Summary

The advent of the Internet has changed the ways companies communicate and has made accounting and management information available to all stakeholders. The aim of this paper was to determine in what way quality management through the implementation of the ISO 9001: 2000 standard affected the web-based financial statement disclosure in comparison with the companies without ISO certification. It was found that ISO 9001 certified companies paid more attention to their corporate communication and invested more effort in the presentation of accounting information on the Internet than companies without that quality certificate. This study also investigated the availability of easy access to financial statements through hyperlinks in companies with and without ISO 9001 assuming that quality-oriented companies made their accounting information easily accessible. The research, carried out on the sample of 50 Croatian companies with the highest value added, revealed that ISO 9001 certified companies disclose specific management information like ownership structure, ethical code, audit report, Supervisory Board report and Annual General Meeting report on the Internet more often than companies that do not hold the ISO 9001 certificate.

Key words: quality management, accounting information, corporate communication, Internet.
1. INTRODUCTION

Quality has become a major focus of businesses throughout the world, leading various organizations to develop quality standards and guidelines. As the European Community moved towards the European free trade agreement, which went into effect at the end of 1992, quality management became a key strategic objective (Evans & Lindsay, 2002). To standardize quality requirements for European countries within the Common Market and those wishing to do business with those countries, a specialized agency for standardization, the International Organization for Standardization (ISO), founded in 1947, adopted a series of quality standards in 1987.

ISO 9001:2000 is the most comprehensive standard (among the ISO 9000:2000 family of standards) which includes all activities in all stages, namely design/development, production, installation, and service (Tummala & Tang, 1996). The first ISO 9001 was established in 1994, and the latest improved version was issued in 2008. ISO 9001:2008 was developed in order to provide clarifications to the existing requirements of ISO 9001:2000.

Quality outgrew products and services and expanded to all business functions (Lazibat, 2003). Quality management through ISO 9001 has got many benefits. External benefits relate to customer perception about quality, improved customer satisfaction, increased competitive advantage, and reduced customer quality audits. Internal benefits include better documentation, greater quality awareness, and increased productivity and efficiency (Carr et al., 1997). One of the major principles of quality management is customer and stakeholder focus. In that context, corporate reporting through financial statements disclosure on the Internet should have significant value in informing interested groups.

One of the most rapidly growing areas of Internet technology is the World Wide Web, which is used for various forms of business communication. It has the potential to be used in almost all the functional areas of management and business (Divya & Garg, 2008). The Internet has changed the landscape of corporate reporting whose main objective is decreasing the information asymmetry on the capital market. Corporate reporting is a broader term than the terms financial accounting and financial reporting (Pervan, 2009) because it includes information on corporate governance and responsibility. Because of the importance of corporate communication via the Internet, the subject of this study is to determine how many Croatian companies publish their accounting and management information on their websites and to what extent this is connected to the company’s commitment to quality.

2. LITERATURE ON QUALITY MANAGEMENT IMPLICATIONS IN CROATIAN COMPANIES

In Croatia, the first ISO certificate was issued in 1993 and the number of organizations with certified quality management system has been increasing ever since (Drljača, 2005). According to a survey by the Croatian Society for Quality, on December 31 2008 there were 2,313 ISO 9001:2000 certificates issued in Croatia.4 Bearing that

4 http://www.kvaliteta.net/files/HR%20Survey%202008.pdf (19/02/2010)
in mind, studies of quality management implications in Croatian companies are of
great value for understanding the impact of quality on business transparency via the
Internet which is the focus of this study.

The most significant studies of financial performance in quality oriented organ-
izations have shown that it is hard to determine a statistically significant relationship
between companies that hold an ISO certificate and better financial results (Grubišić
& Čerina, 2000; Drljača, 2005; Dumičić et al., 2005). Those findings are similar to the
results of studies carried out in Brasil (Lima et. al., 2000), the USA (Benner & Veloso,
2008), and Spain (Martínez-Costa et. al., 2008).

On the other hand, some differences between the performance of ISO 9001 certi-
fi ed companies and those without that certificate were reported in several papers. In a
study carried out on the sample of 550 Croatian companies, it was found that there is a
somewhat higher percentage (24%) of export oriented companies with an implemented
quality system than those which earn their revenue primarily on the Croatian market
(Dumičić et al., 2005). In addition, an extended research on quality management impli-
cations revealed that the average number of employees was significantly higher in the
enterprises with ISO than in those without ISO in two studied Croatian counties, Split-
Dalmatia County and Varaždin County (Grubišić & Cingula, 2004). In the mentioned
study, it was found that gross profit margin was higher in the enterprises with ISO than
in the enterprises without it. Grubišić and Cingula pointed out that it could not be clearly
stated that the enterprises with ISO standards were more successful than enterprises
without them, but it could be said that, according to most indicators, their performance
was improving in the last observed years. Some other authors (Corbett et al., 2005; Shar-
ma, 2005) who used different financial ratios obtained similar research results.

3. VOLUNTARY CORPORATE REPORTING ON THE
INTERNET

Financial reporting on the Internet is an activity that has increased in recent
years (Marston, 2003). According to Hendlin (1999), there are three stages of develop-
ment in reporting over the Internet:

1. Establishing web presence,
2. Using the Internet to communicate financial information,
3. Taking advantage of the unique features and possibilities of the medium.

The first stage is associated with the existence of company’s official website
where (at the second stage) company publishes its financial statements and takes fur-
ther steps in revealing much more information (at the third stage).

The first studies in the field of corporate communication via the Internet indicated
that in the late 90s even the biggest companies were at their first stage of Internet report-
ing development (Carven & Marston, 1999; Pirchegger & Wagenhofer, 1999). The results
of a survey of Internet reporting by 99 top Japanese companies in 1998 showed that the
majority of these companies (78) had a website in English and that 68 of these reported
some financial information, out of which 57 provided detailed accounting information.
Company size was significantly positively associated with the existence of a website but the extent of financial disclosure did not appear to be related to size (Marston, 2003). Recent studies in developed countries have shown that companies have been increasingly reporting financial and non-financial information through their websites (Divya & Garg, 2008), which can be associated with the third stage of reporting development.

Pervan (2005) reported that Croatian listed companies started to publish their financial statements on the Internet. During the last four years, Croatian companies have improved their corporate reporting practices. Companies listed on the Zagreb Stock Exchange showed great progress in voluntary financial reporting on the Internet in the year 2009 compared to the research results in the year 2005 (Pervan, 2009).

A recent study on Croatian companies with the highest value added has shown that 98% of them have an official website and that 56% disclose their balance sheet and profit and loss statement on the Internet (Rogošić et al., 2008). The same research has revealed that web-based disclosure of accounting information in financial statements is strongly related to the achievement of higher value added. Since the achievement of higher value added is one of the indicators of successful quality management (Drljača, 2005), it is logical to assume that there is a positive relationship between ISO 9001 certification and web-based corporate reporting.

4. RESEARCH HYPOTHESIS

Corporate communication responsibilities have traditionally been divided into separate disciplines, such as media relations, investor relations, marketing communications, and employee communications (Gronstedt, 1996). The impact of quality management practices on corporate communication can be partially understood by focusing on media and investor relations via the Internet as a result of a company’s transparency.

Literature on voluntary corporate reporting on the Internet claims that publishing financial statements is the next step in company’s efforts to inform stakeholders. Since financial statements consist of accounting information, it is reasonable to assume that:

H1: Disclosure of accounting information included in the balance sheet on the official website is in a positive relationship with company’s orientation on quality.

The companies that publish their financial statements on the Internet could take further step in simplifying the access to accounting information for all stakeholders. For web-based documents, the use of hyperlinks could facilitate reading and interpretation of financial reports (Hedlin, 1999). Assuming that quality oriented companies pay more attention to their media and investor relations, the second hypothesis is:

H2: ISO 9001 certified companies have hyperlinks to financial statements more often than companies without ISO 9001.

The principles of quality management according to ISO 9000:2000 series support the stakeholder orientation. Those principles can be used by senior management as a framework to guiding their organizations towards improved performance. Well-informed stakeholders can contribute to improving the business process. Supposing
that quality oriented companies have entered the third stage of development in reporting over the Internet, the third hypothesis can be summarized as:

\[ H_3: \] Companies with ISO 9001 are more transparent regarding specific management information published on the official website.

Specific management information included in this study is voluntary disclosed information regarding owner's transparency, ethical code transparency, audit report, Supervisory Board report, and Annual General Meeting report.

5. RESEARCH METHODOLOGY AND RESULTS

Our research focused on 50 Croatian companies with the highest value added achieved in the year 2007 (according to the Institute for Business Intelligence). The ISO 9001 certification and recertification in those companies was observed for the years 2007 and 2008 because the introduction of the mentioned standard takes 15 months on average (Sigma-Mugan & Erel, 2000). In 2007, 18 observed companies had ISO 9001 certificate and in 2008, one more company obtained that certificate so that the share of ISO 9001 certified companies was 38%.

Value added is the difference between the sale price of a product and the cost of materials to produce it. In this research, value added is calculated as a sum of gross profit and gross personal expenses. The average amount of value added in companies with ISO 9001 is EUR 113,197,420 and in companies without ISO is EUR 86,138,030. Although the difference between mean value of value added in ISO 9001 certified companies and the mean value of value added in companies without ISO 9001 is not statistically significant (P-value is 0.346), that difference is deemed obviously considerable.

The first research hypothesis is related to financial reporting on the Internet in ISO 9001 certificated Croatian companies. The role of financial reports (i.e. audited financial statements) should be to serve the needs of corporate governance for the benefit of a wide range of stakeholders and for society in general (Baker & Wallage, 2000). The general assumption is that quality oriented companies are more transparent in terms of their accounting information due to their stakeholder orientation.

All the main accounting information are included in the fundamental financial statements and most of them are included in the balance sheet and profit and loss account. The number of companies that publish their accounting information of assets, liabilities and capital according to their ISO 9001 certification is given in Table 1.

<table>
<thead>
<tr>
<th>Table 1: Web-based disclosure of balance sheet in companies with and without ISO 9001 certificate in 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISO 9001</td>
</tr>
<tr>
<td>not certified</td>
</tr>
<tr>
<td>balance sheet</td>
</tr>
<tr>
<td>not published</td>
</tr>
<tr>
<td>published</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
It is evident that most of the observed companies (i.e. 64% of them) do not have the ISO 9001 certificate, while the share of those that do hold that certificate is 36%. Among certified companies, there are 67% of companies that publish their balance sheet on the Internet. On the other hand, only 31% of the companies without ISO 9001 are inclined to publish their main accounting information on the Internet. To conclude, it can be stated that most of the uncertified companies do not disclose their accounting information on the Internet (69%) while the majority of certified companies disclose those information (included in the balance sheet) on their website (67%). To determine whether this difference is significant, the Chi-Square test was performed (Table 2).

Table 2: Chi-Square tests of dependence between balance sheet web-based disclosure and ISO 9001 certification

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>5.864</td>
<td>1</td>
<td>.015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correction</td>
<td>4.515</td>
<td>1</td>
<td>.034</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>5.929</td>
<td>1</td>
<td>.015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher’s Exact Test</td>
<td></td>
<td></td>
<td>.020</td>
<td>.017</td>
<td></td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>5.747</td>
<td>1</td>
<td>.017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As shown in Table 2, the test of differences in disclosing accounting information on the websites among the companies that hold ISO 9001 certificate and those without that certificate indicates that there is a relationship between voluntary web-based disclosure of accounting information and quality management orientation according to the Chi-Square test (P-value is 0.015). In order to substantiate the first hypothesis, the correlation between profit and loss account web-based disclosure and ISO 9001 certification was calculated. This additional test was administered because all the studies carried out in Croatia showed that companies that published their balance sheet also published the profit and loss account (Pervan, 2006; Rogošić et al., 2008; Pervan, 2009). The Spearman correlation coefficient between web-based disclosure of profit and loss account and company’s quality orientation is 0.375 at the 99% confidence level (P-value is 0.007). It can be concluded that there is a positive and statistically significant relationship between ISO 9001 certification and web-based disclosure of accounting information which means that quality-oriented companies are more likely to publish their accounting information on their websites.

One of the first studies on simplified access to web-based financial statements was carried out in Sweden and showed that only 12% of companies listed on the Stockholm Stock Exchange had hyperlinks to financial statements (Hedlin, 1999). According to our findings, there are 30% of Croatian companies with the highest value added that have a hyperlink to financial statements on their official home page. There are twice as many companies with ISO 9001 that have a hyperlink as compared to those without ISO (Table 3).
Table 3: Cross tabulation of ISO 9001 and hyperlink to financial statements (in 2008)

<table>
<thead>
<tr>
<th>hyperlink</th>
<th>not certified</th>
<th>certified</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>without</td>
<td>26</td>
<td>9</td>
<td>35</td>
</tr>
<tr>
<td>with</td>
<td>5</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>19</td>
<td>50</td>
</tr>
</tbody>
</table>

Among the ISO 9001 certified companies, 53% have a hyperlink to financial statements. On the other hand, 84% of uncertified companies do not have a hyperlink on their home page that leads to financial statements. In order to confirm the second hypothesis of a positive relationship between ISO 9001 certification and hyperlink to financial statements, those variables were statistically tested (Table 4).

Table 4: Results of Chi-Square tests of dependence between ISO 9001 certification and hyperlink to financial statements

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>7.474</td>
<td>1</td>
<td>.006</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correction</td>
<td>5.837</td>
<td>1</td>
<td>.016</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>7.408</td>
<td>1</td>
<td>.006</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td></td>
<td></td>
<td>.011</td>
<td>.008</td>
<td></td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>7.325</td>
<td>1</td>
<td>.007</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to the Chi-Square test performed, the P-value is less than 0.01, which means that there is a statistically significant difference in practice of setting up a hyperlink to financial statements between the ISO 9001 certified and uncertified companies. Bearing the above, the second hypothesis can be considered as valid.

The third hypothesis is based on the assumption that quality oriented companies are more transparent regarding other management information. In this research, specific management information like ownership structure, ethical code, audit report, Supervisory Board report, and Annual General Meeting report were studied. These information are important to stakeholders and are sometimes published on companies’ official websites.

The web-based transparency of ownership structure was investigated in this study as one of the most interesting management information. The results are shown in Table 5.
Table 5: Ownership structure disclosure on the Internet in ISO 9001 certified and uncertified companies (in 2008)

<table>
<thead>
<tr>
<th>Ownership structure</th>
<th>ISO 9001</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>not certified</td>
<td>certified</td>
</tr>
<tr>
<td>undisclosed</td>
<td>27</td>
<td>12</td>
</tr>
<tr>
<td>disclosed</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>19</td>
</tr>
</tbody>
</table>

Only 22% of all the observed companies disclosed the ownership structure on their official websites. Most of certified (63%) and uncertified (87%) companies did not disclose the ownership structure on the Internet. The relationship between web-based disclosure of ownership structure in ISO 9001 certificated companies and in companies without ISO 9001 was statistically tested by Chi-Square test (the P-value was 0.047). The quality oriented companies are the ones that publish their ownership structure on the Internet more often than companies without ISO 9001 certificate.

The audit report disclosure is also observed as the second indicator for the access to management information published on the company’s website. That report is only an opinion on whether the information presented is correct and free of material misstatements, whereas all other determinations are left for the user to decide. Audit report on the Internet is more common in ISO certified companies (Figure 1). Among ISO 9001 certified companies, 58% of them publish the audit report on their websites.

Figure 1: Audit reporting on the Internet in companies with and without ISO 9001
On the other hand, companies without ISO often do not publish that report (68% of them) on the Internet. The relationship between the ISO 9001 certification and audit report web-based publishing cannot be statistically confirmed because the P-value of Chi-Square test is 0.075, but the difference can be seen in Figure 1.

Most of voluntary management information are still insufficiently disclosed on the Internet like ethical code, information about owners and Annual General Meeting report although the last mentioned can be correlated to the quality management orientation. Only six of all the observed companies publish the shareholders’ decisions. It is important to stress out that among those six companies (that have web-based Annual General Meeting report), four of them hold an ISO 9001 certificate.

In order to perform the statistical test, all considered voluntary disclosed management information are indexed. The analysis of variance (one way ANOVA) shows (Table 6) that ISO 9001 certified companies disclose their specific management information more often compared to the uncertified companies, which is statistically significant (the P-value is 0.01).

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>3406.914</td>
<td>1</td>
<td>3406.914</td>
<td>7.187</td>
</tr>
<tr>
<td>Within Groups</td>
<td>22754.197</td>
<td>48</td>
<td>474.046</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>26161.111</td>
<td>49</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It can be stated that quality oriented companies (which hold ISO 9001) are more transparent to their stakeholders by publishing management information like ownership structure, ethical code, audit report, Supervisory Board report and Annual General Meeting report.

6. CONCLUSION

The research on web-based transparency of accounting and management information was carried out on 50 Croatian companies with the highest value added. The study focused on quality management initiatives through ISO 9001 certification in those companies. In 2007, 18 companies among those 50 had an ISO 9001 certificate and in 2008 the number slightly increased to 19 companies (38%). Although value added as a performance measure cannot be statistically related to quality management practices, the research results show that the mean value of value added in ISO 9001 certified companies is 31% higher than in those without that certificate.

Companies that are quality oriented and certified by ISO 9001:2000 have greater tendency to present their accounting information (included in the fundamental financial statements) on the Internet. Those companies also have a hyperlink from the home page.
to financial statements more often (compared to companies that do not hold ISO 9001 certificate). They are also the ones that have made the biggest step in the third phase of development in reporting over the Internet. Our research results witness better web-based transparency of additional management information like ownership structure, ethical code, audit report, Supervisory Board report and Annual General Meeting report in companies with ISO 9001 as opposed to those without the ISO standard.

The Internet has become a significant means of communication which is more recognized by companies that strive for quality in all their business aspects.

REFERENCES:

3. Carr, S., Mak, Y. T., Needham, J. E. (1997), Differences in strategy, quality management practices and performance reporting systems between ISO accredited and non-ISO accredited companies, Management Accounting Research, 8, 383-403
8. Drljača, M., (2003), Hrvatska korporacijska uspješnost i sustav kvalitete, Ekonomski pregled, 54 (3-4), 359-368
10. Evans, J. R., Lindsay, W. M. (2002), The Management and Control of Quality, Fifth edition, South-Western, Cincinnati (Ohio)


16. Lazibat, T. (2003), Sustavi kvalitete i hrvatsko gospodarstvo, Ekonomski pregled, 54 (1-2), 55-76


19. Pervan, I. (2005), Financijsko izvješćivanje na internetu i praksa hrvatskih dioničkih društava koja kotiraju na burzama, Financijska teorija i praksa, 29 (2), 177-193


DOBROVOLJNO OBJAVLJIVANJE RAČUNOVODSTVENIH I UPRAVLJAČKIH INFORMACIJA U PODUZEĆIMA KOJA POSJEDUJU ISO 9001 CERTIFIKAT

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