

MEASURING THE LEVEL OF CORPORATE INTERNET PRESENTATION IN RELATION TO ECONOMIC PERFORMANCE

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Abstract

Corporate internet presentations are the key information channel that allows firms to spread information about their mission, products and services, contacts and other important information. It is also the basis for Business to Consumer e-commerce corporate activities. The most important criteria for evaluation of websites were identified and classified and simple methodology for assessing website quality and its improvement was proposed in the previous research of the authors. The main goal of the paper is to utilize this methodology to identify the relationship between quality of corporate internet presentation and economic performance of a company. The research was conducted on a sample of travel agencies operating in Slovakia.

Key words: *Internet, internet presentation, evaluation, economic performance, corporation.*

1. Introduction

Globally accessible web sites enable corporations to communicate with a wide variety of constituencies and represent a resource for any organization seeking a broad audience. Technology is transforming the way organizations conduct business and communicate with constituent groups. With computer networking and access to the Internet readily available, all sizes and types of companies have the opportunity to operate in a multinational environment by using these media (Robbins and Stylianou, 2003).

Corporate internet presentations are the basis for any e-commerce activities of the companies. E-commerce is a term for any type of business, or commercial transaction that involves the transfer of information across the Internet. It covers a range of different types of business - from consumer based retail sites, through auction or music sites, to business exchanges trading goods and services between corporations. It is currently one of the most important aspects of the Internet to emerge. E-commerce can provide many potential benefits over non-electronic commerce. Corporation is able to reduce the costs by reducing labor. The results of using e-commerce are reduced errors in keying data, reduced paper work, and reduced post costs. Another benefit is the economy of time. That means shorter lead times for payment, return on investment in advertising and faster delivery of product. The rapid dissemination of information, the digitization of record keeping and the networking capability of the Internet has improved flexibility and responsiveness and encouraged new and more efficient intermediaries. It has increased the use of outsourcing, expanded market access, reduced time to market by linking orders to production and improved internal coordination (Šperka and Slaninová, 2012).

In the previous research of the authors the most important criteria for evaluation of corporate internet presentations were identified and classified and simple methodology for

assessing website quality and its improvement was proposed (Kollár et al., 2014). The main goal of this paper is to utilize proposed methodology to identify the relationship between quality of corporate internet presentation and economic performance of a company.

The Internet is already used by more than 80% of enterprises for company presentations and shops, mainly for business-to-consumer applications. However, studies reveal that in particular small and medium enterprises (SMEs) in Europe are lagging dangerously: only 12% of European SMEs have concepts for e-business, while 40% of European SMEs have no plans at all (Kraus and Rupp, 2001). That is why we decided to investigate the influence of quality of corporate internet presentation to economic performance of SMEs. Specifically we decided for travel agencies operating in Slovakia. The main reason was that internet presentation is a crucial communication channel for this kind of business. It is used for marketing purposes to attract new customers as well as to provide detailed and up-to date information for both potential and current customers. The interactive communication possibilities of current dynamic internet presentations allows also on-line discussion with specific customers to answer their questions and demands. Very important part of today's internet presentations is connection to social network to support viral marketing (techniques that use social networking to produce increases in brand awareness and to achieve other marketing objectives). That is why we are convinced that in case of travel agency there might be relation between quality of internet presentation and its economic performance and we are going to test it using following data and methodology.

2. Data and methodology

Existing methodologies for evaluation of corporate internet presentation are mostly aimed at technical issues or on Google Analytics. In contrast, we focus on internet presentation visitors' point of view. According to results described in (Alva et al., 2003), (Leporini, Paterno, 2003) and (Krug, 2006) we identified the list of criteria, which can be considered as the most important for internet presentation visitors. Although all criteria proved to be important for the internet presentation visitors in general, we recommend to realize a corporate specific survey to gain information about target internet presentation visitors' preferences.

As an example, we realized the survey of Faculty of Economics, Matej Bel University visitors' preferences. The survey was realized during the years 2006-2012 and number of respondents exceeds 350. Respondents were both men and women, mainly young people under 25 who have completed at least secondary school. Respondents evaluated the individual criteria of the web pages in general, irrespective of the nature of business. They rated the importance of each criterion from 1 (the least important) to 5 (the most important). The aim of the survey was not to find out what is the opinion of respondents on specific websites, but to identify the preferences of website visitors.

IBM SPSS Statistics software was used to process the observed data. Mean Ranks (from Friedman test) representing importance of individual preferences are summarized in the following list. Differences in preferences of visitors were tested using Wilcoxon signed rank tests, see (Hollander et al., 2014) for details. The first three preferences: "Up-to-date content, Security, Functionality of all pages and its parts" are the most important for respondents. The differences between these preferences for the users were so small that we consider it insufficient to rank them. Similarly, the other three preferences: "Intuitive - simple navigation, Content, Speed" form group in the second place. Other individual preferences follows and the last two: "Interactivity and Language versions" seems to be indistinguishable

too because the corresponding differences in the preferences were not statistically significant. Data indicates that preferences of visitors remained stable in all years but the stability of preferences during the years was not verified by statistical testing.

To propose an easily applicable methodology for assessing website improvement in a corporate environment resulting to easily interpretable results, we specified the way how to summarize measurements of individual criteria that are very different to each other. We classified the criteria into three groups. The first group consists of quite easily measurable criteria. The second one includes criteria where it is necessary to capture the opinion of web page visitors about perceived improvement via surveys. The third group is formed by criteria unsuitable for small and medium enterprises we are focusing on (for more details see (Kollár et al., 2014)). In order to maximize the objectivity of evaluation, we decided to use only the first – measurable criteria. In that case each (qualitative) state of a webpage can be represented as a point in an m -dimensional hypercube (m is the number of criteria), where each coordinate is a number from the unit interval. The ideal state of a web page is represented as a point of m -dimensional hypercube where each coordinate is equal to 1. Then the difference between two (qualitative) states of a web page can be seen as a difference D of the Euclidean distances between the two corresponding points and the point representing the ideal state (Kollár et al., 2014):

$$D(\text{state 1, state 2}) = \text{distance}(\text{state 1, ideal state}) - \text{distance}(\text{state 2, ideal state}). \quad (1)$$

The proposed methodology was implemented using VBA in Microsoft Excel and the evaluation tool was created with very simple graphic user interface, we can see on the following figure.

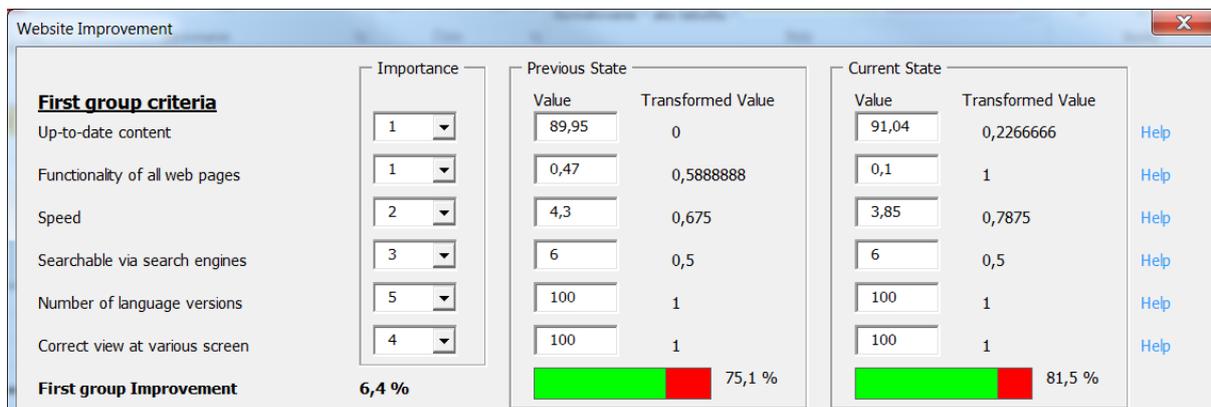


Figure 1. Tool for website's improvement evaluation

Source: Authors.

We used this tool to measure the improvement of the quality of travel agencies internet presentations. As for the data, the current versions of their websites are available on internet, the previous versions can be accessed by Internet Archive (available at <https://archive.org>). Unfortunately, not all criteria in the first group can be measured when we evaluate internet presentations stored in archive. That is why we could not measure two criteria: "Functionality of all web pages" and "Searchable via search engines", so we assign them same values for all travel agencies.

Economic performance of corporations is measured by their annual sales. The individual data have been drawn from IndexPodnikatel'a (available at <https://indexpodnikatela.sk>). Data available at this site are collected from Business Register (Ministry of Justice of the Slovak Republic), the Trade Register of the Slovak Republic, Commercial Journal, Register of Financial Statements (Ministry of Justice of the Slovak Republic) and other publicly available sources.

We have decided for a sample group of randomly chosen 34 travel agencies of total number 1032 travel agencies with their internet presentations available via links at zoznam.sk – section: travel agencies. Unfortunately, only for 15 corporations we could gain all data that were necessary for analysis.

3. Level of Corporate Internet Presentation vs Economic Performance

Based on described methodology we evaluated the level of corporate internet presentations at two various dates with difference approximately 2 years. The level was calculated in our tool, but firstly we had to calculate values of individual criteria for each internet presentation separately. First criteria “Up-to-date content” was evaluated manually based on information published on available version of the website. “Speed” of the previous website version cannot be measured directly, so we estimated it based on size of all files necessary for displaying of the homepage. We used Pingdom Website Speed Test (<http://tools.pingdom.com>) to get the information about homepage files’ size. “Number of language versions” was also evaluated manually. “Correct view at various screen resolutions” we calculated depending on number of errors in website HTML code. For validation we used World Wide Web Consortium Markup Validation Service (<https://validator.w3.org>).

Then we calculated the ratio of these two levels, so we were able to identify increase or decrease of internet presentation quality.

As for the economic performance we gained the data representing the annual sales at two different dates, always the following year after the level of corporate internet presentations quality was calculated. The reason for this time lag was expectation that the improvement of corporate internet presentations cause change of economic performance during following years. Then we calculated the ratio also for annual sales. Using the ratio we were able to characterize travel agencies regardless of size. The ratio also shows the change of economic performance.

We can see described values in the following table.

Table 1. Economic performance and level of corporate internet presentation.

Company	Sales 1	Sales 2	Ratio of sales	Website level 1	Website level 2	ratio of website level
www.eurocrv.sk	242 683	168 595	0,695	82,94 %	73,89 %	0,891
www.oneworldtravel.sk	2 558 183	2 391 640	0,935	76,01 %	73,89 %	0,972
www.tatra-travel.sk	161 022	143 832	0,893	73,89 %	72,84 %	0,986
www.hydrotour.sk	19 840 977	19 400 469	0,978	84,81 %	84,49 %	0,996
www.koala.sk	12 427 869	17 732 127	1,427	80,54 %	84,92 %	1,054
www.olintour.sk	45 202	44 281	0,980	82,94 %	84,92 %	1,024
www.firotour.sk	14 844 875	13 619 272	0,917	84,92 %	84,92 %	1,000
www.dekampo-dovolenka.sk	40 989	26 462	0,646	84,92 %	84,66 %	0,997

www.olta.sk	232 441	285 317	1,227	84,92 %	84,92 %	1,000
www.adriahome.com/sk	250 590	349 939	1,396	80,54 %	83,25 %	1,034
www.wachumba.eu	181 771	321 683	1,770	84,92 %	84,92 %	1,000
www.ckafrodita.sk	309 471	159 063	0,514	84,92 %	84,92 %	1,000
www.omegatours.sk	302 842	254 945	0,842	83,33 %	83,33 %	1,000
www.m-travel.sk	327 966	288 217	0,879	80,54 %	84,92 %	1,054
www.koraltour.sk	53 685	57 142	1,064	83,25 %	84,92 %	1,020

Source: Authors.

In order to describe the relationship between sales and website level we calculated Spearman correlation index. In our case it equals to 0.44, i.e. there is a medium positive relationship between sales of companies and their website levels.

4. Conclusion

We measured the level of corporate internet presentations quality on example of travel agencies in Slovak Republic and then we compared the results with their economic performance measured by sales. The results show a medium positive relationship between them. We suppose that the level of internet presentation has impact also on other factors than economic performance indicators. Improvement of website quality can lead to higher customer lifetime expectancy, increase in customer loyalty or other effects. The problem is difficult measuring of mentioned effects, especially in time.

The level of corporate internet presentation quality depends on various factors. For the evaluation of websites we used earlier proposed methodology that includes three groups of evaluation criteria. In the research for this paper we used only the criteria of the first group, because it was impossible to evaluate criteria of second and third group back in time. The second group includes criteria where it would be necessary to capture the opinion of web page visitors about perceived improvement via surveys. The third group is formed by criteria unsuitable for small and medium enterprises we are focusing on.

We recognize the importance of the remaining criteria and that is why we plan to realize extended detailed evaluation of corporate internet presentations in current year and compare the results with similar evaluations in following years. In these evaluations also second group criteria could be included. The aim of further research will be estimation of added economic value if the level of internet presentation is increased. We are convinced that comparing the investments in website development with estimated increase in revenues can help in business planning processes.

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