WEB QUALITY IN LITHUANIAN FINANCIAL INSTITUTION: A COMPARISON WITH THE EU RESULTS

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The objective of this paper is to analyse the navigation quality of the websites of Lithuanian banks. Information completeness for investors ensures the correct functioning of capital markets. In banking environments, this goal is reached by increasing the use of the corporate Website. For this reason, to ensure the quality of these online resources is one of the most important challenges for central banks and financial authorities. The content of the corporate Websites is being regulated by the Basel II initiatives, but navigation quality is not being observed by regulators. Since this variable has a significant impact on the quality of a website and can generate competitive advantages, it is necessary to analyse the current practices of financial entities.

Financial institutions located in Lithuania find themselves in a rather special situation because the entry of this country into the EU means that they have to adapt to a new cultural environment and incorporate its symbols, rules, institutionalized beliefs and normative systems. One of these is the need to adopt transparent reporting practices in consonance with the rest of European countries. Therefore, the navigation quality in Lithuanian banks analysed in this paper, the entity size is also considered as a possible variable of explanation, and a comparison with EU result is made, in order to detect competition disadvantages. To reach this goal, each website of the main Lithuanian financial entities is rated on the basis of a series of metrics that measure the quality of navigation, in accordance with the Web Quality Model developed by Calero et al. (2005).

Our results show that Lithuanian financial entities are aware of the importance of online resources because the quality of navigation of their websites is high compared with the results reached by the European sample. As a consequence of this fact, it can be concluded that the Lithuanian financial sector is correctly prepared to confront the challenge of the EU framework.

Keywords: bank regulation, central banks, technological change, corporate websites, navigation quality.
**Introduction**

Information is a key to the correct functioning of capital markets and banking systems. Capital markets compose an integral part of the economy because they facilitate the reallocation of funds from individuals with excess savings to organizations in need of funds to invest in projects. Through an efficient reallocation of funds a higher level of macroeconomic growth and wealth becomes feasible. However, an efficient valuation of firms which leads to the optimum allocation of funds to firms requires the existence of an equally efficient informational flow between investors and firms.

Accounting and financial information play an essential role in maintaining the proper functioning of capital markets. However, information provided by firms needs to be useful to the decision-making process of investors; moreover, information has to be transparent, clear, complete, correct and reliable.

In the 21st century, different types of information disclosures are being used by companies, particularly by banking institutions. The importance of the fundamental role being played by financial Websites leads to a justifiable concern to measure their quality, and this concern is shared by various accounting bodies such as the Institute of Chartered Accountants in England and Wales (ICAEW) which in 1998 made a proposal regarding the content and format digital information should have in order to meet the needs of the capital markets.

Along these lines, the Canadian Institute of Chartered Accountants (CICA) published a report (CICA, 1999) in which the digital reporting practices of 370 companies quoted on the New York, NASDAQ and Toronto stock exchanges were analysed. In addition, this report deals with a wide variety of interesting topics such as the impact of on-line reporting on current accounting models, the quality of information and the growing use of multimedia communications.

Subsequently, the FASB brought out two reports. In the first one (FASB, 2000), it indicates the advantages offered by the Internet for disclosing accounting information while drawing attention to certain aspects related to the homogeneity and quality of digital information. The second report (FASB, 2001) provides evidence of the use currently being made of the Internet for disclosing information while giving some examples that could be utilized by companies for improving the quality of the information provided in their corporate servers.

More recently, the ICAEW (2004) published the report *Digital Reporting: a Progress Report* in which two levels of digital reporting are distinguished. Basically, Level 1 makes reference simply to the publication on the Internet by companies of already existing reports, so that these are disseminated more widely. In turn, Level 2 involves undertaking a process of standardization of the format in which the information is stored, thereby facilitating and improving the process of analysis and exchange with other systems.

If we focus on the financial sector, we can state that the quality of the websites of financial entities not only concerns bankers and final users, but also other partici-
pants in the financial services industry, the business press, regulators, and law makers (Furst et al., 2002). It is important to point out that differences in the transparency of financial entities may involve differences in the trust of investors and regulators towards them, and this is a vital issue if we take into account the current ampliation of the European Union (EU). Therefore, the measurement of the quality of financial entities’ websites can be considered as a benchmark that measures the capacity of these entities to generate trust and acceptance in the new European environment.

The evaluation of the relative quantity of information offered by companies can be made utilising some type of index (Marston and Sirves, 1991). Thus, Botosan (1997) uses a disclosure index based on the information firms provide in their annual reports to shareholders to test the effect of disclosure level on the cost of equity capital. Debreceny et al. (2001) conducted an empirical study to determine the informational attributes most in demand by users of the information provided by companies through their corporate servers. Ettredge et al. (2001) utilise a check list to evaluate the information provided by a group of companies. Xiao et al. (2004) analyses the factors behind Chinese listed companies’ voluntary adoption of Internet-based financial reporting, as well as their extent of disclosure. Bonsón and Escobar (2006) analyse the information that companies from Eastern European countries disclose through their websites using a disclosure index based on the Spanish regulation on corporate transparency.

According to the Web Quality Model proposed by Calero et al. (2005), the quality of a website may be measured by a broad battery of Web metrics; these measures or criteria can be classified into three main groups under the headings: Content, Presentation and Navigation. Content defines the amount of information that users can directly find in the website. Navigation is concerned with the facilities for accessing information, and for moving around within the Web. Presentation concerns the way in which the content and the navigation facilities are presented to the user. A web page with an excellent level of Content should also present this content in a user-friendly way, and should optimize the facility for users to navigate around these contents. Navigability is an important design element, to help users to acquire the information they are seeking, by making that information easier to find (Calero et al., 2005). Financial entities should therefore aim to provide an optimum level of quality in each of the three dimensions postulated.

Other studies have indicated the importance of improving the navigability and accessibility of various different Web services (Shi, 2006). Plosker (2006) indicates that the navigability of the contents is related directly to the capacity of the user to utilize these contents effectively. Previous research studies have denoted this characteristic of website quality not based on Content as accessibility or technical adequacy (Aladwani and Palvia 2002), and the measurement of the quality perceived by the user by means of various metrics is becoming an activity considered of great importance by various different entities and governments (Barnes and Vidgen,
In the particular case of the banking and financial sector, White and Nteli (2004) state that the ease of use of the websites of financial entities is an aspect of fundamental importance in obtaining new clients and attracting traditional clients to on-line banking. Debreceny et al. (2001) state the importance of the way in which the website contents are offered in making the on-line contents into a productive experience for the user.

Bonsón et al. (2008) analyse the navigation quality of the websites of European financial entities, but their study does not cover the countries that have recently joined the European Union (EU).

The requirements that countries must fulfil in order to join the EU are very strict because their objective is to ensure that these entering nations have a stable economic and monetary system. Since the countries that join the EU are very reliable, they are able to attract foreign investments. For this reason, the entrance in the EU is a very important opportunity, and it is very interesting to know whether the countries that have recently entered the EU are able to generate enough trust among the investors and regulators of the new environment.

Among Eastern countries, Lithuania stands out because of its continuous growth, with growth rates higher than 7 percent in the last years (Penas-Franco, 2007). Financial institutions located in Lithuania find themselves in a rather special situation because the entry of this country into the European Union means that they have to adapt to a new cultural environment and incorporate its symbols, rules, institutionalized beliefs and normative systems. One of these is the need to adopt transparent reporting practices in consonance with the rest of European countries. The purpose of this paper is to analyse the quality of the websites of Lithuanian financial entities.

1. Methodology

The content of the websites of European financial entities is regulated through the Basel II Accord (Bank of Basel, 2007). Along these lines, the Third Pillar of Basel II, about Market Discipline, states the following:

“(...) For those disclosures that are not mandatory under accounting or other requirements, management may choose to provide the Pillar 3 information through other means (such as on a publicly accessible internet website) (...)

Accordingly, European financial entities follow this recommendation and, as a consequence, they disclose homogeneous contents in their websites (Bonsón et al., 2006).

However, the navigation quality is not regulated, so financial entities can make their own decisions. Since this variable has a significant impact on the quality of a website and can generate competitive advantages, it is necessary to analyse the current practices of financial entities. The size of the entity, measured by the magnitude of its assets, is considered as a variable when attempting to detect significant differences in the quality of navigation, since diverse studies stress the importance of examining the relationship between size and any differences found in the dissemination of information on-line (Cooke, 1991; Lang and Lundholm, 1993; Hossain et al., 1995;
Meek et al., 1995; Raffournier, 1995; Depoers, 2000).

Therefore, the objective of the empirical analysis is to rate each website of the main financial entities on the basis of a series of metrics that measure the quality of navigation, in accordance with the Web Quality Model (Calero et al., 2005).

With respect to the compilation of information on the corresponding websites, each website has been rated according to the navigability index (NI) comprising several variables associated with the ease of navigation. The presence or absence of the devices described in the NI gives rise to the score 1 or 0, respectively, in the corresponding variable. The index then takes a value ranging from 0 to 1, this magnitude signifying the degree of quality, as a %, presented by the website studied in each case. All the metrics (Table 1) are taken from the Web Quality Model (Calero et al., 2005) and special emphasis is put on advances in software that are fundamental for ensuring the correct accessibility of the on-line contents (Hackett and Bambang, 2005). It is possible to analyse each of them separately:

✓ site map: it is a mechanism that allows the user to situate each specific content within the website. Normally, it takes the form of a visual tree, signaling the place in which the user is navigating;
✓ search engine: the search is one of the most important features of a Web application or resource, so it is vital to provide the users with a software engine that provides the possibility of finding content easily;
✓ date of updating: if the information provided is important, so important is the date to which these data are referred to;
✓ multimedia files: videos and visual materials are usual in entertainment sites, and they are also being used to present the results of the businesses. Multimedia files help the users to get a fast view of the state of the company;
✓ friendly printing mode: when trying to print a website view, the users often may want to export to a printable version in order to save costs. This resource allows the users to save time and get a fast printable view;
✓ downloads in PDF or HTML: useful links to downloadable versions of the contents are a very important resource, considering that sometimes the users want to save or share this content as a singular file;
✓ webmasters: the responsibility of website maintenance must be clear, and it must be easy to contact asking for help;
✓ quality seals: these quality seals can be issued by various official organizations, and their objective is to certify the accessibility quality of a website;
✓ mailing lists / alerts: thanks to mailing lists or alert systems, companies are able to disclose updated information about their performance and activities, on a periodic basis, among the users that have been previously subscribed to them;
✓ back to the home page: it is an icon used to address the user to the home page of the company;
✓ situation in the web tree: it is a very useful tool because it allows the user to know the place in which he is navigating.
Each of these 11 variables may take a value of 1 or 0 in function of whether or not the company provides that class of information specified by the variable (Giner, 1997). With respect to the possible weighting of the variables, we have discounted the use of a weighted index because, in order to obtain the correct weighting coefficients, it would be necessary first to identify the relative importance of each information category for each particular group of users: in other words, different weightings would be required in the function of the user profile considered. Thus, on the understanding that the information provided is going to be employed by various types of users, each for different purposes, following Giner (1997) we have opted to construct our index by simple aggregation, in such a way that the value of the index utilised is the result of summing the scores assigned to each category of information. This type of non-weighted index, with dichotomous variables (taking the value 1 or 0), has been utilised previously in studies associated with the evaluation of information provided by companies via the Internet (for example, Ettridge et al., 2001; Larran and Giner, 2002; Pirchegger et al., 1999).

According to the classification of the Bank of Lithuania, corporate Websites of “Deposit Money Banks” are analysed. Currently, 9 commercial banks (Table 2) holding a license from the Bank of Lithuania are operating in the country.

Accordingly, each financial entity is measured through the NI as follows:

\[
\text{NI} = \frac{\text{values “1” founded for the entity}}{11}.
\]

2. Results

A descriptive analysis of the results is shown in Table 3.

The size of the entity, measured by the magnitude of its assets, is considered as a variable when attempting to detect significant differences in the quality of navigation of financial entities’ websites. The results of this analysis are shown in Table 4.

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<th>Table 1. Web metrics used</th>
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<td>1. Site Map</td>
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<td>2. Search Engine</td>
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<td>3. Date of Updating</td>
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<td>4. Multimedia Files</td>
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<td>5. Friendly printing mode</td>
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<td>6. Downloads in PDF or HTML</td>
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<td>7. Webmasters</td>
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<td>8. Quality seals</td>
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<td>9. Mailing lists/ alerts</td>
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<td>10. Back to the home page</td>
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<td>11. Situation in the web tree</td>
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<th>Table 2. Lithuanian entities analysed</th>
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<td>Bankas Snoras</td>
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<td>Bankas Hansabankas</td>
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<td>DnB Nord Bankas</td>
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<td>Parex Bankas</td>
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<td>Sampo Bankas</td>
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<td>SEB Vilniaus Bankas</td>
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<td>Dianlio Bankas</td>
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<td>Ukio Bankas</td>
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<th>Table 3. NI results for Lithuania</th>
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<td>Descriptive analysis</td>
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<td>NI</td>
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The main conclusions that can be extracted from the previous results can be grouped in two broad categories. On the one hand, it can be concluded that the quality of navigation of financial entities’ websites from Lithuania is acceptable; some financial entities reach punctuations close to the unit. On the other hand, there is no significant association between the size of a company and the navigation quality of its website. As a consequence, it can be concluded that Lithuanian financial entities are implementing mechanisms to ensure the quality of their websites with independence of their position in capital markets; this means that biggest entities are not taking the initiative.

2.1. EU comparison

Lithuania is preparing to fully adopt the EU environment. This fact will both attract potential investors and increase the presence of Lithuanian financial institutions in the international capital markets. For this reason, it is essential to investigate whether their corporate websites present inefficiencies that may damage their competitive advantages.

In order to carry out a comparison between the quality of navigation of financial entities’ websites from Lithuania and from the rest of Europe, we will refer to a study performed by Bonsón et al. (2007) that uses the same NI (the descriptive analysis is shown in Table 5).

The results shown in Tables 3 and 5 prove that Lithuanian websites reached a higher mean punctuation than the European ones. As a consequence, it can be concluded that Lithuanian financial entities are prepared to confront the task of adopting the EU challenges.

2.2. Detailed comparison

A detailed analysis of the results reached by each Web metric in both the Lithuanian and European samples is shown in Table 6. On can see that some of the metrics that measure the quality of navigation are not frequently used by Lithuanian corporate websites in comparison with the European ones. Multimedia files, the facility of

<table>
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<th>Table 4. No relationship between NI and size</th>
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<td>Dependent Variable: NI</td>
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<td>Method: Least Squares</td>
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<td>Sample: 19</td>
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<td>Included observations: 9</td>
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<tr>
<td>Variable</td>
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<td>SIZE</td>
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<td>S.E. of regression</td>
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<td>Sum squared resid</td>
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<td>Log likelihood</td>
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<th>Table 5. NI results for EU banks</th>
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access to webmasters, the use of quality seals, mailing lists or alerts as well as the situation in the web tree are devices that can and should be improved in the financial entities’ websites of Lithuania.

Conclusions

Given the increasing globalization of the current economic environment, corporate websites may be considered as the main instrument used by companies not only to do business but also to disclose information to current and potential investors. For this reason, the quality of websites is called to be a strategic variable to maintain the competitive advantage.

The content of the websites of European financial entities is regulated through the Basel II Accord. However, the quality of navigation is not regulated. Since this variable plays a fundamental role in the quality of a website, it can generate many competitive advantages for companies.

It is clear that Lithuanian financial entities are aware of the importance of these resources because the quality of navigation of their websites is high as compared with the results reached by the European sample. As a consequence of this fact, it can be concluded that the Lithuanian financial sector is correctly prepared to confront the new EU environment of competition.

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SUMMARY
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SANTRAUKA

Lietuvių įstojus į ES, šalies finansų institucijos turėjo prasitaikyti prie naujos kultūros, simbolių, tai-