

## FACTORS INFLUENCING CORPORATE WEBSITES' VALUE

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### Abstract

*The importance of corporate websites is indisputable. Websites allows companies to spread the information about contacts, products or services at relatively fair costs. The structure of these costs of the website creation, development and maintenance is described in our paper. The main aim of the paper is to present results of survey conducted out to describe factors that influence the value of corporate websites. This survey was realized by questionnaires for both users and companies. User point of view and corporate evaluation of website value was investigated to compare and summarize the results. The results of the survey may help companies to estimate the value of their websites and compare it with the real costs.*

**Key words:** internet, website, website value, website costs, survey

**JEL Codes:** D83, M15, O33

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### 1. Introduction

Internet and especially World Wide Web became natural part of our personal life and business as well. This computer network was originally designed as a military project and for years it served only for researchers and academics. The internet standards and services that were developed in eighties and nineties together with development of personal computers have made this network accessible for public and naturally it became interesting also for businesses. Especially internet service World Wide Web allowed companies to spread the information about contacts, products or services. All kinds of companies had the possibility to operate in a multinational environment by using this phenomenon (Robbins, Stylianou, 2003).

The first websites were so called “static”, because the early technology allowed companies only to present information without users’ interaction. Nowadays wide range of business models and processes can be supported by internet websites that are so called “dynamic”. It means that various technologies are used to allow website visitors to interact and get customized content they need. Also business and financial transactions can be performed directly via this network. Thanks to dynamic pages, content management systems were developed. They allow employees to easily update the corporate websites or even create new websites for their companies. They increased the use of outsourcing, expanded market access, reduced time to market by linking orders to production and improved internal coordination (Šperka, Slaninová, 2012).

However, studies reveal that in particular small and medium enterprises (SMEs) in Europe are tagging dangerously: only 12% of European SMEs have concepts for e-business, while 40% of European SMEs have no plans at all (Kraus, Rupp, 2001). As stated by Lesáková (2008, p. 607) “Small and medium enterprises (SME) are faced with the need for a strategic response to the changes in global business environment.” Same author also stressed that

impact of information and communication technologies on businesses sector is indisputable. “The future success of small and medium enterprises in the new world of global economics will be determined by

- a) implementation of new businesses types in SMEs sector,
- b) implementation of innovation, information and communication technologies by SMEs,
- c) implementation of strategic management by SMEs” Lesáková (2008, p. 607).

The structure of costs of the website creation, development and maintenance can be classified as follows. Firstly, company has to pay for the space on the webserver for the files that are necessary for the corporate website. These costs are called webhosting costs and they are at the level of a few tens to hundreds euro per year. The value depends on the size of the space, access to a database, provided services, traffic, reliability of the webhosting provider and other. Nowadays webhosting providers prepared for companies pre-installed or easy to install content management system or even e-commerce systems that are very simply to use (often open-source) and in case of simple projects they allow experienced company employees to create and maintain their website.

Secondly, company has to pay for domain name or domain names if they decide to have more than one that might be useful in specific cases (for example for better SEO - search engine optimization). Domain cost is also relatively low at the level of a few to tens euro per year. It has to be paid to (national) domain registrar, but usually it is arranged by webhosting provider as companies pay this fee together with the fee for webhosting. For a years there have been only national domains plus a few specific (like .com, .org, .net, ...), so companies had to decide for specific top level domain name and then they could choose second level domain name if it was free (like mycompany.com). In 2011 The Internet Corporation for Assigned Names and Numbers allowed companies to choose essentially arbitrary top-level domain names (like .ms, .azure, .win, .hotmail or .bing for Microsoft related websites).

Many companies ask web developers (a specialized companies) to create website for them. It depends on the budget and specific developer, but in general the result is much more professional website as in the case it was created by company employees using content management system (most common are Wordpress, Drupal, Joomla). The prices of website development vary from a few hundreds to hundreds thousands euro because they depends on very large number of factors like size of the website (number of pages, number of levels of navigation), design (standard, customized or original), multimedia support, provided services or supported processes like ordering, e-commerce, on-line pay gateway, security measures and others. The prices of website maintenance also vary, as they depends on the range of provided services. In case of large projects they cover also webhosting and domain costs. It depends on the level of outsourcing that company decided. To optimize the processes of updating corporate website, even in the case of outsourced website maintenance, content management system is used anyway to allow company employees to update the content, add and manage products, prices and other.

The companies need to make decisions about investment in information technologies, specifically websites. On the one hand, there are described costs, on the other there is a value of this intangible asset - website in balance sheet. That is why the main aim of the paper is to present results of surveys conducted out to describe factors that influence the value of corporate websites. These surveys were realized by questionnaires for both users and companies. User point of view and corporate evaluation of website value were investigated to compare and summarize the results.

The first questionnaire was focused on the website value for visitors. The main goal was to identify the importance of their preferences. The importance of the individual preferences can

be used for evaluation of the websites according to methodology described in Kollár, Král, Laco (2014). In this context the website value was understood as a synthesis of website visitors' preferences. The second questionnaire was focused on the website value for the companies. We asked companies about their preferences when buying a website and also about the costs and websites' value in the assets of the company (and also some other additional questions), so in this case, the value of the website was understood both as a synthesis of companies' preferences and also as a monetary value of a website for the company.

## 2. Factors influencing corporate websites' value for the visitors

The first survey we realized using the same methodology as it was described in Kollár, Král, Laco (2014), based on Tezza, Bornia, Andrade (2011), Alva et al. (2003), Leporini, Paterno (2003) and Palmer (2002) with the minor changes. Demographic data (gender, age) concerning respondents were investigated to check whether the sample was representative. Before the survey was realized, we were piloting the questionnaires and based on the pre-results we adjusted some questions to make them more clear for the respondents. One more question was added to investigate the frequency of internet usage by the respondent. So the first questionnaire consisted of 4 questions (gender, age, internet usage and preferences). Afterwards the survey was realized using on-line forms. Respondents were motivated to fill the questionnaire via social networks, so it was self-selection. In crucial forth question, the respondents could choose from scale one (the least important) to five (the most important) when evaluating the individual criteria. We were able to process 205 questionnaires that were filled correctly during the first three months 2017. IBM SPSS Statistics software was used to process the observed data, specific methods that were used are listed next to individual results.

Based on gathered data, we do not reject the hypothesis about the representativeness of the sample by gender ( $\alpha = 0.1$ ). In table 1 we can see how often women and men respondents use the internet.

Table 1: Internet usage and gender structure of respondents

	Women	Men	Total
Every day or almost every day	102 (97.1 %)	98 (98.0 %)	200 (97.6 %)
At least once a week	2 (1.9 %)	1 (1.0 %)	3 (1.5 %)
Less than once a week	1 (1.0 %)	1 (1.0 %)	2 (1.0 %)
Total	105 (100.0 %)	100 (100.0 %)	205 (100.0 %)

Source: the author's work

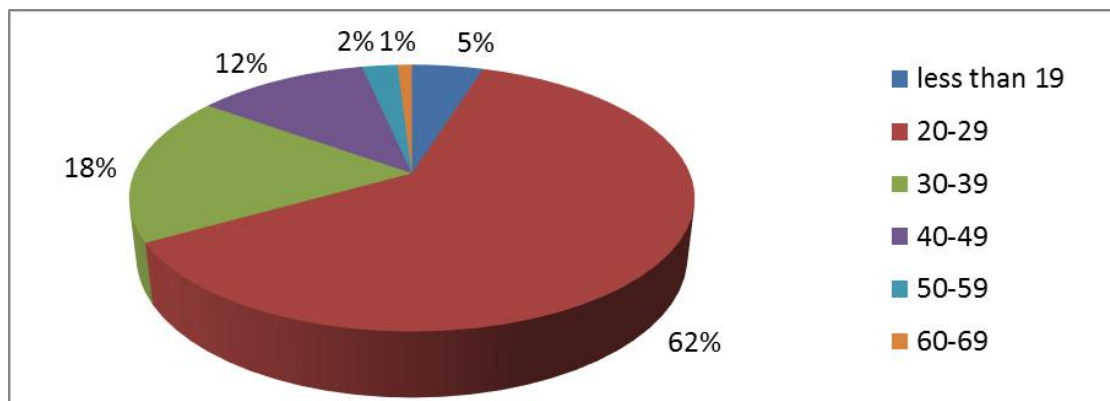
The structure of the sample according to age can be seen from figure 1. It is obvious that the sample is not representative by age.

The most important question in the first questionnaire was dealing with the preferences (criteria they consider important evaluating websites) of the respondents. Mean Ranks representing importance of individual preferences of respondents are in the following table 2. Friedman K-Related test (Chi-Square statistics = 746.45, df = 13, p-value = 0) and Wilcoxon Signed Ranks Test (all preferences were compared in pairs) were used.

In table 3 there are preferences of respondents as they were published in Kollár, Král, Laco (2014) in order to compare the results. As we can see, number of groups of preferences with same importance decreased from 8 to 6. The order of some preferences has also changed. Advertisements have become even more annoying today. This change was expected, as almost all news portals, search engines and other web-based services are nowadays overwhelming users with ads of all kinds and sometimes even force users to stop using

advertisements blocking software in their browsers. Correct view of pages has also become more important. This could be caused by the fact that internet users access webpages with all kinds of devices with extremely various screen sizes and resolutions from smartphone (even smartwatch), through tablet, notebook to large monitor and television. That is why it is much more challenging for the web designers to create webpages that will be displayed correctly on all devices. Based on our previous research and 20 years of practical experience in this field we can recommend responsive web design approach. As number of mobile devices in 11/2016 overwhelmed the number of desktop accessing the internet (Global Internet Statistics, 2017) we also recommend so called „mobile first“ approach in responsive web design.

Figure 1: Age structure of respondents



Source: the author's work

Table 2: Preferences of respondents in 2017

Order	Preferences	Mean Rank
1	Security	10.13
	Without advertisements	9.34
	Content	9.29
2	Up-to-date content	9.02
	Functionality of all pages and its parts	8.81
	Speed	8.64
	Intuitive - simple navigation	8.56
3	Correct view	7.71
	Searchable via search engines	7.61
4	Site search	6.20
	Design	5.68
5	Simple domain	5.24
	Language versions	4.83
6	Possibility of interactivity	3.93

Source: the author's work

Updated results of our research are important input for the methodology of assessing websites we proposed and described in Kollár, Král, Laco (2015) and Kollár, Král, Laco (2014). Comparison of women and men respondents' preferences in our current research we can see in table 4. We can see some differences. Correct view of pages and displaying in the results of search engines are more important for men respondents. Simple domain is more important for women respondents as we can see it in higher category than in case of men respondents.

Table 3. Preferences of respondents in 2014

Order	Preferences	Mean Rank
1	Up-to-date content	9.17
	Security	9.00
	Functionality of all pages and its parts	8.90
2	Intuitive - simple navigation	8.71
	Content	8.64
	Speed	8.31
3	Disturbing advertisements	6.62
4	Simple and easy to remember address, searchable via search engines	6.54
5	Design, originality	5.97
6	Correct view at various screen resolutions	5.96
7	Site search	4.69
8	Interactivity – feedback forms, forums	4.31
	Language versions	4.17

Source: the author's work

Table 4. Preferences of women and men respondents in 2017

Order	Women respondents' preferences	Mean Rank	Order	Men respondents' preferences	Mean Rank	
1	Security	9.89	1	Security	10.38	
	Up-to-date content	9.34		Content	9.67	
	Without advertisements	9.31		Without advertisements	9.36	
	Content	8.92		Functionality	9.15	
	Intuitive - simple navigation	8.81		Speed	8.75	
2	Speed	8.54	2	Up-to-date content	8.69	
	Functionality	8.50		Intuitive - simple navigation	8.29	
	Searchable via search engines	7.47		Correct view	8.08	
	Correct view	7.36		Searchable via search engines	7.77	
	Site search	6.68		3	Site search	5.71
3	Design	5.69	3	Design	5.67	
	Simple domain	5.65		4	Simple domain	4.82
	Language versions	4.89		4	Language versions	4.77
4	Language versions	4.89	5	Possibility of interactivity	3.93	
5	Possibility of interactivity	3.94	5	Possibility of interactivity	3.93	

Source: the author's work

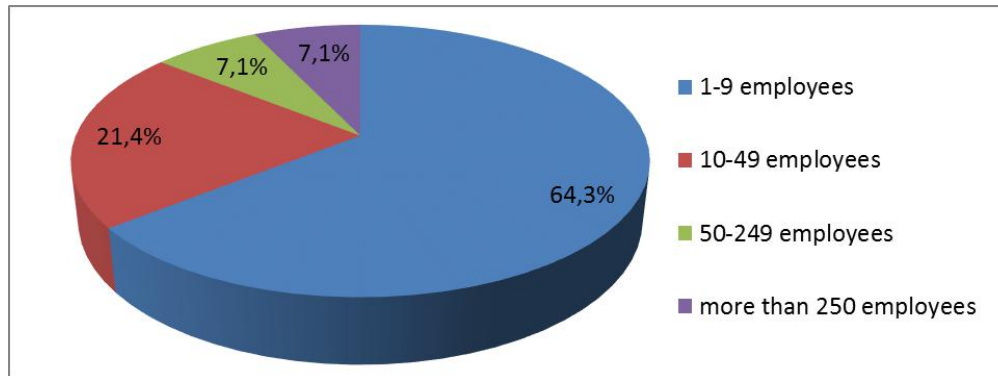
### 3. Factors influencing corporate websites' value for the companies

To investigate corporate point of view we realized the second survey aimed to factors that influence the willingness to buy a website, website development and update, the value of websites in Slovak companies in their assets and others. In total this questionnaire consisted of 14 questions. To contact and invite the companies to fill in the questionnaire, we mailed random sample using data and contacts from FinStat database. The survey was realized using on-line forms, this time the return on questionnaires was 25%. We were able to process 50 questionnaires that were filled correctly during the first three months 2017. Like in case of

previous questionnaire we were piloting also this one in order to make all the questions and possible answers clear for the respondents.

In figure 2 we can see the structure of the sample according to the size of the company that was measured by the number of employees. Unfortunately the sample is not representative by size (number of employees) as we received 4 questionnaires from companies with more than 250 employees (what was surprising as there should be no such companies in our sample according to data from FinStat database). Answers of 6 more micro companies (1-9 employees) were missing, what also confirmed inaccuracies in FinStat database.

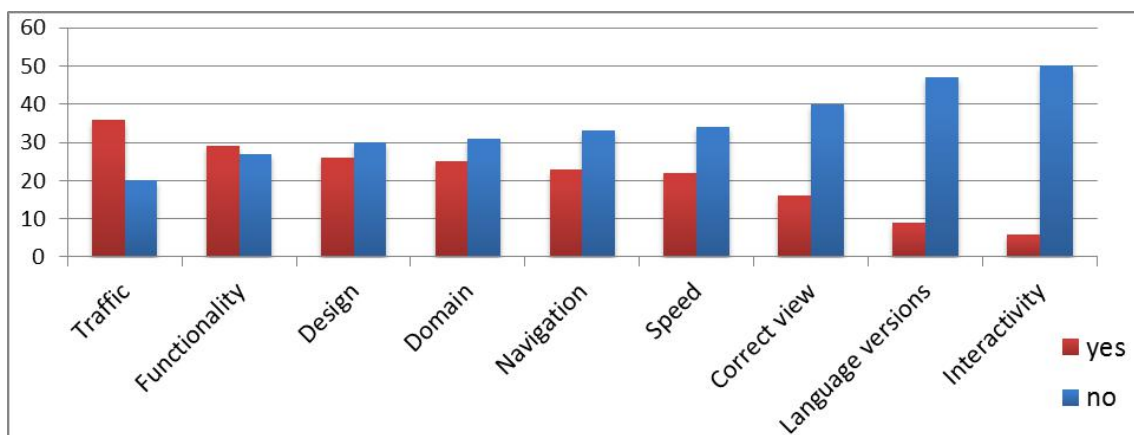
Figure 2: Number of employees of investigated companies



Source: the author's work

In our survey we wanted to know which kinds of on-line communication are the most used in Slovak companies. Respondents had multiple options to choose from: Social networks, Portals of companies (like zoznam.sk), corporate website, corporate website with e-shop, none of these. There was no significant difference in the usage of standard ways of on-line communication of Slovak companies, except website with e-shop that was less common in case of our respondents (as it was expected). Friedman K-Related test (Chi-Square statistics = 98.67, df = 5, p-value = 0) and Wilcoxon Signed Ranks Test (all preferences were compared in pairs) were used.

Figure 3: Preferences in case of buying a website



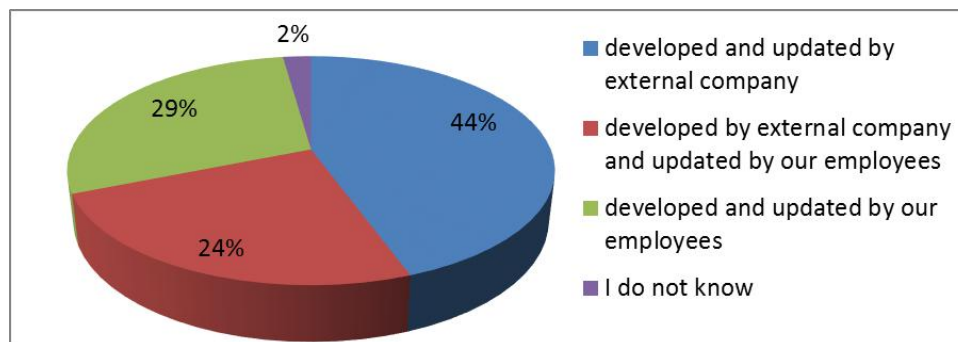
Source: the author's work

Then we asked about the preferences in case of buying a website. The results can be seen in following figure 3 as numbers of respondents' answers. Traffic was the most important criteria for companies when buying a website, followed by functionality, design, domain name, simple navigation and speed. Correct view, language versions and interactivity were the

least important for respondents. Friedman K-Related test (Chi-Square statistics = 78.42,  $df = 9$ ,  $p\text{-value} = 0$ ) showed us differences, but Wilcoxon Signed Ranks Test (preferences compared in pairs) did not showed statistically significant differences among preferences. One of the possible reasons might be relatively small number of respondents. It is also possible that using scale instead of yes/no option would bring more detailed results, but we decided for simpler version not to discourage respondents to fill the questionnaires.

We also investigated whether respondents' corporate websites were developed by external company and the way as they are updated. As we can see on figure 4, there are 44% of our respondents that let external specialized company (mostly advertising company or web developers) to develop and update their website. Share of respondents who developed their websites by external company and then update them by own employees was 24%, share of respondents who developed and maintain their websites by own employees was 29%. It follows that 68% of respondents developed their website by external company and 53% of respondents update their website by own employees. As we explained in the introduction, the process of update or even development of a website by internal employees is possible thanks to content management systems that are available today and they are used also by specialized (advertising or web developer) companies.

Figure 4: Development and update of corporate websites



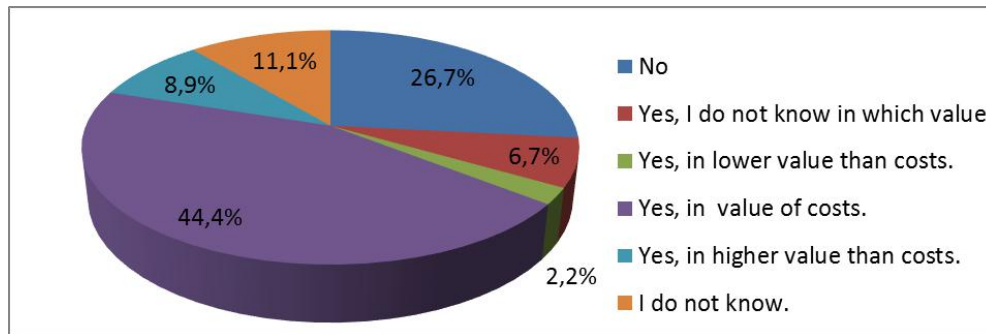
Source: the author's work

In the following questions we asked companies about corporate websites' development costs, corporate websites' maintenance costs and estimation of revenues' increase thanks to corporate website. Analyzing results we found out that in case of higher development costs, the maintenance costs are also higher (Pearson Correlation 0.947,  $p\text{-value} = 0$ ) in case of our respondents. There is also significant difference between small and medium companies on one side and large companies on another side in the increase of on-line generated revenues (Kruskal Wallis Test,  $p\text{-value} = 0.077$ ) in our sample. Then we investigated impact of specific costs on increase of revenues, but we could not confirm any (Spearman's rho value 0.503,  $p\text{-value} = 0$ ).

Following question was focused on corporate websites' value in the intangible assets of the company. Binominal test confirmed that the most of respondents have the website in the intangible assets ( $p\text{-value} = 0.009$ ).

The answers to the last question were disappointing for us, as 94.6 % respondents expressed that they are not interested in estimation of their website's value. We can assume, that Slovak companies are afraid of leakage or misuse of information regarding their business. Respondents could be also already tired of filling the questionnaire or there might be another (tax) reason.

Figure 5: Corporate websites' value in the assets of the company



Source: the author's work

#### 4. Conclusion

In the introduction of our paper, we very briefly described the internet, especially World Wide Web and its commercial usage. We also classified the costs related to development and maintenance of corporate websites. As the main aim of our paper was to present results of surveys conducted out to describe factors that influence the value of corporate websites, we presented results in following sections. Section two is focused on corporate websites' value from the visitors' point of view and section three is focused on corporate websites' value from the companies' point of view. Both sections starts with description of the survey.

The results of the first survey showed that preferences of respondents - websites' visitors has slightly changed comparing with situation in 2014, advertisements became more annoying and correct view is more important today. The sample of respondents was representative by gender but not by age that is why we did not generalize these results.

The results of the second survey showed that standard ways of on-line communication like social networks, portals of companies and corporate websites are more common than e-shops. As for the preferences, there are differences, but we were unable sort them because of the small sample. Corporate websites of respondents are developed mostly by external companies (68 %), but they are updated mostly by internal employees (53 %). Development and maintenance costs were analyzed as well as increase of on-line generated revenues. Most respondents (44.4 %) keep their websites in the assets of the company at the same value as the costs, but more than quarter of them (26.7 %) do not keep their websites in accounts at all. Finally, respondents were not interested in estimation of their website's value. The main problem with results of the second survey is that sample is relatively small and not representative according to size of the company. That is why we do not generalize the results to all companies in Slovakia.

Our results are useful for update and improvement of methodology we proposed in our earlier research (Kollar, Král', Laco, 2014) as well as in our further research dealing with estimation of corporate websites' value. We plan to gain a project support to conduct a survey with larger and representative sample, as the methodology of analyzing the obtained data was already introduced and applied in our paper.

We recommend that further research in this area could be focused also on accounting and law issues connected with evaluation of the corporate websites as intangible assets in companies' accounting, because overvaluation or underestimation of intangible assets often leads to adjustment of the tax base.



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