting the concepts and ideas from the lower level. Thus, the process is carried out the creation of common themes. Followed by a screening process and improve networks (Stirling-Attride, 2001).

<table>
<thead>
<tr>
<th>Themes as basic themes</th>
<th>Organising themes</th>
<th>Global themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Growth of interactive applications for communication and collaboration</td>
<td>Mobile applications</td>
<td>Information sharing</td>
</tr>
<tr>
<td>2 Appropriately designed and moderated blogs allow a thoroughly-documented presentation of views on medicines and their effects</td>
<td>Patient consultation</td>
<td></td>
</tr>
<tr>
<td>3 Surreptitious advertising</td>
<td>Blogging</td>
<td></td>
</tr>
<tr>
<td>4 The possibility of adjusting product information in order to promote sales</td>
<td>Pharmaceutical portals</td>
<td></td>
</tr>
<tr>
<td>5 Trade and advertising control</td>
<td>State agency for medical monitoring</td>
<td>Information access</td>
</tr>
<tr>
<td>6 Information filtering</td>
<td>Pharmaceutical portals</td>
<td></td>
</tr>
<tr>
<td>7 Social behaviour</td>
<td>Social media</td>
<td></td>
</tr>
<tr>
<td>8 Verifiability of information</td>
<td>Mobile applications</td>
<td></td>
</tr>
<tr>
<td>9 Communication channel</td>
<td>Search engine</td>
<td></td>
</tr>
<tr>
<td>10 Virtualisation of the social and business environment</td>
<td>Undeclared sales</td>
<td>Value-added information</td>
</tr>
<tr>
<td>11 Corporate communication</td>
<td>B2B</td>
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<tr>
<td>12 Supply chain</td>
<td>B2C</td>
<td></td>
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<tr>
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<td>Medical portals-physicians</td>
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</tr>
<tr>
<td>14 Social feedback information about medicines</td>
<td>Medical portals-customers</td>
<td></td>
</tr>
<tr>
<td>15 Social behaviour</td>
<td>E-detailing</td>
<td></td>
</tr>
<tr>
<td>16 Risk prevention</td>
<td>Social media portals</td>
<td></td>
</tr>
</tbody>
</table>
Table 3 illustrates the three steps in the development of thematic networks into three broad groups based on conceptually-related content (the initial selection was made by respondents). The basic themes were organised into topical themes based on semantic equivalence (second column), and then reduced to global themes (third column). These were then illustrated as three separate thematic networks, e.g. Figures 2, 3 and 4.

4.2.4 Step 4: Description of the survey and thematic networks

The fourth step involves the description and research networks. Our mission is to combine the information and explanations and prepare a report for the readers. It should be noted that the thematic network tool for analysis and not analysis itself.

Researchers need to focus on themes that have emerged in the network, and research focus on them. Indeed, we must return to the original text or data, and based on the combined discover the patterns that define it. When the grid formed, the researcher returns to the basic text and data and interpret its meaning through a network:

- a description of the network: treat each designed network and present the contents of the individual sections
- research networks: after the completion of the census of individual networks begin to conduct research and search the recorded characteristics that are repeated.

In this step, as the researcher does not return to the original text, but its contents discussed through the fundamental themes of organising the topic and the selection of the baseline. The network now becomes not only a tool for the researcher, but also for the reader who is able to follow the researchers’ interpretation of the summaries provided by the network. To facilitate the presentation and interpretation of the data network must be read in sequence (for example, clockwise).

Figure 2  Thematic network – information sharing
Figure 2 shows an example of thematic networks based on the first global themes (Table 3). The global theme ‘information sharing’ represents a thematic network, which includes five organisational themes (mobile applications, patients consulting, blogging, pharmaceutical portals and web and social media) and 16 basic themes.

The global theme of ‘information sharing’ can be interpreted through thematic networks: the internet, social media and mobile applications. These three groups are becoming a communication channel for the exchange of information on non-prescription medicines and directly affect the faster exchange of information. As is evident from the thematic network, specific knowledge and information are still shared between personal contacts. It is necessary that information about non-prescription medicines found on the internet and in social media is strictly controlled.

The global theme in Figure 3 represents ‘access to information’. The thematic network includes five organisational themes (state agency for medical monitoring, pharmaceutical portals, social media, mobile applications, and search engines) and 14 basic themes. The global theme of ‘access to information’ is interpreted using thematic networks: the internet and social media. These two are becoming the main communication and commercial channels for non-prescription medicines. The internet and social media have directly affected the faster exchange of information. As is evident from the thematic networks, the internet and social media are encouraging the creation, access, and sharing of specific knowledge and information on the OTC market. The pharmaceutical companies have to invest in e-pharmacy consulting and commerce portals.

**Figure 3** Thematic network – information access
In Figure 4, the global theme represents ‘value added of an information’ in a thematic network, which includes six organisational themes and 15 basic themes. The global theme of ‘value added of information’ is interpreted using thematic networks: the internet and social media are becoming communication and commercial channels for non-prescription medicines. They directly affect the faster exchange of information. As is evident from the thematic networks, pharmaceutical companies share and assume specific knowledge and information through the web and social media. They have invested in their own portals, allowing them to communicate with patients, pharmacists, and physicians. Because of potential information overlap between indications of medicines and sales of illegal medicines, there is a need for monitoring the virtual OTC market.

**Figure 4** Thematic network – value-added information

The description and exploration of text is helpful to present (quoted) text segments from the original transcripts, thus corroborated the analysis.

Hereafter follows a few extracts from the interviews, which reflect the opinion of the interviewees about the use and importance of the internet and social media in the context of OTC medicines virtual marketing.

- **Pharmacist A:** “Unfortunately, in the case of marketing of non-prescription we can find websites that allow misuse of the information and selling products that are all commercially available”.

- **Pharmacist B:** “In the case of marketing of non-prescription medicines, it is necessary to pay attention to websites that are not owned by registered pharmaceutical companies. In this case, the information obtained by such adverse health effects”.

- **Physician A:** “I believe that the use of the internet and social media enables patients to gain more information about products for sale to help them in their purchasing decisions”.
Physician B: “I think that’s blogging about the non-prescription medicines can be harmful to the patient, in the sense that there is a feed rates of false information in order to promote sales”.

4.2.5 Step 5: Summary of thematic networks

After completing the research and descriptions of the thematic networks, we summarised the contents of the main topics and defined patterns that were repeated in the whole description (in the interviews) (Table 4). These samples were adjusted to the research.

| Reason for the launching of digital marketing | Development of the internet and social media; the increasing use of digital marketing. |
| Mission | To inform and to raise awareness about information of non-prescription medicals; to monitoring the e-commerce; real time bi or multilateral communication on and off line. |
| Process of reorganisation | Internet technology is displacing Kotler’s 4P (product, price, place and promotion). In the forefront enter digital marketing, which is characterised by the use of physicians and medical portals, e-detailing, e-CRM, e-CMEs, SEO (search engine optimisation), social media, semantic technology and monitoring e tools; cognitive processes; personal user characteristics. |
| Implementation and management | Needs for organising team of IT professionals and pharmacists who will care for creation of portals, control the web posts; smaller companies and doctors hire external service providers. |
| Objectives and impact | Greater and faster access to customers; the possibility of obtaining feedback lower cost for marketing; reduced importance of marketing agencies. |
| Risk management | Monitoring: non-prescription medicals, information on blogs, social media etc. (control of virtual marketing) |

4.2.6 Step 6: Interpretation of the interviews

The interpretation combined the summary of all thematic networks with the relevant theoretical results. Thus, we examined important topics, concepts, patterns and structures that appeared in the text. We returned to the original research questions and theoretical frameworks underpinning the study by explaining the arguments that were based on samples that appeared in the research text.

The results of the summary are shown in Table 4. The results are based on the interviews that were analysed by using thematic analysis. The arguments were then interpreted and conclusions were given.

Interviewees’ statements about their main reasons for using the internet and social media, and the causes of success and implementation, indicated the main factors that defined the common patterns (Tables 2–4). The key concept of pharmaceutical marketing strategy is making changes across verticals: pharmaceutical companies, physicians, pharmaceutics, and patients.

Based on the obtained interviews which were analysed using thematic analysis, and after interpreting the arguments, it can be concluded (Figures 2–4) that internet technology is displacing Kotler’s 4 P’s (product, price, place and promotion) (Kotler and
Keller, 2012). Digital marketing has come to the forefront. It is characterised by the use of physicians and medical portals, e-detailing, e-CRM, e-CMEs, SEO (search engine optimisation), social media, semantic technology, and monitoring e-tools (Valacich and Schneider, 2012).

Organisations, pharmacists or physicians can form e-CRM community networks. Community network members can contribute their knowledge to the network knowledge base. Members can access that knowledge by using social media. Such community networks can improve customer (patient) retention, and increase both efficiency and revenue.

5 Conclusions

This paper has found connections between anchoring theory, data analysis, and theoretical returns that accrue by linking research findings, practical initiatives, and internet and social media operating guidelines in the pharmaceutical OTC medicines marketing.

Qualitative research on the impact of the internet and social media on the marketing of organisational change management for OTC medicines is based on new-age digital marketing, which is replacing Kotler’s 4 P’s of marketing (product, price, place and promotion).

Pharmacists thought that social media may improve the quantity and quality of customers (patients) options for getting and exchanging information about the OTC medicines.

New internet technologies require pharmaceutical companies to adopt new business strategies. Managers have to make organisational changes in marketing strategy on the basis of attitudes and characteristics of users who are using the new technologies. They have to move from the operating organisations to digital marketing.

The traditional location where transactions take place is moving online. It is important that pharmaceutical companies are visible on the web. But customers of e-pharmacies still do their shopping in bricks-and-mortar-pharmacies more often than online.

The pharmacists has the opportunity to provide the customer retention policy that is based on developing customer insight. Researching the customers’ behaviour and characteristics help the pharmacists to understand their values. It appears a need to assess the impact of the social web and software solutions such as recommendation systems that help companies to establish on demand marketing.

The struggle for customers takes place in the OTC market. The virtual business environment puts pressure on sales margins. The use of social media strategies can help provide better medical outcomes in patients. Digital marketing allows the media placement along many different stages of the customer engagement cycle. Making patients more informed and aware about their choice of medications and preparations, give them greater control over the course of their own health (Severin Benshimol et al., 2012).

Pharmaceutical companies also have to use social media for B2B interactions. It is important to customise an online engagement to the needs of each physician and pharmacist.
Furthermore, the importance of the regulatory environment should not be forgotten. Formulating social media strategies required the involvement of legal and marketing consultants who understand the meaning of social media and their mission is to ensure the confidence of the customers.

This qualitative research opens further research questions about the impact of the internet and social media marketing to companies. Digital marketing is an approach to development that focuses on the needs of the wider community because modern challenges are of an ever-changing nature and require immediate action. We recommend that further research activities focus on other areas, not just the pharmaceutical industry, and that they take into consideration marketing through mobile applications that are accessible to individuals almost all day.

References


