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The Level of Voluntary Electronic Disclosure in Jordanian Companies and Factors that Influence the Level of this Disclosure: An applied study on Jordanian Companies listed in Amman Stock Exchange.

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Abstract:

The aim of this research paper was to explore the level of electronic disclosure on financial and non-financial information of Jordanian corporations listed in Amman Stock Exchange (ASE), and to identify factors that have an impact on electronic disclosure used by Jordanian corporations. Finally, the research also intended to examine the level of each financial and non-financial items on the basis of data published in 2014. The Internet Disclosure Index (IDI), which consisted of 40 items was constructed and used to measure the level of the Internet-based disclosure. Simple linear regression analysis was used to analyze research data. The population of the current research comprised all Jordanian public-listed corporations in Amman Stock Exchange Securities in 2014. There were 270 corporations distributed on four sectors; banking, insurance, services as well as industry. The results revealed that 48.9% (132 corporations) have websites and 51.1% (138) have no websites. It was concluded that the level of the Internet-based disclosure is 6.6%. Finally, the findings indicated that there was an association between company size, liquidity, profitability, audit office size, and the level of the Internet-based disclosure. On the other hand, company efficiency, financial leverage along with debt to equity ratio were found to have no association with the level of the Internet-based disclosure.

Keywords:

Electronic Disclosure, Electronic Disclosure Index, Internet, Factors affecting the Electronic Disclosure, Jordanian Public Shareholding

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I.Introduction

Organization-related information should be acquired from the organization itself rather than from outsources parties, due to the fact that an organization knows well its own business activities and posses the ability to produce cost-effective as well as reliable information. On the basis of rapid advancements in network communication technologies, information dissemination superiorly enhanced using different online multimedia networks, in addition to abilities of data analysis, data upload, and data download (Tewfik, 2002).

For organizations to cope with prompt change in business environment and change-attendant consequences, developmental strategies of financial reports were deemed as necessity prerequisite in order to gain competitive advantage (Ashbaughe et al, 1999). The Internet development as a key of business communication ameliorates putting information to use by virtue of needs (Hicks, 2008). The Internet, indeed, is a real opportunity that can be utilized to gain more detailed information on activities and financial information of a company or a whole sector. Additionally, the Internet can be used to disclose financial information in an efficient manner considering that technology-based information characterizes by accessibility, relevance, timelines, clear and organized (Ashbaughe et al, 1999).

Websites gain a popular utilization among local and global companies as a communication tool employed to disseminate financial data in order to confirm the organizational reputation and support the relationship between the company and its stakeholders (Tewfik, 2002). Additional advantages cited by Abdul Wahab (2005) embodied in the enhancement of customers' trust and providing decision-makers with attainable sources of financial data. However, such disclosure as yet is freely undertaken. Electronic Disclosure System (EDS) goes beyond dissemination of the financial data to all disclosures related to meetings of the board of directors, news, the annual general meetings, and considerable stakeholders. One of the major contributions of EDS application can be found in the increased inflow of investments to Jordan and the equitable pricing of listed stocks.

II.Problem Statement

In consequence of technological advancements, popularity of e-commerce, investors' wants to swiftly receive information on business results in order to make their own decisions, EDS comes to be more urgent with the aim of achieving these needs. In Jordan, disclosure regulations based on accounting and auditing standards were issued by Jordan Securities Commission. The financial data of every company was issued on the website of Jordan Securities Commission. The statement of the research problem comes to light so as to identify electronic disclosure level (EDL) in Jordanian corporations listed in Amman Stock Exchange (ASE) as issued in their websites, as well as to explore factors affecting electronic disclosure. Consequently, the following questions were drawn:

1.To what level do Jordanian public-listed companies in ASE electronically disclose on their information?

2.What factors affect electronic disclosure in Jordanian public-listed companies in ASE?

On the ground of these major questions, seven sub-questions were addressed on the effect of various constructs on EDL in Jordanian public-listed companies in ASE (JPLC):

1.Is there an effect of company size on EDL in JPLC?

2.Is there an effect of company profitability on EDL in JPLC?

3.Is there an effect of company efficiency EDL in JPLC?

4. Is there an effect of liquidity on EDL in JPLC?
5. Is there effect of audit office size on EDL in JPLC?
6. Is there an effect of financial leverage on EDL in JPLC?
7. Is there an effect of debt to equity ratio on EDL in JPLC?

III. Research significance

Disclosure on accounting information plays a critical role in accounting practices, particularly in capital markets. Accordingly, the importance of the present research stems from its contribution to Jordanian companies use web-based disclosure in order to convey the rapid technological advancements and to take an advantage of the World Wide Web that facilitate availability of costly effective financial reports in the right place and time, which in turn corroborates the investment environment of Jordanian companies.

IV. Research objectives

The main objective of this research is to investigate the impact of various constructs, i.e. company size, profitability, liquidity, company efficiency, audit office size, leverage ratio, debt to equity ratio on electronic disclosure via the Internet on financial and non-financial information of Jordanian public-listed companies in ASE. On account of that, the current research is carried out with the following aims in view:

- To identify EDL using the Internet in disclosure on financial and non-financial information.
- To explore factors affect EDL using the Internet in disclosure on financial and non-financial information.
- To identify characteristics of companies have websites in comparison with companies have no websites.

V. Theoretical framework and previous studies

A. Theoretical framework:

-Electronic disclosure

The main source of information is the company itself due to the fact that an organization knows well its own business activities and possesses the ability to produce cost-effective as well as reliable information. On the basis of rapid advancements in network communication technologies, information dissemination superiorly enhanced using different online multimedia networks, in addition to abilities of data analysis, data upload, and data download. For information to be advantageous for decision-makers, numerous characteristics were proposed; relevance, objectivity, reliability and timeliness. Technological evolution and advancements have an influence on paper-based reports, which in turn influence information characteristics, particularly timeliness of information (Tewfik, 2002).

-Financial electronic disclosure

According to Craven and Marston (1999) electronic disclosure is a voluntary action in which companies disclose on financial information on its own websites. For Tewfik (2002), electronic disclosure is building one or more websites by an organization with the aim of online reporting of financial as well as non-financial information to a great number of end users who are connected to a network. The concept was also defined by Sharif and Muhamadi (2013) as a method of accounting disclosure utilizing modern technological communications applied by companies in order to transfer their business results and accounting information to the users of financial statements and reports.

-Using of electronic distribution for business reporting

Different benefits of using the electronic distribution of business information were reported. Electronic distribution appears to be a complementary aspect of printed materials since it increases the distribution of the traditional data in request to investors and shareholders. On the other hand, electronic distribution might substitutes the printed materials since it encourage using websites as alternative of these materials, which can be used by investors, shareholders and financial analysts. Moreover, the electronic distribution of information can be considered as a new method employed to provide modern analytical tools, since it increases the number of users, provides new information that can be used by financial analysts and general corporations in investment domain (Tewfik, 2002).

-Electronic disclosure advantages

One study conducted by the Financial Accounting Standards Board (FASB, 2000) highlighted a set of causes that motivate companies to electronically disclose on their financial and non-financial information (Larran and Giner, 2001). These causes include reduction of and time required for information distribution, communication with new clients who cannot be reached by traditional means, quantity and quality of information disclosed on electronic websites, and instant access to information without additional costs. Moreover, electronic financial reporting enables the use of hyperlinks to integrate several parts of financial reports published on websites, which in turn supports comparisons and decision-making process, using the Internet as a mean of information distribution results in changing the periods of financial statements and reports preparation, from monthly, quarterly or yearly period to real-time reporting.

-Content of Financial and non-financial information electronically disclosed

The Internet can be used for multiple purposes such as solving problems of financial reporting. Examples of these problems include publishing information on companies using paper-based reports in addition to applying rules and regulations in accordance with regulative authorities such as Jordan Securities Commission. The Internet can also be used to disseminate video messages from management, presentation of stockholder-related information, performing share buying and selling transactions, as well as online voting in general meetings. A significant variation between companies utilize Internet-based disclosure was recognized in information quality and information presentation; some companies disclose their financial statements without any explanations, some of them add stock prices, diagrams and financial ratio analysis. As for information presentation, some companies published their information using Word documents while other companies use Pdf files or HTML. Other companies might add sound and sight files (Sharif and Muhamadi, 2012).

-Electronic disclosure organization and role of regulative authorities

Up to now, disclosure of financial and non-financial information is optional. However, regulative authorities such as the Financial Accounting Standards Board (FASB, 2000) carried out a research project entitled "Business reporting research project: Electronic distribution of business reporting information" in order to investigate practices considered by companies to disclose their financial statements via websites (Xiao et al, 2005). Another research project was conducted by International Accounting Standards Commission (IASB, 1999) aimed at identifying the extent to which companies use the Internet to distribute their financial statements and availability of technological opportunities concerned Internet-based disclosure in future, in addition to both content and format of the financial reports (Lymer et al, 1999).

Undoubtedly, the mass evolution of technology and communication trigger a change in means used to distribute data to users. Kahan and Ismail (2012) listed numerous benefits of electronic disclosure of financial and non-financial information such as reduced costs and increased users. Hence, organization of electronic disclosure becomes a necessity requires more attention from different parties concerned with accounting either globally or locally similar to Jordan Securities Commission. One of the major tasks of these authorities is to reduce variation in information, particularly in case of users' awareness of using the Internet. Nevertheless, the variation in information provided to users might increase if the published financial report via the Internet contains non-reliable data.

The traditional considerations to achieve balance between relevance and reliability of information in accordance with the conceptual framework of accounting gain considerable attention due to the expanded usage of electronic reporting, which enables users to easily acquire new information. Consequently, due to the increased supply and demand of financial and non-financial information, there is a critical need to ensure information reliability by global and local accounting organizations, which required introducing rules and regulations in order to integrate accounting practices in electronic disclosure in terms of format, content, and timeliness. These organizations are also required to set particular standards of presentation and electronic disclosure (Tewfik, 2002).

B.Previous studies

Dutta and Bose (2008) carried out a study entitled “**Corporate environmental reporting on the Internet in Bangladesh: An exploratory study**” in order to investigate the extent to which listed companies in Bangladesh use the Internet to distribute their reports to users of the financial information. The sample of the study consisted of 268 listed companies in DSE and CSE. The results indicate that using the Internet to distribute the financial reports by companies in Bangladesh is still weak. Out of the companies in Bangladesh, 38.81% have its own website. The results confirmed also that banking, leasing and financing sector has the highest level in terms of using the Internet for information distribution.

The aim of Salawu's (2009) study named “**Financial reporting on the Internet by quoted companies in Nigeria**” was to explore the level of financial reporting on the Internet by quoted companies in Nigeria. Using 220 listed companies divided into 62 (28.2%) financial companies and 158 (71.8%) non-financial companies, the findings revealed that 119 (54.1%) companies have formal websites and 101 (45.9%) companies have no websites. Moreover, the results indicated that 31 (14.1%) companies use the Internet to distribute their financial information and 189 (85.9%) don't use the Internet to distribute such information. Finally, it was concluded that 21 (9.5%) companies presenting their data using pdf files, while 10 (4.5%) companies use HTML format to present their data. In their study entitled “**Determinants of corporate Internet reporting: Evidence from Egypt**”, Aly et al. (2009) aimed at identifying potential factors affecting the level of electronic disclosure on financial information by companies in Egypt. The results indicated that 56% of companies in Egypt electronically disclose on their financial information. The variation in disclosure degree is attributed to factors such as profitability, list of foreign companies and industry type. These determinants have an impact on quantity and quality of information disclosed via the Internet. The results, finally, highlighted that company size, financial leverage, liquidity, and audit office size have no impact on electronic disclosure of financial reports.

The main purpose of Momany and Pillai (2013) study was to identify the level of using the Internet to disclose financial information of listed companies in ADX in UAE. The study

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aimed also at investigating the impact of eight characteristics: company size, profitability, liquidity, financial leverage, equity intensity, audit office size, company's governance, and company age on electronic disclosure. The sample of the study comprised 65 listed companies distributed on 10 industries. The results pointed out that 89% of researched companies have websites, while 11% have no websites. Out of companies that have websites, 60% use the Internet to distribute their financial information. The results also confirmed that there is a positive relationship between company size, profitability, equity intensity as well as audit office size and electronic disclosure. On the other hand, there is a negative relationship between company age, liquidity, financial leverage, company's governance and electronic disclosure.

Under the title of “**Corporate financial reporting: Firm characteristics and the use of Internet as a medium of communication by listed firms in Ghana**”, Agyei-Mensah (2012) conducted a study to explore capabilities of listed companies in distribution of their data by the Internet. The results of the study revealed that 72% of companies in Ghana have websites and 28% of companies have no websites. The results showed that there is a positive relationship between profitability and financial leverage and electronic disclosure. On the other hand, the relationship between company size, profitability and size of audit office and electronic disclosure is negative.

In an effort to examine indexes of financial reporting in a sample of Malaysian companies, Khan and Ismail (2012) performed a study entitled “**An empirical study on the indexes of Internet financial reporting: The case of Malaysia**” and found that the main concentration of companies disclosure was on five statements, which are income statement, balance sheet, cash flow, auditor report and general annual report. In terms of presentation, the study used 87 items in financial statements and found that three items were in center of interest; time consumed in website downloading, the format of the financial report, and financial analysis.

VI. Research methodology

The descriptive and analytical method was used in this research. The related literature was reviewed, and then the hypotheses of the research were developed. Electronic disclosure level was measured, hypotheses were tested through an empirical study covered all Jordanian public-listed companies in ASE in order to investigate the level of electronic disclosure on financial and non-financial information and to explore factors affecting electronic disclosure applied by these companies.

-Research model

The research model as portrayed in figure 1 encompasses seven predictors and one dependent variable which is electronic disclosure level. Research predictors include the size of the company, profitability, efficiency, liquidity, audit office size, financial leverage, and debt to equity ratio.

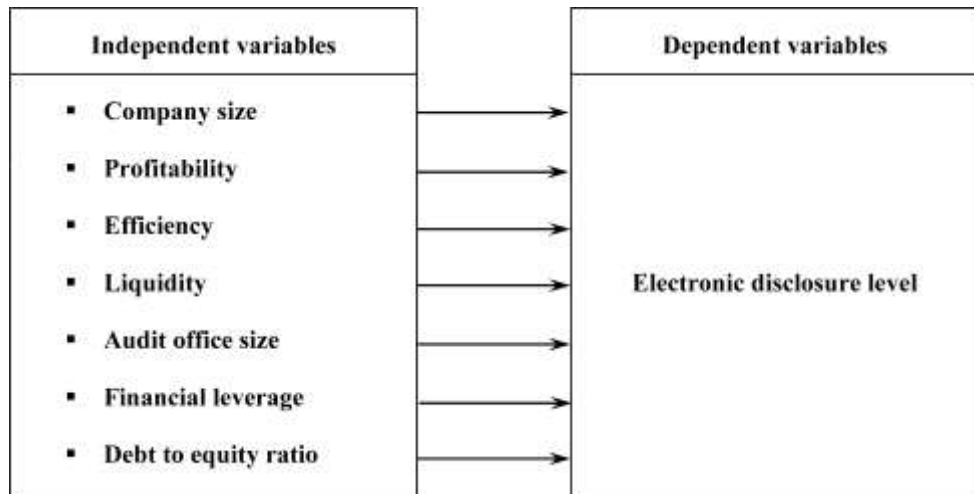


Figure 1. Research Model

-Measurements

-Constructs' measurement

Electronic disclosure level is the dependent variable. It was measured on the basis of the Internet Disclosure Index (IDI) (Dutta and Bose, 2008 and Hamid et al., 2008):

$$IDI = \frac{\text{Total score of the individual company (items)(TD)}}{\text{Maximum possible score obtainable by company (40)(M)}} * 100\%$$

Where: IDI: Internet disclosure index; TD: total number of disclosed items (1 = disclosed, 0 = non-disclosed), 40 financial and non-financial items were used; M: maximum possible score obtained by company.

Concerning the independent variables, company size was measured using the natural logarithm of total assets (Larran and Giner, 2001). Liquidity was measured using current ratio by dividing current assets on current liabilities (Aly et al, 2009). Financial leverage was measured by dividing total liabilities on total assets (Aly et al, 2009). Return on equity was used to measure profitability. It was calculated by dividing net income on total equities (Agyei-Mensah, 2012). Efficiency was calculated based on dividing total operating expenses to net sales (Peter et al, 2000). Audit office size (1 for 4 Big audited corporations and 0 for otherwise). Finally, debt (external fund) to equity (internal fund) ratio was used to measure the financial leverage (Kelton and Yang, 2004).

-Relationship measurement

On the strength of data collected from Jordanian public listed companies (JPLCs) in 2014, simple regression analysis was used to test the relationship between predictors and the level of Internet-based disclosure in accordance the following equation:

$$Y = \alpha + \beta_1 (\text{Size}) + \beta_2 (\text{Profitability}) + \beta_3 (\text{Efficiency}) + \beta_4 (\text{Liquidity}) + \beta_5 (\text{audit Firm size}) + \beta_6 (\text{Leverage}) + \beta_7 (\text{debt to equity}) + \mu$$

Where, Y: Internet-based disclosure; α : constant; β_1 : company size, β_2 : profitability, β_3 : efficiency; β_4 : liquidity; β_5 : audit office size; β_6 : financial leverage; β_7 : debt to equity ratio and μ : standard error.

-Research hypotheses:

Eight hypotheses were postulated pursuant to research objectives and questions:

H01: JPLCs show a weak level of Internet-based disclosure.

H02: There is a statistically significant impact of company size and Internet-based disclosure on financial and non-financial information of JPLCs.

H03: There is a statistically significant impact of profitability and Internet-based disclosure on financial and non-financial information of JPLCs.

H04: There is a statistically significant impact of company efficiency and Internet-based disclosure on financial and non-financial information of JPLCs.

H05: There is a statistically significant impact of liquidity and Internet-based disclosure on financial and non-financial information of JPLCs.

H06: There is a statistically significant impact of audit office size and Internet-based disclosure on financial and non-financial information of JPLCs.

H07: There is a statistically significant impact of financial leverage and Internet-based disclosure on financial and non-financial information of JPLCs.

H03: There is a statistically significant impact of debt to equity ratio and Internet-based disclosure on financial and non-financial information of JPLCs.

-Research population and sample

All Jordanian public listed companies in Amman Stock Exchange (ASE) comprise research population. There were 270 public listed companies in 2014, distributed on four sectors: banking (16 banks), insurance (26 companies), industrials (76 companies), and services (152 companies).

-Data collection

Primary sources of data such as official website of Securities depository Center in Jordan was used to collect data related to companies and industry type. Data on explanatory constructs were collected using financial statements of JPLCs in 2014 published on ASE website. Books, journals, and peer reviewed papers were used as secondary sources of data.

-Statistical tools and procedures

MS-Excel (2010) was used to collect and organize research data; the Statistical Package for Social Sciences (SPSS) was also used to test the relationship between independent and dependent variables. Means, standard deviation, maximum and minimum values as well as percentages were also calculated. A scale consists of five levels was used to identify the level of Internet-based disclosure: very weak level (0-20%), weak level (21-40%), medium level (41-60%), high level (61-80%), very high level (81-100%). Additional scale consists of five levels was used in order to measure the level of Internet-based disclosure on 40 (100%) items divided into five groups with eight items for each (20%).

-Multicollinearity test

A regression model is required to be free from multicollinearity problem between explanatory variables. That is, independent variables have to be independent from each other (Awad, 2009). In order to investigate multicollinearity between these variables, Pearson correlation was used as shown in Table 1. It was concluded that there is a significant relationship between disclosure level and company size ($r = 0.583$), liquidity ($r = 0.125$), profitability ($r = 0.134$), and audit office size ($r = 0.460$). Accordingly, an increase in disclosure level is equivalent to an increase in values of these indicators. Other variables such as financial leverage, company efficiency, debt to equity ratio have no

relationship with disclosure level. These figures show that the highest correlation coefficient was between financial leverage and debt to equity ratio. Since all correlation coefficients between variables were less than 0.80, there is no multicollinearity problem and the regression model is free of such problem.

Table 1. Correlations Matrix

Var.	SZ	LQ	PR	FL	AO	CE	DE	DL
SZ	1							
LQ	-0.102	1						
PR	0.122	0.026	1					
FL	0.218*	-0.102	-0.010	1				
AO	0.379*	-0.111	0.020	-0.069	1			
EF	-0.101	0.032	-0.110	-0.075	-0.048	1		
DE	0.229	-0.109	-0.029	0.736*	-0.047	-0.067	1	
DL	0.583*	0.125*	0.134*	0.035	0.460*	0.039	.070	1

SZ: company size, LQ: liquidity, PR: profitability, FL: financial leverage, AO: audit office size, CE: company efficiency, DE: debt to equity ratio, DL: disclosure level.
 * $\alpha \leq 0.05$

Additionally, Variance Inflation Factor (VIF) was calculated and showed values ranged for 1 to 10, which confirm that there is no multicollinearity problem between independent variables.

Table 2. Variance Inflation Factor results

hypothesis	VIF value
H02	3.129
H03	7.272
H04	5.602
H05	4.548
H06	6.662
H07	8.419
H08	8.651

-Autocorrelation

The assumption of autocorrelation is concerned with the independence of the standard errors in a regression model. An existence of autocorrelation problem means biased estimated parameters, which negatively affects the prediction ability of the model. Durbin-Watson test was used to examine the problem of autocorrelation. The test is based on a comparison between tabulated D-W at for a sample consists of n with K number of variables with the calculated D-W. D-W statistic has two critical values; the minimum critical value (dl) and the maximum critical value (du). There is no autocorrelation problem if the calculated D-W greater that the maximum critical value (du) (Montgomery et al, 2001). The results of Durbin-Watson test can be seen in Table 3. The results indicated that there is no autocorrelation problem in all of research hypotheses, since all values of the calculated D-W are greater that du values.

Table 3. Results of autocorrelation test

Hypothesis	D-W calc.	du	dl	result
H02	1.801	1.779	1.758	No autocorrelation
H03	1.799	1.779	1.758	No autocorrelation
H04	1.780	1.779	1.758	No autocorrelation
H05	1.792	1.779	1.758	No autocorrelation
H06	1.992	1.779	1.758	No autocorrelation
H07	2.050	1.779	1.758	No autocorrelation
H08	1.984	1.779	1.758	No autocorrelation

-Descriptive statistics

This section represents descriptive statistics and statistical measurements used; mean, standard deviation, minimum and maximum values, frequencies and percentages. The results are shown in Table 4.

1.Descriptive statistics of websites availability

Table 4 showed that 48.9% of companies have websites used for financial and non-financial disclosure, whilst, 51.1% of companies have no websites. Banking sector was first in websites availability; all banks have formal websites, followed by insurance companies (80.7%). Industry sector ranked third, where 48.7% of industrial companies have websites. Finally, out of service sector companies, 38.2% have websites.

Table 4. Distribution of companies based on website availability

sector	No. of companies in a sector	companies have websites	%	companies have no websites	%	Total (%)
Banking	16	16	100	0	0	100
Insurance	26	21	80.7	5	19.3	100
Service	152	58	38.2	94	61.8	100
Industry	76	37	48.7	39	51.3	100
Total	270	132	48.9	138	51.1	100

2.Descriptive statistics of Internet-based disclosure

The results reported in Table 5 indicated that 51.1% of listed companies in ASE don't disclose on their information via the Internet. On the other hand, there are 23.7% of listed companies disclose less than 20%. The percentage of accumulated frequency of companies discloses less than 20% equals 74.82%. There are 2.22% companies that disclose from 20% to 40% on their information and 1.48% of companies disclose from 40% to 60% on their information. Hence, the percentage of accumulated frequency of companies that disclose less than 60% equals 78.52%. Adding disclosure percentage of companies disclose from 60% to 80%, which is 10%, the percentage of accumulated frequency of companies disclose less than 80% equals 88.52%. The percentage of companies discloses more than 80% equals 11.48%. based on these results, internet-based disclosure in JPLCs is low.

Table 5. Distribution of companies based on Internet-based disclosure

Disclosure level based on items number	Frequency (no. of companies disclose these items)	%	Accumulated frequency	%
No disclosure	138	51.1	138	51.1
Less than 20%	64	23.7	202	74.82
20% - less than 40%	6	2.22	208	77.03
40% - 60%	4	1.48	212	78.52
60% - less than 80%	27	10	239	88.52
80% - 100%	31	11.48	270	100
Total	270	100		

3.A. Descriptive statistics of Internet-based disclosure

H01: The level of the Internet-based disclosure in JPLCs is low.

Table 6. Descriptive statistics of Internet-based disclosure (financial and non-financial information) for all companies

Internet-based disclosure (%)	Banks	Insurance	Services	Industry	Total
Mean	79.1	9.5	15.4	14.5	6.6
Standard deviation	6.3	8.9	28.9	27.9	32.0
Maximum value	90	30	92.5	97.5	97.5
Minimum value	70	0.0	0.0	0.0	0.0

According to the results in Table 6, the mean of internet-based disclosure level in JPLCs equals 6.6% with a standard deviation equals 32.0%. The maximum value reported was 97.5% and the minimum value was 0.0%. The mean of disclosure level in banking sector was 79.1% (standard deviation = 6.3%), the maximum value reported was 90.0% and the minimum value was 70.0%. the mean of disclosure level in insurance companies equals 9.5% (standard deviation = 8.9%), the maximum value was 30.0% and the minimum value equals 0.0%. In investment sector, the mean of internet-based disclosure level was 15.4% with standard deviation equals 28.9%. The maximum value reported was 92.5% and the minimum value was 0.0%. Finally, the mean of internet-based disclosure level in industry sector was 14.5% with standard deviation equals 27.9%, the maximum value was 97.5% and the minimum value equals 0.0%. Consequently, the level of Internet-based disclosure in JPLCs is low. Therefore, the first hypothesis was supported and the alternative hypothesis presumed that there is a high level of Internet-based disclosure in JPLCs was rejected.

B. Descriptive statistics of Internet-based disclosure

Table 7. Descriptive statistics of Internet-based disclosure (financial and non-financial information) for companies have websites

Internet-based disclosure (%)	Banks	Insurance	Services	Industry	Total
Mean	79.1	39.3	40.3	29.8	41.9
Standard deviation	6.3	30.9	34.6	34.0	34.6
Maximum value	90.0	87.5	92.5	97.5	97.5
Minimum value	70.0	5.0	2.5	2.5	2.5

Table 7 illustrated a medium level of the Internet-based disclosure in JPLCs have websites. The grand mean equals 41.9%. The banking sector ranked first with a percentage of 79.1% due to the fact that all banks have websites. The service sector ranked second with a percentage of 40.3%, followed by the insurance sector (39.3%). As noticed, the level of the Internet-based disclosure of both service and insurance sectors are closed together because of similarity of services provided by both sectors that require direct relationships with clients, which in turn increase their need for websites to meet clients and related stakeholders' wants. Finally, industry sector falls in the last rank with a percentage of 29.8% which is a low percentage.

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Comparing Table 6 to Table 7, it was concluded that there are differences in percentages of disclosure level because of there are 51.1% (138) companies have no websites. The total level of disclosure was extremely reduced for 41.9% to 6.6%, with the exception of banking sector as all banks have websites used for disclosure on information. The percentage level of disclosure in insurance sector was reduced from 39.3% to 9.5% which is very low percentage. The percentage level of disclosure in service sector was reduced from 40.3% to 15.4%. Finally, the percentage level of disclosure in industry sector was reduced from 29.8% to 14.5%, which is very low percentage. A comparison of companies to each other indicated that industry sector was ranked the third and this is due to the fact that the number of companies in service sector is twice as much as companies in industry sector.

4.Descriptive statistics of independent research variables

Table 8. Descriptive statistics of independent research variables

	SZ	LQ	PR	FL	AO	CE	DE
Mean	492.82	4.02	0.01	2.92	0.40	1.37	3.07
Standard deviation	3502.05	11.22	0.48	4.92	0.49	4.34	0.78
Maximum value	49056.94	157.64	3.30	58.62	1.00	34.09	4.00
Minimum value	0.44	0.00	-4.69	1.01	0.00	0.00	1.00

SZ: company size, LQ: liquidity, PR: profitability, FL: financial leverage, AO: audit office size, CE: company efficiency and DE: debt to equity ratio.

On the basis of results shown in Table 8, the mean size of public companies equals 462.82 million JDs, with a standard deviation of 3502.05 million JDs. The maximum value equals 49056.94 million JDs and the minimum value equals 0.44. The mean of liquidity ratio equals 4.02 with a standard deviation equals 11.22. The maximum value equals 157.64 and the minimum value equals 0.00. The mean of return on net assets equals 0.01 (SD = 0.48), the values of return on net assets were ranged from 3.30 to -4.69. The mean of financial leverage equals 2.92 (SD = 4.92), the values of financial leverage were ranged from 58.62 to 1.01. The mean of audit office equals 0.40 with a standard deviation equals 0.49, the maximum value was 1.00 and the minimum value was 0.00. The mean of efficiency equals 1.37 (SD = 4.34), the maximum value was 34.09 and the minimum value was 0.00. Finally, the mean of debt to equity ratio equals 3.07 with a standard deviation of 0.78, the maximum value was 4.00 and the minimum value was 1.00.

5.Items description based on disclosure percentage

Table 9 shows disclosure percentage of each item used in the calculation of the Internet-based disclosure for companies have websites.

Table 9. Disclosure percentage based on financial items

No.	Item	Disclosure Percentage
1	Income statement for the current year	46.72
2	Financial Position for the current statement	47.45
3	Cash flow Statement for the current year	45.26
4	Change in equity statement	45.99
5	Auditor's report for the current year	40.88
6	periodical reports for the current year	13.87
7	financial statements' notes	42.34
8	a version of financial statements in English	28.47
9	Income statement for the last year	47.45
10	Accounting policies	43.80

According to the findings displayed in Table 9, there is a variation in the percentage of disclosure on financial data. The highest percentage of disclosure on financial data was in financial position statement for the current year (47.45%), followed by the percentage of income statement (46.72%). The table illustrates that the main focus of companies' disclosure is on compulsory disclosure required by regulative authorities. On the other hand, the percentage of the disclosure on non-mandatory items such as stock prices charts is low (10.95%), as well as for daily, weekly or monthly sales (16.06%). Hence, Jordanian companies have to increase their disclosure level and to consider disclosure on non-mandatory items due to their significance in attracting investments.

Table 10. Disclosure percentage based on non-financial items

No.	Item	Disclosure Percentage
1	webpage in English	91.97
2	General information on the company	94.16
3	Chairman of Board of Directors report	41.61
4	Names of Board of Directors	64.96
5	names of big 5-10 members of stockholders	38.69
6	Users' accessibility to information (click Nos.)	45.99
7	Information on stockholders	38.69
8	Social responsibility reports	40.15
9	Company address	94.16
10	reports signed by the executive manager	37.23
11	Meetings of the Board of Directors	3.65
12	URL of ASE	21.90
13	Updated news (ads or banners)	43.80
14	Phone Nos. for contact with investors	6.57
15	Information of the employees	51.09

Table 10 demonstrates that the highest percentage of disclosure on non-financial percentage was for general information on the company item (94.16%), the company address item (94.16), followed by webpage in English (91.97%). Despite the high percentage of English-based websites, the availability of financial reports in English is low (28.47%). Finally, the lowest percentage of disclosure on non-financial items was for meetings of the Board of Directors (3.65%) which is might attributed to the fact that companies deem these meetings as very important of being contain highly sensitive information, such as sales, future plans, goals and strategies of the company. The disclosure on phone nos. for contacting investors was also low (6.57%) and this indicate little attention of companies paid for investors, which in turn negatively impacts the status of the company. The company may face a problem when the capital increase and thus resort to borrow, which means a more cost of capital.

VII. Testing hypotheses

H02: there is no statistically significant impact of company size on the level of Internet-based disclosure on financial and non-financial data.

Table 11. Results of relationship between company size and the Internet-based disclosure

The Level of Voluntary Electronic Disclosure.....

Table 11. Results of relationship between company size and the Internet-based disclosure

DV	R	R ²	F	Sig.	Regression Coefficients				
						β	SE	t	Sig.
Internet-based disclosure	0.583	0.340	66.852	0.000	company size	10.795	1.320	8.176	0.000
* $\alpha \leq 0.05$									

Table 11 reveals a significant impact of company size (independent variable) on the Internet-based disclosure (dependent variable), F calculated = 66.852 with sig. level = 0.000 which less than 0.05, there is a positive relationship between both variables (R = 0.583), accordingly, 43.0% (R² = 0.340) of the variation in the Internet-based disclosure is explained by company size, when other variables hold fixed. The total effect of company size on the Internet-based disclosure can be recognized by the regression coefficient (β = 10.795, Sig. = 0.000). Consequently, there is a significant impact of company size on the Internet-based disclosure.

H03: there is no statistically significant impact of profitability on the level of Internet-based disclosure on financial and non-financial data.

Table 12. Results of relationship between profitability and the Internet-based disclosure

DV	R	R ²	F	Sig.	Regression Coefficients				
						β	SE	t	Sig.
Internet-based disclosure	0.134	0.018	4.845	0.029	profitability	9.126	4.146	2.201	0.029
* $\alpha \leq 0.05$									

Table 12 shows a significant impact of profitability on the Internet-based disclosure (F = 4.845, Sig. = 0.029), however, profitability can explain only 1.8% of the variation in the Internet-based disclosure (R = 0.134, R² = 0.018). The regression coefficient (β = 10.795) refers to the total impact of profitability on the Internet-based disclosure. The impact is significant (t = 2.201, Sig. = 0.029). Therefore, there is a statistically significant impact of profitability and the level of Internet-based disclosure on financial and non-financial data.

H04: there is no statistically significant impact of liquidity ratio on the level of Internet-based disclosure on financial and non-financial data.

Table 13. Results of relationship between liquidity ratio and the Internet-based disclosure

DV	R	R ²	F	Sig.	Regression Coefficients				
						β	SE	t	Sig.
Internet-based disclosure	0.125	0.016	4.215	0.041	liquidity ratio	0.365	0.178	2.053	0.041
* $\alpha \leq 0.05$									

The results shown in Table 13 points out a significant impact of liquidity ratio on the Internet-based disclosure (F = 4.215, Sig. = 0.041). The results also indicates that 4.1% of the variation in the Internet-based disclosure can be explained by liquidity ratio (R = 0.125, R² = 0.041). The regression coefficient, t-value and Sig. value indicated a

statistically significant impact of liquidity ratio on the level of Internet-based disclosure on financial and non-financial data ($\beta = 10.795$, $t = 2.053$, $\text{Sig.} = 0.041$).

H05: there is no statistically significant impact of leverage ratio on the level of Internet-based disclosure on financial and non-financial data.

Table 14. Results of relationship between leverage ratio and the Internet-based disclosure

DV	R	R ²	F	Sig.	Regression Coefficients				
						β	SE	t	Sig.
Internet-based disclosure	0.035	0.001	0.155	0.694	leverage ratio	0.179	0.455	0.394	0.694
* $\alpha \leq 0.05$									

Table 14 illustrates that leverage ratio has no statistically significant impact of leverage ratio on the level of Internet-based disclosure ($F = 0.155$, $\text{Sig.} = 0.695$), the results indicates that 0.10% of the variation in the variation in the Internet-based disclosure can be explained by leverage ratio ($R = 0.035$, $R^2 = 0.001$). The regression coefficient, t-value and Sig. value indicated that leverage ratio has no statistically significant impact on the level of Internet-based disclosure ($\beta = 0.179$, $t = 0.394$, $\text{Sig.} = 0.694$).

H06: there is no statistically significant impact of audit office size on the level of Internet-based disclosure on financial and non-financial data.

Table 15. Results of relationship between audit office size and the Internet-based disclosure

DV	R	R ²	F	Sig.	Regression Coefficients				
						β	SE	t	Sig.
Internet-based disclosure	0.460	0.211	34.27	0.000	audit office size	31.846	5.439	5.855	0.000
* $\alpha \leq 0.05$									

The results displayed in Table 15 confirmed the hypothesis that audit office size has a significant impact in the Internet-based disclosure ($F = 34.277$, $\text{Sig.} = 0.000$). The results also clarify that 21.1% of the variation in the Internet-based disclosure can be explained by audit office size ($R = 0.460$, $R^2 = 0.211$). The regression coefficient ($\beta = 0.179$), which refers to the total effect of audit office size on the Internet-based disclosure, was significant on the basis of t-value (5.855) and Sig. (0.000). Accordingly, there is a statistically significant impact of audit office size on the level of Internet-based disclosure.

H07: there is no statistically significant impact of audit office size on the level of Internet-based disclosure on financial and non-financial data.

Table 16. Results of relationship between company efficiency and the Internet-based disclosure

DV	R	R ²	F	Sig.	Regression Coefficients				
						β	SE	t	Sig.
Internet-based disclosure	0.039	0.002	0.195	0.659	company efficiency	-0.466	1.055	-0.442	0.659

* $\alpha \leq 0.05$

The results illustrated in Table 16 declare that there is a non-significant impact of company efficiency on the Internet-based disclosure ($F = 0.195$, $Sig. = 0.659$). The weak relationship between the two constructs was confirmed on the strength of correlation coefficient ($R = 0.039$). It was concluded that only 0.2% of the variation in the Internet-based disclosure can be explained by company efficiency. The regression coefficient value equals -0.466 which indicates a non-significant effect ($t = -0.442$, $Sig. = 0.659$). Therefore, there is no statistically significant impact of audit office size on the level of Internet-based disclosure.

H08: there is no statistically significant impact of debt to equity ratio on the level of Internet-based disclosure on financial and non-financial data.

Table 17. Results of relationship between debt to equity ratio and the Internet-based disclosure

DV	R	R ²	F	Sig.	Regression Coefficients				
						β	SE	t	Sig.
Internet-based disclosure	0.070	0.005	0.637	0.426	debt to equity ratio	0.380	0.477	0.798	0.426

* $\alpha \leq 0.05$

Finally, the results depicted in Table 17 supported the hypothesis that there is no statistically significant impact of debt to equity ratio on the level of Internet-based disclosure ($F = 0.637$, $Sig. 0.426$). Additionally, only 0.5% of the variation in the Internet-based disclosure can be explained by debt to equity ratio. The regression coefficient ($\beta = 0.380$) refers to the total impact of profitability on the Internet-based disclosure. The impact is significant ($t = 0.798$, $Sig. = 0.426$). Therefore, there is a statistically significant impact of profitability and the level of Internet-based disclosure.

VIII. Research conclusion

The results found by this research can be summarized as follows:

1. Jordanian public-listed companies that have websites are 132 companies (48.9%), and companies that have no websites are 138 companies (51.1%).
 2. Jordanian companies that disclose on less than 20% of their information are 64 companies, whilst companies that disclose on 20%-60% of their information are 6 companies. On the other hand, companies that disclose on 40%-60% are 4 companies, and companies that disclose on 60%-80% of their information are 27 companies. Finally, 31 companies disclose on 80%-100% of their disclose companies.
 3. The percentage of the Internet-based disclosure in Jordanian companies is 6.6% which is a low percentage when compared to the results of previous studies conducted on different countries such as Greece in which companies disclose on about 45.7% of their information, Bangladesh (21.33%), Egypt (56%), India (29.5). as for companies that have websites, the percentage of disclosure is 41.9% which sounds good.
- Disclosure levels are varied based on the 4 sectors studied. The percentage of the Internet-based disclosure in banking sector is 79.1. The highest percentage is 90% and the lowest one is 70%. The percentage of the Internet-based disclosure in the insurance sector is 9.5%. The highest percentage is 30% and the lowest one is 0%. For companies that have websites the percentage is 39.3% which is a good percentage. For service sector, the percentage of the Internet-based disclosure is 15.4%. The highest percentage is 92.5% and the lowest one is 0%. For companies that have websites, the percentage is 40.3% which is a good percentage. Finally, the percentage of the Internet-based disclosure in the industry

sector is 14%. The highest percentage is 97.5% and the lowest one is 0%. For companies that have websites the percentage is 29.8%.

4. There is a statistically significant impact of company size on the Internet-based disclosure. Similar results were found by Larran and Giner (2001) and Agyei-Mensah (2012). The result indicates that big companies, when compared to small companies, have the abilities required for the Internet-based disclosure, such as more advanced internal reporting systems, numerous resources used for information production in a low cost manner, more products as well as more complex distribution networks that require more advanced management information systems and databases for managerial control purposes. Moreover, using the Internet by companies is a sign of high quality of information and updated technologies unlike traditional companies.

5. There is a significant impact of company profitability on the Internet-based disclosure. In fact, disclosure on profitability benefits a company by showing its good image, which in turn enables the company to increase its capital via fund without any obstacles. It is worth to mention that companies disclosure on financial and non-financial information stems from that companies desire to follow other companies in addition to managers' tendency to disclose on company profitability in order to attain their positions and rewards.

6. There is a significant impact of liquidity ratio on the Internet-based disclosure. Companies that have good or high liquidity tend to disclose on their data to differentiate itself from other companies with low liquidity ratio. Pursuant to the signal theory, companies with low levels of liquidity may disclose on more of its information in order to satisfy stockholders and creditors who want more information.

7. There are no statistically significant impact of financial leverage and debt to equity ratio on the Internet-based disclosure. This result may attributed to the big debt of banks and insurance and high ratios of liquidity, which make no need to borrow from other companies together with banks nature as creditor institutions.

8. There is a significant impact of audit office size on the Internet-based disclosure. Big companies deal with big auditors due to many transactions of big companies that need different requirements such as physical and human resources. Companies with big auditors tend to disclose on more information where auditors persist in their brand name and reputation.

According to the signal theory, selection of audit office is a sign of company value and quality of disclosures since audit quality is one of the most important factors that result in improving company activities and practices, particularly financial reporting. Additionally, international audit offices have more capability to help in distribution and development such as the Internet-based disclosure.

9. The variation between results of present research and previous results can be attributed to a set of factors such as difference among countries in technological advancement as well as business environments, culture, sectors categories (number of sectors), number of companies (sample size), the demand on such type of disclosures and differences in structure and resources between companies.

IX. Recommendations

Having results related to the Internet-based disclosure of Jordanian listed companies discussed, and factors affecting such disclosure analyzed, the following recommendations were suggested:

1. Companies that have or haven't websites and do not use these websites in disclosing on their financial and non-financial data should enhance their websites to gain advantages provided by the Internet network.
2. Companies that have their own websites and used it in disclosing on their financial and non-financial data should increase their level of the Internet-based disclosure.
3. Further studies should be conducted on the same topic using weighted disclosure index, interviews, and questionnaires, since this research used the un-weighted disclosure index, that is, all items were taken the same significance for investors. Hence, the weighted disclosure index can be used in future studies, in addition to interviews with managers and investors, and stakeholder-oriented questionnaires in order to identify nature, format, size and methods of disclosure on financial and non-financial data that they desire to obtain.
4. It was concluded that there are significant variables affecting the level of the Internet-based disclosure. Other factors have no significant impact on the same variable such as financial leverage, company efficiency and debt to equity ratio. Therefore, future studies may consider other variables such as culture, demographic variables, and organizational variables that may affect the Internet-based disclosure. More financial and non-financial items that measure the percentage of the Internet-based disclosure can be used.
5. Regulative bodies of accounting such as the International Accounting Standards Commission or local authorities should develop a conceptual framework related to the Internet-based disclosure.
6. Auditing parties should comply with technological changes and consequences on business performance which in turn affect auditing profession and auditing standards. The research recommends developing an auditing standard which includes the required documentation of reports and information electronically distributed.

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