A study on the effect of financial reports on firms’ share value

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**ABSTRACT**

Technology development has influenced various fields, and financial field is one of them. Applying new technologies in financial field has led to the emergence of a new kind of reporting called Internet Financial Reporting, and is used increasingly due to the increasing use of internet. Adopting this kind of reporting has caused changes in the process of informing stockholders and other users. Since increasing and updating information quality can influence on decision makers to buy/sell their stock certificate, and, on the other hand, the demand for buying and selling stock certificate might influence on stock price, we aimed to evaluate the effect of internet financial reporting on the stock price of listed companies in Tehran Stock Exchange. For this purpose, a group of companies was selected as the experimental group, and some others as the control group. Then, we investigated stock price changes in both groups, and compared changes. The results indicate that internet financial reporting had no effect on the stock price in the investigated companies.

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corrections; the number of 27 changes were performed which led to minor changes in the article.

1. Introduction

XBRL that is called an extendible (extendable) financial reporting language enables information users to exert their required information easily from the financial statements, to analyze and to disintegrate the data. Internet financial reporting has various advantages for its suppliers and users, some of which can be discussed below:

Internet financial reporting versus traditional financial reporting in which paper was used for offering necessary reports is less costly, especially in large companies, because of the great number of stockholders and people eagerness to know about these companies properties in order to invest in them.

This kind of reporting can bring about large amount of information for users during a short period of time that causes the companies to become famous and popular amongst investors, credit-suppliers and other users ending in increasing demands for buying companies stocks, respectively resulted in prices increase at last. Although mentioned advantages in Internet financial reporting is remarkable, yet there are some difficulties in its use caused that some companies are still using traditional financial reporting.
2. Research background

Tornatzki (1990) considered various characteristics like quality and efficient manpower as important factors within the organization for adopting financial reporting on internet. Iacovou et al. (1995) concluded that as the size of companies increases, the amount of their profit increases, which leads to more benefits from this emerging media (internet) for larger commercial units due to having more sources. Xiao et al. (1996) mentioned that larger companies apply internet reporting more, due to being answerable to more extensive informational demands. Petravick and Gillett (1996) concluded that since May 1996, 103 out of 150 studied companies have websites, of which 83 companies put their own financial information on their websites. Louwers et al. (1996) suggested that only 35 companies out of 150 studied companies had disclosed their financial information on websites and 42 ones had not disclosed such information despite having websites. Wallman (1997) believed that internet could provide unlimited access to details of companies’ information. Gray and Debreceny (1997) concluded that 67% of successful companies (34 out of 50) had had an annual report website, 98% had had information websites, and 36% had disclosed their independent auditor reports on their own websites. Pirchegger et al. (1999) investigated the relationship between company size and quality of information presented in Austrian companies. They concluded that the effect of company size and its profitability on internet disclosure in Austria had not had the same as German companies.

Craven and Marston (1999) investigated some large UK companies and concluded that company size had direct relation with the amount of use and disclosure, but there was no relation between the kind of industry and the amount of disclosure. Hedlin (1999) studied the websites of Swedish companies and reported that 83% companies disseminated their financial statements on internet and larger companies disclosed more information on internet. Craven and Marston (1999) found out in a research on 206 companies in London Stock Exchange that larger companies, more probably, disseminated their financial information on internet. They, also, found that there was no relationship between the kind of industry and the kind and amount of financial information disclosure on internet.

Ahmed and Courtis (1999) discovered, from a comprehensive investigation on 28 surveys studying disseminating financial information on internet, that there was a significant relation between company size and level of financial information disclosure. Ashbaugh et al. (1999) studied 290 large companies, from 1994 to 1996 and concluded that company size was the only factor, which was able to predict internet reporting for companies. They, also, specified the variance of each industry. Trites (1999) concluded that internet could improve the process of customizing reports. Beattie (1999) stated that reporter units must present their information as prepared packages represented in various formats in order to meet the informational demands of various users. Lymer (1999) selected 50 companies from London Stock Exchange and found that 92% of them had websites, and 52% presented their financial reporting on their own homepages. A similar survey on Finish companies indicated that 90.2 of them had websites to present their information. Pirchegger and Wagenhofer (1999) selected 2 German and Austrian companies for their research study. They proved that company size could influence on the amount of information disclosure in websites. Moreover, there was a direct relationship between the increase in stock distribution of companies and the increase in information disclosure of websites. Debreceny (1999) selected a sample of 660 companies out of 22 countries all around the world and concluded that company size and being in stock market list could influence on the amount of information presentation on internet.

Bernan and Hourigan (2000) concluded from their survey that there was a significant positive relationship between reporting on internet with the kind of industry. This relation might be the result of the fact that different industries had different information disclosing expenses, which were exclusive to that industry. Arthur Anderson (2001) found out that 94% of companies, among the selected sample of 350 leading companies, had websites; and 88% of them used internet to present their financial information, including annual reports. In addition, in their survey, there was a direct relation with the decrease in company size and the amount of internet usage. Debreceny and Gray
(1999) concluded their survey that the extensible language of financial report could allow users to have an easy access to the financial reporting information available on websites. According to Tidd and Bessant (2001), organization’s capacity to predict and respond to the changes in markets and industry might be of critical importance in internet financial reporting. Bonson and Escobar (2002) concluded from their research study that as company size enlarges, the number of outside users for company’s information increases too. Larran and Giner (2002) concluded from their research study that the lower cost of providing and disseminating information on internet for larger companies were the main motivation for internet reporting. Tariq Ismail (2002) investigated the factors influencing on disclosing financial information on internet in 128 companies of Middle Eastern countries. They reported that there was a significant relationship between disclosing financial information on internet and profitability, company size and company leverage.

Larrañ et al. (2002) studied internet financial reporting in 144 stock exchange companies in Madrid. Their results showed that there was a significant relationship between financial leverage, stockholders’ salary revenue, and the amount of disclosed information on internet. Haasbroek (2002) studied the relation between digital annual financial report and company’s characteristics. Their results indicated that there was a significant relation between the kind of industry and digital financial reports. Debreceney (2002) stated that internet reporting could decrease the conflict over benefits between managers and investors, and consequently representation and investments’ expenses, and it could increase the value of company. Ettridge et al. (2002) investigated the levels of disclosure for US firms in 17 and concluded that 82% of such companies had websites in 1998, and large companies used internet reporting more than others did. Beattie and Pratt (2003) studied the characteristics and preferences of various groups in terms of internet reporting. Rotchanakitumnuai and Speece (2003) concluded that cultural factors might have an important impact on internet usage. Lawson et al. (2003) studied Australian firms and concluded that communication with government and industrial associations played essential role on internet adoption. Beattie and Pratt (2003) proved that financial managers would not prefer applying XBRL as a financial web reporting format.

Lymer and Debreceney (2003) concluded from their research study that internet reporting was more common in countries adopting IT, infrastructures, and developed stock exchange. Allam et al. (2003) studied company size and reporting methods and found out that there were different reporting methods in countries within different territories. Marston and Leow (1998) did not observe a significant relationship between financial information disclosure and the kind of industry. They indicated that there was a significant relationship between the type of industry and the amount of information disclosure on internet. Hodge et al. (2004) investigated XBRL adoption in a research environment. Simpson and Docherty (2004) observed similar results to Australian environment in England, but they concluded that governments and societies had no effect on internet reporting. Marston and Craven (2004) indicated that there was no significant relationship between company size and the amount of information disclosure on websites. Bager and Lefrell (2005) compared the process of current and traditional financial reporting to the changes resulting from XBRL. They reported that XRBL could influence on the influential control of annual reports, the improvement of reporting to clients and the ability of computer-based controls. Chang and Järvenpää (2005) studied the development of XBRL standards in terms of institutional changes in and within the groups benefiting from financial reporting chain. Boritz (2005) proved that reporting on internet could facilitate providing, disseminating, and exchanging financial information and it could make necessary confidence in terms of the accuracy of disseminated information on internet. Xiao et al. (2005) proved over 95% of 100 leading American companies had websites and indicated at least 92% of their annual reports. Khadaroo (2005) studied 100 companies of Kuala Lumpur Stock Exchange in Malaysia and concluded that, although the number of firms and the kind of information provided on internet was increased, the reported information on internet was of less quality for the users. Chiang and Chia (2005) studied financial information transparency and signaling theory in Taiwan and proved that transparency of financial information in a company maintained a direct relationship with its performance. Khan (2007) studied the factors influencing on internet reporting and stated that
companies having various activities had used internet reporting the most, and hotels had used internet reporting the least. Troshani and Rao (2007) studied the drivers and inhibitors to XBRL adoption, using convergent interviews and consequently considered three environmental, organizational, and inventive factors as important. Doolin and Troshani (2007) indicated that there was not enough motivation for comprehensive adoption of XBRL in organizations adopting and providing it.

Troshani and Doolin (2007) argued that the primary performers of XBRL’s ignorance for sharing their experiences with others could lead to destroying the competitive environment. Doolin and Troshani (2007) proved that outside pressures like competitive environment, client’s interests, and society’s culture were influential in reporting on internet. CSA (2007) studied 52% of stock exchange observers in terms of knowledge of internet reporting. The findings implied on lack of practical knowledge and working experience of XBRL in Canadian markets. Premuroso, and Bhattacharya (2008) studied the relationship between company’s decisions and applying internet reporting. The results showed that applying this kind of reporting was a sign of information transparency in such firms. Kelton and Yang (2008) concluded from their research study that internet financial reporting might increase the transparency of financial information disclosure. Bonsón et al. (2009) investigated the steps and methods of disseminating XBRL in the US, from 2000 to December 2008. The findings revealed that, despite investments and encouragements of SEC for volunteer applying of XBRL, just 137 firms out of 10000 American companies applied XBRL voluntarily. Kelton and Pennington (2012) studied the effects of information presentation format and content on amateur investors’ decision making. They proved that internet users gain more information, comparing others, using less time and effort. Hassas Yegane and Yahya poor (2002) showed that using internet for financial reporting could provide less expense and easier access to companies’ information. Arab Mazad Yazdi (2004) considered frequency increase and the quantity of financial and non-financial information disclosure, the possibility of fast information delivery and disseminating in an unlimited circulation, as the benefits for using internet reporting.

Mahdavi poor et al. (2004) studied the relationship between using internet reporting and company’s characteristics. They showed that there was a significant relation among internet reporting, company’s leverage, and the kind of industry. Arab Mazad Yazdi and Hassani (2006) indicated that internet reporting presents financial information by a standardized way for providing, disseminating and exchanging financial information. Etemadi Seyf et al. (2006) studied the effect of IT on qualitative characteristics of accounting information and concluded that IT influences on increasing the relevance between accounting information and the increase in reliability and competitive capacity. Bozorg et al. (2006) indicated that internet reporting could facilitate information processing through increasing time and expenses; and it could provide information for users, fasters. Arab Mazad Yazdi and Dariani (2006) studied internet reporting safety and introduced XML, XBRL, and XARL and investigated the safety and confidence on web. Farivar Lilan (2007) studied influential factors on audit in terms of using internet reporting and their results show that using developmental financial reporting language leads to less auditing time and expenses; and leads to information accessibility, on the other hand. Khairi (2008) investigated factors of not applying internet reporting language in Iran. He indicated that not having information from XBRL, not having enough knowledge of using XBRL, the language’s inappropriateness to Iran, inefficiency of existing reporting method, are among the factors of not using XBRL. Nikoomaram and Shekari (2010) studied the relationship between XBRL and qualitative characteristics of accounting information. The results indicated that XBRL was relevant to reliability and comparability of accounting information. Mirmojrian and Shahshahni (2010) showed that internet financial reporting could lead to 21% to 70% saving in reporting expenses. Abdolahi and Monzavi (2011) attempted to prioritize implementing internet reporting. They indicated that web service scenario via Kodal system was the most appropriate scenario for implementing internet reporting time in Iran. Poorzamani and Sanai (2013) studied the effect of internet financial reporting on stock price in Iran. They showed that the stock price is increased using internet reporting.
3. Research Hypotheses

The main question of this survey is to find out how internet financial reporting influences on the stock price of listed companies in Tehran Stock Exchange. The study tried to understand how the stock price of companies with and without internet financial reporting changes before and after internet financial reporting.

4. Research Method

According to its objective, this research is considered an applied research; and according to data gathering method is among descriptive researches. This research is a quasi-experimental research. The research interval is from 2009 to 2013 and the population includes all companies presented their financial reports on websites in this period (experimental group) and companies which have no websites (control group). The indicators of descriptive statistics have been used to describe the population. In this respect, statistical tables, statistical graphs, mean, median, first quartile, third quartile and standard deviation were used. In this paper, research model can be defined in the frame of a quasi-experimental one as shown in Table 1. In this table, $Y_{ij}$ represents stock price in each of test and control groups before and after applying internet reporting in test (experiment) group. Furthermore $X$ is the variable of experiment, stabilization and use of internet financial reporting system within experiment group. Control group used traditional reporting system during the compared period. First index represents pre and post-test, second index represents control or experiment group.

Table 1
Research conceptual model

<table>
<thead>
<tr>
<th>Description</th>
<th>Pre-Experiment</th>
<th>Experiment</th>
<th>Post-Experiment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental Group</td>
<td>$Y_{11}$</td>
<td>$X$</td>
<td>$Y_{21}$</td>
</tr>
<tr>
<td>Control Group</td>
<td>$Y_{12}$</td>
<td>-----</td>
<td>$Y_{22}$</td>
</tr>
</tbody>
</table>

This part of study deals with the function contrastive analysis of the companies with internet reporting versus before using it. Status of Experiment and control group companies during the first two years after using internet financial reporting compared with the last year of not using it, and is coded as Table 2. In this table, base year is 2011 having zero code. Table 3 compares profit indices changes before paying tax in both groups. According to figures shift in the table, companies without internet financial reporting have less boost trend compared with companies with internet financial reporting. Fig. 1 shows that improvement in firms with internet financial reporting was more than in companies without this sort of reporting. In addition, we have evaluated changes of two groups’ operation profit (earning) indices.

Table 2
The Coding of Comparison Years

<table>
<thead>
<tr>
<th>Year</th>
<th>Code Description</th>
<th>Code</th>
<th>Year</th>
<th>Code Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>2 years Before Financial Internet Reporting</td>
<td>-2</td>
<td>2012</td>
<td>1 years After Financial Internet Reporting</td>
<td>+1</td>
</tr>
<tr>
<td>2010</td>
<td>1 years Before Financial Internet Reporting</td>
<td>-1</td>
<td>2013</td>
<td>2 years After Financial Internet Reporting</td>
<td>+2</td>
</tr>
</tbody>
</table>

Table 3
The Before Tax Earnings Comparison

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Experimental Group</th>
<th>Mean of Changes Percent</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-2 To -1</td>
<td>-1 To +1</td>
<td>-1 To +2</td>
</tr>
<tr>
<td>Earn Before Tax</td>
<td>28.02%</td>
<td>85.60%</td>
<td>57.53%</td>
</tr>
<tr>
<td>Earn to Sales</td>
<td>-20.65%</td>
<td>42.25%</td>
<td>40.54%</td>
</tr>
<tr>
<td>Earn to Assets</td>
<td>-22.90%</td>
<td>30.27%</td>
<td>25.32%</td>
</tr>
</tbody>
</table>
The changes of mean of operational profit (earning) indices after internet financial reporting in experiment group companies were positive and had an increasing trend but in control group, these changes had a descending flow in most cases except operation earning that had an ascending one, during the first year of take-over. Table 4 demonstrates the results. Fig. 2 shows the trend of changes on operational earning indices in companies with internet financial reporting compared with the same trend in companies without internet financial reporting. Analysis of companies' operational earning indices totally indicated that it had a remarkable improvement after using internet financial reporting in experiment group. Table 5 shows activity indices changes of companies with internet financial reporting versus the same companies in control group. Fig. 3 also shows the trend of net earnings changes and activity ratios in both groups. Next, we compare stock prices changes in both groups. Table 6 shows the rate of stock prices changes in companies of control and experiment groups after and before having internet financial reporting. Fig. 4 shows the trend of stock prices changes in control and experiment groups during the years before and after using internet financial reporting. 

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Mean of Changes Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Experimental Group</td>
</tr>
<tr>
<td></td>
<td>-2 To -1</td>
</tr>
<tr>
<td>Operational Earning</td>
<td>50.71%</td>
</tr>
<tr>
<td>Op. Earn to Sales</td>
<td>-16.11%</td>
</tr>
<tr>
<td>Op. Earn to Assets</td>
<td>-15.97%</td>
</tr>
</tbody>
</table>
Fig. 2. The trend on operational earnings

Table 5
Net Earnings and Operational Indices Changes for Experimental and Control Group

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Mean of Changes Percent</th>
<th>Experimental Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-2 To -1</td>
<td>-1 To +1</td>
<td>-1 To +2</td>
</tr>
<tr>
<td>Net Earning</td>
<td>24.24%</td>
<td>91.43%</td>
<td>63.99%</td>
</tr>
<tr>
<td>Sales</td>
<td>25.48%</td>
<td>4.99%</td>
<td>-20.47%</td>
</tr>
<tr>
<td>Assets Flow</td>
<td>-0.21%</td>
<td>-4.15%</td>
<td>-18.46%</td>
</tr>
<tr>
<td>Assets Flow</td>
<td>-71.59%</td>
<td>234.57%</td>
<td>1677.17%</td>
</tr>
</tbody>
</table>

Fig. 3. The trend of net earnings changes and activity ratios in both groups

Table 6
Stock Prices Changes for Experimental and Control Group

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Mean of Changes Percent</th>
<th>Experimental Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-2 To -1</td>
<td>-1 To +1</td>
<td>-1 To +2</td>
</tr>
<tr>
<td>Stock Prices</td>
<td>-10.18%</td>
<td>60.71%</td>
<td>13.63%</td>
</tr>
</tbody>
</table>
Comparison of stock price changes in both control and experiment group indicates a similar trend and slight differences can be seen in them.

5. Conclusion

This paper has evaluated the effects of internet financial reporting on stock prices of the accepted companies in Tehran Stock Exchange. Descriptive statistical method were used to respond the questions, hence to respond each of the above questions, the mean of stock prices was calculated in mentioned companies during the years before and after using internet financial reporting. Then they were compared with each other, therefore mean of stock price changes percent was gained, after using internet financial reporting versus before its use. This process performed for both control and experiment groups. According to research results, Internet reporting did not influences on companies' stock price, and there was no tangible changes in companies using it about their stock price.

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