

DIMENSIONS OF CSR IN ONLINE COMMUNICATION OF PHARMACEUTICAL COMPANIES: A COMPARATIVE STUDY

Milan Džupina

Constantine the Philosopher University in Nitra
Nitra, Slovak Republic
mdzupina@ukf.sk

Zuzana Džupinová

Institute for State Control of Veterinary Biologicals and Medicaments
Nitra, Slovak Republic
zdzupinova@gmail.com

ABSTRACT

The article focuses on analysis of online communication of pharmaceutical companies in the field of CSR. It is based on the fact that there are specific segments in the economy, which are called sensitive sectors. Even though they are often perceived as irresponsible in their nature, there are effective communication tools, which can be used to increase positive corporate image. The present study is a part of a larger research that we conducted in the segment of pharmaceutical industry. We used information about companies available on their websites as a research material. We reviewed their availability on websites, but we also reviewed the content on which companies usually focus in terms of social engagement. Our research was supposed to prove that there are considerable differences among companies in our sample. We analyzed (qualitative content analysis) collected data (basic corporate documents like mission, vision and corporate values) using statistical procedures. These documents are crucial to corporate strategies, and often deal with responsibility issues which are then transformed into business strategies, tactics and programs. According to the nature of the research the generalization of the information provided is relatively limited.

KEYWORDS: corporate social responsibility (CSR), pharmaceutical industry, sensitive sector, content analysis.

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INTRODUCTION

Pharmaceutical industry is often considered both very admired and criticized, too (Nussbaum, 2009) and is one of today's most dynamic industries worth US\$300 billion a year. Moreover, a figure is expected to rise up to US\$400 billion within three years (World Health Organization, 2016). Pharmaceutical industry has many peculiarities due to its specific character. It has a top sophisticated research, fierce competition and regulations. Although the concept of corporate social responsibility (CSR) can be traced back to 50s pharmaceutical sector began to adopt CSR only about a short time ago. Finally, PR managers soon understood, that it is very important to report on sustainability and responsibility and the number of firms is still increasing (Esteban, 2008). Pharmaceutical industry is often stigmatized due to the character of the production, but CSR seems to be an appropriate tool to secure broader stakeholder support (Hillenbrand, Money, & Ghobadian, 2013). Even though, these firms produce drugs and medicines to improve and maintain human and animal well-being, they are often perceived as "sin" (Grougiou, Dedoulis, & Leventis, 2016), or sensitive industry (Kašparová &

Kunz, 2013), or even stigmatized sector (Vegne, 2012). It is mainly because of their nature and conflict between words and actions. Recent researches focus mainly on the pharmaceutical industry ethics and sincerity nexus (Countess of Frederiksborg & Fort, 2014; Nussbaum, 2009); a customer perception and analysis of attitudes towards CSR activities of pharmaceutical firms (Wang, 2011); CSR as a means of public relation and reputation management (Cheah, Chan, & Chieng, 2007; Stone, Grantham, & Vieira, 2009; Leisinger, 2005); but also advantages of implementing CSR in the pharmaceutical sector (Droppert & Bennett, 2015). Active CSR can lead to stronger corporate brands, employee satisfaction, positive corporate image or teambuilding (Nielsen & Thomsen, 2007; Story & Price, 2006).

1 DEFINITION OF CORPORATE SOCIAL RESPONSIBILITY (CSR)

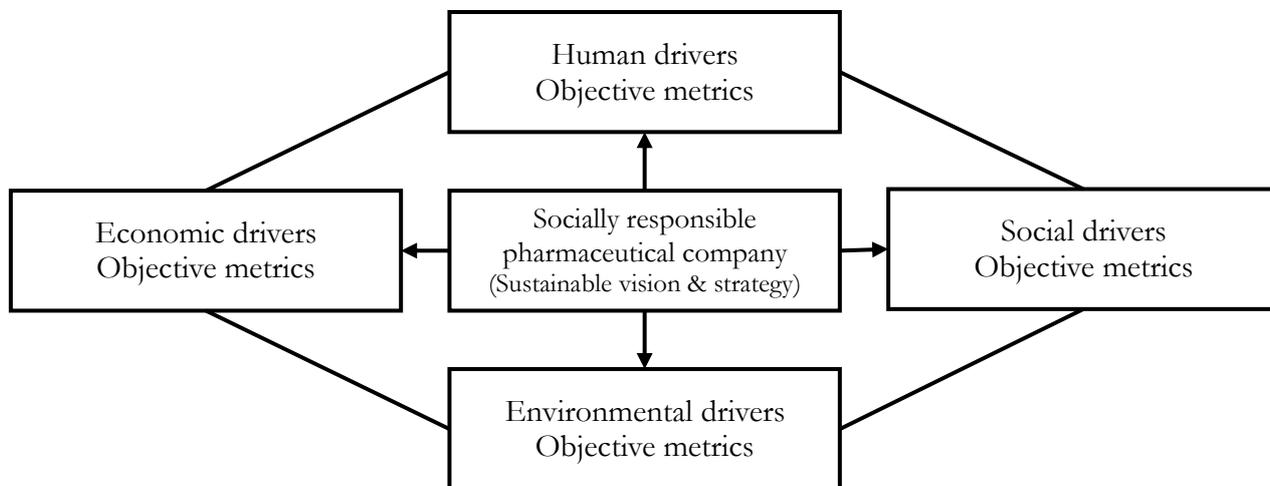
The problem with CSR is that there is an ambiguity of what CSR entails (Džupina & Džupinová, 2016). There is no generally accepted definition of CSR as they usually apply in specific time, country of origin, or to a specific stakeholder group. At least 37 main academic definitions can still be identified emphasizing the responsibility categories and issues (Dahlsrud, 2008). The modern era of CSR is marked by the contribution of H. R. Bowen (Carroll, 1999), who concluded that businessmen were obliged to “pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society...” (Bowen, 1953: 6). Later on, Carroll (1979) defined CSR as “The social responsibility of business encompasses the economic, legal, ethical, and discretionary expectations that society has of organizations at a given point in time.” and formulated a four-stage model of corporate social responsibility (Carroll, 1979). Definitions also dealt with the notion of voluntarism and it was believed, that companies should fulfill and enhance socio-economic welfare in 1960s (Frederick, 1960). An important shift occurred in 1970’s when Sethi (1975) started distinguishing among corporate behavior (social obligation), social responsibility, and social responsiveness. During 1990s, new definitions started to deal with internal and external stakeholder and also a new concept of “Triple Bottom Line” was placed (Elkington, 1999). There was also a very complex definition formulated by Vogel (2005), who claimed, that CSR represented “practices that improve the workplace and benefit society in ways that go above and beyond what companies are legally required to do”. Nowadays, according to the European Union, CSR is “a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis” (European Commission, 2001).

2 CSR IN PHARMACEUTICAL COMPANIES

There were several researches conducted in pharmaceutical companies, which prove that one of the basic principles of their philosophy is to take care of the interests and needs of the final consumer – those who buy pharmaceutical products but also the whole society (Vitezić, 2010). Firms in all sectors, including pharmaceutical industry, are implementing programs and strategies to improve social welfare, protect the environment and, finally to protect human rights (the social pillar). There is a global increase in the importance and subsequently impact of social responsibility in the pharmaceutical industry (Porter & Kramer, 2002). However, dimensions of economic sustainability also play an important role in overall sustainability as they are vital for further economic sustainability and development in the future (Džupina & Džupinová, 2016). Vitezić (2010) identified a new revised CSR model of pharmaceutical companies (figure 1) which differed from the original version of the sustainability model as it emphasized the human factor (human driving forces) in the pharmaceutical industry. The human pillar consists of such dimensions like improving the quality of life, improving the health culture, prevention and treating of diseases (Vitezić, 2010). CSR in the pharmaceutical industry is not only about altruism but also about comfort (Fort, 2014). According to Bowen (2004, p. 321), a pharmaceutical company wish to be perceived as socially responsible because it is very important for their reputation (Bowen, 2004: 321). Even though pharmaceutical companies are perceived as irresponsible, in fact they can be more responsible than other companies (Minoja, Romano, 2010)

mainly because they play a key role in improving public health, of course while meeting desired profitability (Reisel, Sama, 2003). It is necessary to find a compromise in meeting all stakeholders' expectations.

Figure 1 A Model of A Socially Responsible Pharmaceutical Company



(Source: Vitezić, N., 2010: 64)

Aspect of profitability is vitally important for pharmaceutical companies. Otherwise, they would lack financial sources for further research, product development, innovation skills or reduction of investments (Smith, 2003). With regard to CSR, there are several different approaches for pharmaceutical companies how to deal with sustainability issues. We believe that corporate executives should focus on activities, which include more management efforts and skills as well as their know-how in implementing CSR (Esteban, 2008). In last few years, we have noticed, that importance of CSR is increasing within pharmaceutical industry (Leisinger, 2005). Mainly due to a negative publicity, which was triggered by low quality of production and subsequent withdrawal of medicines from the market (Cheah, et al., 2007). Other issues were caused by problems with clinical testing, safety of medical products, advertising and overuse of drugs, corruption, work safety, or even biopiracy (Weyzig, 2004). Usually, managers implement codes of conduct to avoid such a behavior (Seknička & Putnová, 2016). Implementation of appropriate CSR policies can positively influence brand equity (Hoeffler & Keller, 2002), employee satisfaction, goodwill, teambuilding or social development (Nielsen & Thomsen, 2007; Story & Price, 2006). Nowadays, the situation with pharmaceutical companies have changed. Marketing 4.0 helped to introduce new platforms, which can be relatively cheaply used to communicate with stakeholder groups. The main advantages are proactivity and adaptability of the message spread through new channels (Manheim & Pratt, 1986; Tapscott & Ticoll, 2003; Xiao, et al., 2002).

2.1 Online CSR

Nowadays, we witness the move of marketing communication to digital environment, namely online environment. The number of people with access to new technologies and internet connection is growing rapidly (Esrock & Leichty, 1998). Digital forms of communication changed the way in which brands communicate interact with customers (Benmark & Masri, 2015). The most commonly mentioned advantages of online communication are (1) interactivity (De Pelsmacker, et al., 2010), efficiency (Chaffey & Ellis-Chadwick, 2016) and reliability (Homburg, et al., 2009). Studies on online CSR communication have been conducted for over two decades. Esrock and Leichty (1998) analyzed the impact of online CSR on business image. They concluded that online communication helped to present companies, monitor the interests of stakeholders and that it would lead to a direct dialogue between companies and their audience. Therefore, CSR can be seen as a means of active image management. Companies have the opportunity to differentiate their own brand at a relatively low cost

and communicate about their corporate social responsibility and build credibility through new channels in their communication mix (Kesavan, et al., 2013). Digital environment includes wide range of different channels, through which companies can stay in touch with its important stakeholders (Arrenfeldt, 2015). Thus, increasing the potential number of brand contacts. Today, the Internet is used by public relations professionals to provide information to online public (such as shareholders, customers, suppliers, employees, media, etc.). Gomez and Chalmeta (2011) discussed the main features of CSR on websites, which are presentation features, content features and interactive features. More than half of the companies present their social responsibility through environmental projects, education projects and social engagement (Esrock & Leichty, 1998). Surprisingly, many pharmaceutical companies still do not make an adequate use of the Internet to communicate about CSR (Uzunoglu & Kip, 2014). Ryan (2003) identified two ways in which organizations communicate with interest groups. Firstly, a one-way communication, which is aimed at spreading basic in order to influence the final image. Secondly, a dialogue-based communication, which is vital for the concept of integrated marketing communication

Leichty and Esrock (1998) in their article referred to the findings of Weber (1990), which emphasized the need to tailor reports to individual interest groups (journalists, analysts, opinion leaders and others). Subsequently, they recommended to specify the type and extent of information based on their content, for example financial data, social responsibility, job opportunities or any other aspects that need to be communicated through business communication. New technologies have made tremendous progress in the field of CSR communication. There are many opportunities to communicate social responsibility and target the information depending on the interests of stakeholder groups. In addition, innovative technologies offer opportunities to improve the quality of stakeholder relationships and also more accurate measuring of the communication goals.

3 DATA AND METHODS

The sample was obtained from the list of all pharmaceutical drugs producers registered in the Slovak Republic. Most of them are branches of large multinational corporations, so they are very likely to have web sites developed. For the purpose of the study, we will analyze all 70 companies to cover the whole sector. The research procedure consisted of several steps. First step is based on our previous research, in which, we have gathered a few definitions of CSR through a literature review from 1950s to a so-called millennium era (Džupina, 2012). Subsequently, we identified basic pillars and dimensions of CSR in gathered definitions (as shown in table 1).

Table 1 Pillars and dimensions of corporate social responsibility

Stakeholders		<ul style="list-style-type: none"> • customers • employees • shareholders 	
Voluntarism			
Obligations to society			
Pillars of sustainability	<i>Financial responsibility</i>	<ul style="list-style-type: none"> • corporate governance, • profitability, • product quality and safety, • ethical behavior, • CRM, • fight against corruption, 	<ul style="list-style-type: none"> • transparency, • protection of intellectual property, • fair trade, • fair competition, • business and marketing ethics,
	<i>Social responsibility</i>	<ul style="list-style-type: none"> • health and safety at work, • employment policy, • education of employees, • employing the long term unemployed, 	<ul style="list-style-type: none"> • respecting human rights, • work-life balance • outplacement • humanizing workplace,

	<ul style="list-style-type: none"> • sponsoring and philanthropy, • corporate volunteering, • anti-discrimination policy, • fight against child labor, 	<ul style="list-style-type: none"> • employee-friendly work environment, • equal working conditions, • partnership with stakeholders
<i>Environmental responsibility</i>	<ul style="list-style-type: none"> • “green” corporate policy and culture • reduction of negative impacts on the environment, • “green” production and “green” products (ISO 14000, EMAS, etc.). • saving and protection of natural resources, • “green” investments, and investments to “green” technologies, 	

(Source: Džupina, 2012: 65)

Thirdly, we gathered information from online communication focusing on CSR on corporate web sites and in strategic documents. Companies were obtained from the list of pharmaceutical drugs producers registered in the Slovak Republic. A content analysis with an open coding scheme was used to identify all dimensions in corporate missions and visions, possibly corporate values. All the companies were picked up on purpose and all the subcontractors were excluded from the list. We used IBM SPSS 25.0 for statistical evaluation. We have found that our research sample is made up mainly of multinational companies (77.1 %) and only 22.86 % are of Slovak origin. Our sample consisted not only of those companies that produce human drugs, but also veterinary drugs. 11.4 % of companies produce only human drugs, 47.1 % focus on veterinary drugs and 41.4 % produce both. We decided to include all producers registered by the Slovak authorities and included in the database on www.eudragmp.ema.europa.eu website. The main objective of the paper was to determine the main differences between Slovak and foreign companies in our sample. Partially, we tried to answer following research questions:

1. Is there a statistically significant impact of country of origin on CSR activities?
2. Is there a difference between pillars of sustainability between Slovak and foreign companies?
3. Is there a statistically significant difference between Slovak and foreign companies in terms of preferring CSR dimensions?

4 RESULTS AND DISCUSSION

In our research, we focused on issue of differences in the social engagement of Slovak and foreign pharmaceutical companies. It is based on the total number of dimensions in which the companies were involved. The research sample consisted of only those companies, which reported their CSR on web pages. It was 54 (77.1 %) out of the 70 enterprises analyzed. The average number of CSR activities in which companies were involved 10.8.

Table 2 **Geographical differences CSR engagement according to the country of origin**

STATISTICS	SLOVAK COMPANIES	FOREIGN COMPANIES
N	10	44
Mean	5,50	11,95
Std. Error of Mean	1,09	1,17
sStd. Deviation	3,44	7,73
Variance	11,83	59,77
Median	4,00	12,00
Skewness	1,23	,21
Std. Error of Skewness	,69	,36
Kurtosis	1,15	-1,15
Std. Error of Kurtosis	1,33	,70

Range	11	26
Minimum	2	1
Maximum	13	27

(Source: Own research processed in IBM SPSS 25.0)

The table shows that the average difference between Slovak ($\sigma = 5.5$) and foreign ($\sigma = 11.6$) entities is significant in terms of involvement in CSR activities. In order to carry out statistical testing, it is necessary to determine separately if the distribution of the variable is normal in both Slovak and foreign companies. The normality of distribution is necessary for the performance of parametric statistical testing.

Table 3 Test of normality (Kolmogoro-Smirnov a Shapiro-Wilksov test)

	KOLMOGOROV-SMIRNOV			SHAPIRO-WILK		
	Statistic	df	Sig.	Statistic	df	Sig.
Slovak companies	,269	10	,039	,851	10	,059
Foreign companies	,144	44	,023	,934	44	,015

(Source: Own research processed in IBM SPSS 25.0)

In the case of Slovak companies, the deviation from the normal distribution is not statistically significant ($p > .005$) based on the Shapiro-Wilk test, which has a higher power to detect deviations from the normal distribution (Field, 2009). However, for foreign business companies, the situation is the opposite. The p value ($p < .005$) indicates that the distribution of CSR dimensions of foreign firms compared to the normal distribution is statistically significant. Thus, we decided to proceed with non-parametric testing to see if the impact of the country of origin is statistically significant.

Table 4 Impact of country of origin on a number of CSR dimensions

	N	MEAN RANK	SUM OF RANKS
Slovak companies	16	23,78	380,50
Foreign companies	54	38,97	2104,50
Total	70		

(Source: Own research processed in IBM SPSS 25.0)

According to the calculations which were carried, we found that there was a realistic assumption that differences in different levels of enterprise engagement could be caused by the country of origin. Non-parametric statistical tests are based on medians of distributions and therefore have a higher informative value compared to the classical arithmetic mean.

Table 5 Impact of country of origin on a number of CSR dimensions (Mann-Whitney test)

Mann-Whitney U	244,500
Wilcoxon W	380,500
Z	-2,642
Asymp. Sig. (2-tailed)	,008

(Source: Own research processed in IBM SPSS 25.0);
a. Grouping Variable: Slovak/foreign company

The total number of dimensions that foreign enterprises have included in their CSR policies (Mdn = 12) is statistically significantly different from the Slovak (Mdn = 4), $U = 244.50$, $z = -2.64$, $p < .01$. We are aware that non-parametric tests are less sensitive than parametric tests. In order to increase the informative value, we have determined the effect of the country of origin, which is based on the formula (1):

$$r = \frac{Z}{\sqrt{N}} \tag{1}$$

Where Z – Z statistics,
N – Number of cases

Based on the defined relationship, we calculated $r = -0.36$, which implies that the relationship between the country of origin and the CSR activities is explained to about 36%. This is a weak relationship in which there are still 64% chance of other factors influencing the statistical model. Moreover, we also observed differences in the specific pillars that Slovak and foreign companies prefer in their CSR strategies.

Table 6 Pillars of sustainability

PILLARS	SLOVAK COMPANIES		FOREIGN COMPANIES	
	N	%	N	%
Economic	10	100,0%	42	95,5%
Social	8	80,0%	35	64,8%
Environmental	6	60,0%	32	59,3%

(Source: Own research processed in IBM SPSS 25.0)

As far as sustainability is concerned, the situation is in both Slovak and foreign companies relatively similar. In both groups of companies, the economic pillar of sustainability dominates. The percentages do not have significant information value, as Slovak companies are not sufficiently represented in the sample. However, it simply illustrates what pharmaceutical market looks now. It is highly dominated by foreign corporations. Another problem is that Slovak companies pay less attention to reporting CSR activities.

Another question, which we tried to answer was whether there are statistically significant differences in dimensions, which both Slovak and foreign companies prefer. However, the results could be influenced by a smaller number of Slovak companies (table 7 and table 8).

Table 7 Dimensions of CSR in Slovak companies

DIMENSIONS	PILLARS	N	%
Product safety and quality (animal health)	Econ.	8	80,0%
Occupational safety and health	Soc.	6	60,0%
Employee education	Soc.	5	50,0%
Consumer relationships	Econ.	5	50,0%
Ecological production (ISO 14000, 50 000, EMAS, HSEQ)	Ecol.	4	40,0%
Green investments	Ecol.	4	40,0%
Green corporate culture	Ecol.	3	30,0%
Reduction of negative environmental impacts	Ecol.	3	30,0%
Stakeholder partnership	Soc.	3	30,0%
Code of conduct	Econ.	3	30,0%
Natural resources protection	Ecol.	1	10,0%

Waste management	Ecol.	1	10,0%
Low cost environment	Ecol.	1	10,0%
Employment policy	Soc.	1	10,0%
Philanthropy	Soc.	1	10,0%
Anti-discrimination policy	Soc.	1	10,0%
Diversity management	Soc.	1	10,0%
Human rights	Soc.	1	10,0%
Fight against corruption	Econ.	1	10,0%
Transparency	Econ.	1	10,0%
Fair competition	Econ.	1	10,0%
Reduction of water, waste and electricity consumption	Ecol.	0	0,0%
CO ₂	Ecol.	0	0,0%
Work-life balance	Soc.	0	0,0%
Friendly corporate culture	Soc.	0	0,0%
Corporate governance	Econ.	0	0,0%
Protection of intellectual property	Econ.	0	0,0%
Marketing ethics	Econ.	0	0,0%

(Source: Own research processed in IBM SPSS 25.0)

The interesting thing is that in Slovak companies, there are mainly dimensions of ecological sustainability in the first half of the table compared to foreign entities. In the first half of the dimensions, there are up to 50% of the dimensions related to the environmental orientation of companies, 28.60% of social dimension and only 21.40% dimensions of economical sustainability.

Table 8 Dimensions of CSR in foreign companies

DIMENSIONS	PILLARS	N	%
Product safety and quality (animal health)	Econ.	39	88,6%
Consumer relationships	Econ.	33	75,0%
Code of conduct	Econ.	29	65,9%
Stakeholder partnership	Soc.	28	63,6%
Employee education	Soc.	27	61,4%
Occupational safety and health	Soc.	24	54,5%
Philanthropy	Soc.	23	52,3%
Ecological corporate culture	Ecol.	22	50,0%
Reduction of negative environmental impacts	Ecol.	22	50,0%
Reduction of water, waste and electricity consumption	Ecol.	22	50,0%
Employment policy	Soc.	22	50,0%
Natural resources protection	Ecol.	20	45,5%
Transparency	Econ.	20	45,5%
Ecological production (ISO 14000, 50 000, EMAS, HSEQ)	Ecol.	19	43,2%
Waste management	Ecol.	19	43,2%
Anti-discrimination policy	Soc.	19	43,2%
Human rights	Soc.	19	43,2%
Green investments	Ecol.	18	40,9%
Friendly corporate culture	Soc.	18	40,9%
CO ₂	Ecol.	16	36,4%
Diversity management	Soc.	16	36,4%
Corporate governance	Econ.	13	29,5%
Protection of intellectual property	Econ.	13	29,5%
Low cost environment	Ecol.	12	27,3%
Fair competition	Econ.	12	27,3%
Marketing ethics	Econ.	11	25,0%

Fight against corruption	Econ.	8	18,2%
Work-life balance	Soc.	7	15,9%

(Source: Own research processed in IBM SPSS 25.0)

The situation of foreign companies is different. The first half of the table includes dominantly dimensions of ecological and social sustainability (both 37.50%). The third pillar was the pillar of economic sustainability. We can conclude that there were differences in preferences of the observed dimensions between Slovak and foreign entities. We can assume that this is caused by different approaches of company management, or their different preferences.

In order to determine, whether the differences are statistically significant, we conducted statistical testing, using Mann-Whitney U test. Mann-Whitney U test is a non-parametric test, which is based on a median (middle value of distribution). Thus, median significantly reduces the influence of extreme values.

Table 9 Dimensions of CSR in Slovak and foreign companies (median)

	N	MEAN RANK	SUM OF RANKS
Slovak companies	28	14,55	407,50
Foreign companies	28	42,45	1188,50
Total	56		

(Source: Own research processed in IBM SPSS 25.0)

The distribution of both independent samples (Slovak and foreign) prove that the differences in the final ranking of Slovak (Mdn = 11.6) and foreign (Mdn = 42.5), $U = 1.50$, $z = -6.43$, $r = 0.859$, $p < .01$ are statistically significant. The analyzed relationship defines approximately 86% of the differences described. This is a very high dependency. We can therefore assume that the order of dimensions is significantly influenced by the country of origin of the company.

Table 10 Dimensions of CSR in Slovak and foreign companies (Mann-Whitney test)

Mann-Whitney U	1,500
Wilcoxon W	407,500
Z	-6,434
Asymp. Sig. (2-tailed)	,000

(Source: Own research processed in IBM SPSS 25.0);

a. Grouping Variable: Country of origin

In both Slovak (80.0%) and foreign (88.6%) pharmaceutical companies, there was product safety and quality came at first place. The result can be perceived as a natural consequence as all companies have to meet high quality standards (GMP - Good Manufacturing Practice and European regulations), which are set by the European Agency (EMA) and transposed into national legislation (the Act no. 362/2001 call. on medical products and medical devices, and also manufacturing practice). Other dimensions placed differently in observed sample.

CONCLUSIONS

The pharmaceutical industry is one of the most dynamic industries ever. This is not only because of the economic results achieved (Dukes, 2006), but also because of intensive research and innovations. The nature of the products produced, their focus and their use in the treatment of humans and animals makes of the pharmaceutical industry one of the most controlled and regulated sectors. A significant change is that companies are increasingly engaged in communication (Dumitrescu, 2016) towards stakeholder groups. The pharmaceutical sector has highly diversified interest groups. In this article we dealt with a specific area, namely the involvement of pharmaceutical companies in social responsibility. As early as 1973, Jacoby (1973) concluded that it is necessary to communicate social responsibility in order to eliminate the negative associations of corporations. Online communication, even in communicating CSR activities is an important change caused by the number of people with access to new technologies (Esrock & Leichty, 1998). In terms of sustainability, the situation in both Slovak and foreign companies is relatively similar. In both cases, the economic pillar of sustainability dominates. However, looking at the dimensions of the individual pillars, the situation starts to be different. In Slovak enterprises, there are mostly dimensions related to the pillar of ecological sustainability of business in the first half of the dimensions. The situation with foreign companies is a bit different. There are both dimensions of ecological and social sustainability placed in the first half. For most Slovak and most foreign pharmaceutical companies, product quality and safety comes first. Overall, Slovak manufacturers are aware of the necessity to communicate CSR through online communication. However, the results of the research cannot be completely generalized, as there are large differences between the pharmaceutical companies, which we analysed. Large foreign corporations communicate best about CSR and use different means of communication. In case of Slovak and smaller companies we identified significant drawbacks in the way they communicate about their social responsibility. The main problem is that they do not use online communication sufficiently.

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