

## Affecting factors on eXtensible Business Reporting Language (XBRL) adoption among public listed companies in Amman stock exchange

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### Abstract

**Background:** Adoption of a novel technology-based reporting language plays a significant role in the way how the financial information of the business is communicated. Recently, eXtensible Business Reporting Language (XBRL), based on eXtensible Mark-up Language (XML) is used as advanced technique for financial reporting and the adoption of XBRL is predicted to improve the access and enhance the communication of financial information which has potential benefits to stakeholder groups including: regulatory authorities, accounting firms, professional bodies, business organizations and other stakeholders. **Objective:** The study aims to investigate the ability of Jordanian companies to adopt and implement eXtensible Business Reporting Language (XBRL), specifically the study examines the effect of environmental, organizational, and technological factors on extensible business reporting language (XBRL) adoption in Jordan. **Methodology:** A questionnaire survey conducted among 102 participants was used to investigate the related environmental, organizational, and technological factors on XBRL adoption in Jordan. **Results:** The findings revealed that there are significant differences played by environmental, organizational, and technological factors on XBRL adoption in Jordan statistically. **Conclusion:** There are several factors which can facilitate XBRL adoption within companies, the environmental, organizational, and technological factors support the process of XBRL adoption and implementation in the Jordanian listed companies in Amman stock exchange. It is suggested that the listed companies on ASE to voluntarily apply XBRL, provide specialized training and seminars to its employees in order to improve the awareness and understanding of various aspects of XBRL.

**Key words:** Electronic Disclosure, Financial Reporting, XBRL.

### INTRODUCTION

In the recent years, the Internet Financial Reporting (IFR) has become a new communication application for financial information disclosure and to satisfy the varying users' needs. In line with this, the adoption of eXtensible Business Reporting Language (XBRL) is gradually attracting global attention (Faboyede *et al.*, 2017). XBRL is a technology standard for financial reporting based on eXtensible Markup Language (XML) to communicate business information electronically. It is basically a standard format to prepare, publish, extract, exchange, aggregate and analyze the corporate data requiring disclosure, through unique tagging structure both electronically and automatically (Bonsón *et al.*, 2009). The main features of XBRL are publishing financial information in flexible, available, understandable and uniform manner that greatly improve the decision making for internal and external users such as investors and managers (Kaya, 2014; Tawfik *et al.*, 2017). XBRL consists of several items, which include XML standard, XBRL taxonomies and XBRL instance document (Umoren and Jeremiah, 2015). XML standard is a mark-up language that uses tags to define elements within a document in a format that both human and machine-readable. XBRL taxonomies define the specific tags that are used for individual items of data, their attributes and their interrelationships. XBRL instance document is a business report in an electronic format created according to the rules of XBRL.

XBRL is a standards-based way to communicate business information; it is currently used in over 50 countries around the world and supported by more than 600 member organizations of both private and public sectors (XBRL, 2017). According to Doolin and Troshani (2007), XBRL is a language based on XML to prepare, exchange, and publish financial information across different computer hardware platforms, software applications and accounting standards. XBRL is intended to improve speed, accuracy, cost saving, and data immigration efficiency, which are gained through automating the reporting process.

Given the widespread of the internet around the world, new technologies and standards were used to further enable internet financial reporting; thus XBRL is rapidly become a standard for communication of information between information systems and different organizations. In Jordan, Amman Stock Exchange (ASE) started in cooperation with Jordan Securities Commission (JSC) in 2016 applying XBRL language in capital market, as it will make a quantum shift in financial information disclosure electronically, facilities accessing of all disclosure, increase the speed of access to the required financial information and improve transparency in the market (ASE, 2017).

Since the Jordanian companies need to disseminate their financial reports in the same taxonomies and formats to share and communicate more easily and quickly with varying users than do traditional paper reports via the web, thereof this study aims to examine the affecting factors on XBRL adoption within firms which are environmental, organizational, and technological factors. The remaining of this paper discusses related literatures, methodology, findings and recommendations.

### Literature Review:

Traditionally, financial data has been prepared and disseminated via internet using various formats such as PDF, Excel files and HTML. Currently, Internet Financial Reporting offers standardized data in real-time through the adoption of XBRL as a tool to communicate the performance of a company to its stakeholders for decision making (Ilias and Ghani, 2015).

Yassin *et al.*, (2012) investigated the perspectives of faculty members in Jordanian universities on the benefits and obstacles from the adoption of XBRL in Jordanian organizations and business sector. They found many benefits from the adoption of XBRL which may include; facilitates comparison, communication, and analysis of financial reports, strengthening the value of information, quality and cost reduction of producing financial reports, and compatibility with other accounting applications. On the other hand, the obstacles may include; lack of experts in the field of XBRL, additional software and hardware needed for implementing, lack of available sources and feedback to deal with XBRL, in addition to needed time and effort to learn XBRL.

Tawfik *et al.* (2017) investigated the role of XBRL in publishing information electronically among Jordanian industrial companies, using a questionnaire survey on 90 employees in finance departments; they found that the organizational factors, individuals working, Laws and regulations and technical factors applied in the Jordanian industrial companies support and encourage the application of XBRL. Their study finding suggested a gradual policy to assist Jordanian companies listed in Amman stock exchange to apply XBRL and motivate for voluntary adoption.

Ilias and Ghani (2015) examined the adoption of XBRL in Malaysia. Using 100 top public listed companies to examine whether these companies have adopted XBRL or not, they found that XBRL still not adopted by public companies even that the companies' commission of Malaysia call and encourage such adoption. Such scenario indicates that there could be challenges that have deter XBRL implementation among Malaysian companies.

Ghani and Muhammad (2014) examined the preparers of financial statements perception about XBRL in Malaysia. Using questionnaire on 100 Malaysians represent various companies listed in Bursa Malaysia, they found that most preparers perceived many benefit of adoption XBRL in decision- making. Their study also found that the preparers may not have sufficient knowledge on XBRL which may affect the expected benefits of XBRL. Their findings suggested that the regulators should provide more workshops and seminars to preparers in order to improve the awareness and understanding of various aspects of XBRL before it comes into full adoption.

Kedaje and Shojaeri (2015) investigated the effect of the environmental factors (individual, technical, economical, regulation, and organizational) on XBRL implementation in Iraq. Using questionnaire survey on 61 accounting professors at universities, chartered accountants, and managers of corporation, the study inferred the weaknesses caused by environmental factors in the region while implementing XBRL. It also emphasized the need and importance of adopting XBRL because of its benefits gained by different stakeholders and users of financial reporting.

#### *Influencing factors of XBRL adoption:*

There are several factors that have been discussed in previous literature which were expected to be relevant in the adoption of XBRL language such as environment, organization, and technology. In term of environmental factors, institutional theory explains the adoption of IT innovation and emphasizes the role of environment in the adoption of new and innovative technologies (Henderson *et al.*, 2012). Environmental factors include support for infrastructure, relation with government, industry, competition and influence or pressure from and organization's trading partner (Faboyede *et al.*, 2017).

The organizational factors are important to implement an innovation in organization which indicates the willingness of economic entities to apply advanced technologies. Organizational factors include some features such as human resources quality, management structure, financial resources availability, level of education, and technical expertise availability which can influence XBRL adoption (Rostami and Nayeri, 2015).

Technological factors determine whether the organization can apply and develop this technology well or not, it refers to the perceived characteristics of the technology to be adopted (Arpaci *et al.* 2012). In technological factors, tools help to receive, process, store, retrieve, formulate and transfer the information electronically in different forms (Rogers, 2003). Furthermore, Troshani and Doolin (2007) took advantage of innovating diffusion theory to determine the characteristics of technology innovation which might have a greater impact on the adoption of XBRL technology. The results revealed five characteristics of innovations such as relative advantage, compatibility, complexity, testability and observability.

#### *Research Methodology:*

The study aimed to examine the affecting factors on XBRL Adoption. The study population consists of all industrial public shareholding companies listed in Amman stock exchange amounting 77 companies. A random sample was selected from study population amounting 20 companies, which have adopted to represent all the industrial sectors. The strategy for data collection was to collect the data through a structured questionnaire distributed to finance department employees at industrial public shareholding companies. A total of 140 questionnaires were distributed to the targeted group while 102 useable responses were received which indicates that a response rate of 72.8% which can be considered as a good response.

The questionnaire consisted of four parts: The first part contains some demographical information about the respondents; the second part consisted of seven paragraphs related to environmental factors, the third part consisted of seven paragraphs related to organizational factors, the fourth part consisted of eight paragraphs related to technological factors. Two scales were used in this study. Nominal scale used in part 1 and Likert scale used for rest parts.

In line with the study objective, the following null hypotheses were developed and are stated in their null form to facilitate the analysis:

**H01:** There is no statistically significant difference in the role of environmental factors on XBRL adoption in Jordan.

**H02:** There is no statistically significant difference in the role of organizational factors on XBRL adoption in Jordan.

**H03:** There is no statistically significant difference in the role of technological factors on XBRL adoption in Jordan.

## RESULTS AND DISCUSSION

In order to analyze the reliability of the employed questionnaire in this study Cronbach's alpha is examined. The reliability test concerned with the stability and consistency measurement to access the goodness of a measure. According to Sekaran (2003), reliabilities with less than 0.60 are deemed poor and as it is clear in Table (1), all the variables and constructs are devised reliable according to calculated alpha.

**Table 1:** Reliability Statistics.

Cronbach's Alpha	N of Items
0.643	22

Table (2) displays the demographic characteristics of the sampling unit. The table shows the respondents of the study consists of 79 males and 23 females. Most of the respondents are between 20 to 30 years of age represented by (35%), followed by 31 to 40 years of age and 41 to 50 years of age. The majority of surveyed respondents were holding a bachelor degree represented by (70%), followed by master degree holders represented by (15.7%) percent. The statistical analysis revealed that those whose experience ranged from 11 to 15 years came firstly with a percentage of (26.5%), followed by those whose experience up to five years with a percentage of (22.5%). Those whose experience 16 to 20 years, 5 to 10 years, and above 20 years represent (20.6%), (16.7%), and (13.7%) respectively.

Table (3) shows that the opinions of the study sample about the role of environmental factors on XBRL adoption were positive, where the mean for all the paragraphs was greater than the average measurement tool. At 95% level of confidence and 101 degrees of freedom, the test results in Table (3) apparently indicated that there were significant differences in the answers of respondents who believe that the competition between companies affects the decision of adopting XBRL ( $t = 9.535, p = .000$ ). Stakeholders involvement plays an important role in XBRL adoption ( $t = 10.392, p = .000$ ). Disclosure laws and regulations have effective role in adopting XBRL ( $t = 10.938, p = .000$ ). Laws and regulations contribute in providing the infrastructure that supports applying XBRL ( $t = 11.294, p = .000$ ). Legislation plays an important role in the application of innovations including new technologies such as XBRL ( $t = 15.526, p = .000$ ). Using XBRL in many countries plays an important role in XBRL adoption ( $t = 9.703, p = .000$ ). The work environment characterized by a high degree of uncertainty does not help in XBRL Adoption ( $t = 8.157, p = .000$ ). That mean the respondents believes that environmental factors have a role in the adoption of XBRL, this is consistent with Faboyede *et al.*, (2017) conclusion that environmental factors are capable of affecting the implementation of XBRL. On the basis of the study

findings, the null hypothesis is hereby rejected. The study, therefore upholds that there is a statistically significant difference in the role of environmental factors on XBRL adoption in Jordan.

**Table 2:** Respondents' Profile.

	<i>Frequency</i>	<i>Percent</i>
<b>Gender</b>		
Male	79	77.5%
Female	23	22.5%
<b>Age</b>		
20-30	36	35.3%
31-40	28	27.5%
41-50	24	23.5%
Above 50	14	13.7%
<b>Education</b>		
Diploma	12	11.8%
Bachelor degree	70	68.6%
Master degree	16	15.7%
Ph. D	4	3.9%
<b>Working Experience</b>		
Less than 5 years	23	22.5%
5-10 years	17	16.7%
11-15 years	27	26.5%
16-20 years	21	20.6%
Above 20 years	14	13.7%

**Table 3:** The distribution of respondents to the role of environmental factors on XBRL Adoption.

	<b>One-Sample Statistics</b>			<b>One-Sample Test, Test Value=3</b>		
	N	Mean	Std. Deviation	t	Sig. (2-tailed)	Mean Difference
The competition between companies affects the decision of adopting XBRL.	102	4.18	1.246	9.535	.000	1.176
Stakeholders involvement plays an important role in XBRL adoption.	102	4.10	1.067	10.392	.000	1.098
Disclosure laws and regulations have effective role in adopting XBRL	102	4.05	.969	10.938	.000	1.049
Laws and regulations contribute in providing the infrastructure that supports applying XBRL	102	4.02	.912	11.294	.000	1.020
Legislation plays an important role in the application of innovations including new technologies such as XBRL.	102	4.17	.759	15.526	.000	1.167
Using XBRL in many countries plays an important role in XBRL adoption.	102	3.90	.939	9.703	.000	.902
The work environment characterized by a high degree of uncertainty does not help in adopting of XBRL.	102	3.80	.995	8.157	.000	.804

Table (4) shows that the opinions of the study sample about the role of organizational factors on XBRL adoption were positive, where the mean for all the paragraphs was greater than the average measurement tool. At 95% level of confidence and 101 degrees of freedom, the test results in Table (4) apparently indicated that there were significant differences in the answers of respondents who believe that The employees have a sufficient knowledge and qualifications which relevant and support XBRL adoption ( $t = 8.502$ ,  $p = .000$ ). The management of the company are interested in XBRL and new advance technologies ( $t = 10.989$ ,  $p = .000$ ). The management of the company support adoption of XBRL and new advance technologies ( $t = 12.112$ ,  $p = .000$ ). The competition between companies, encourage to adopt modern techniques in financial reporting ( $t = 7.527$ ,  $p = .000$ ). The management of the company support employee training on XBRL and new advance technologies ( $t = 12.245$ ,  $p = .000$ ). The decision of application of advanced technology is linked to a company vision ( $t = 11.081$ ,  $p = .000$ ). The employees of the company accept the changes related to XBRL and new advance technologies ( $t = 12.611$ ,  $p = .000$ ). That mean the respondents believes that organizational factors have a role in the adoption of XBRL, this is consistent with Tawfik *et al.*, (2017), Rostami and Nayeri (2015) conclusion that organizational factors have a role in the application and implementation of XBRL. On the basis of the study findings, the null hypothesis is hereby rejected. The study, therefore upholds that there is a statistically significant difference in the role of organizational factors on XBRL adoption in Jordan.

**Table 4:** The distribution of respondents to the role of organizational factors on XBRL Adoption.

One-Sample Statistics				One-Sample Test, Test Value=3		
	N	Mean	Std. Deviation	t	Sig. (2-tailed)	Mean Difference
The employees have a sufficient knowledge and qualifications which relevant and support XBRL adoption.	102	3.86	1.025	8.502	.000	.863
The management of the company are interested in XBRL and new advance technologies	102	4.06	.973	10.989	.000	1.059
The management of the company support adoption of XBRL and new advance technologies	102	4.04	.867	12.112	.000	1.039
The competition between companies, encourage to adopt modern techniques in financial reporting	102	3.79	1.066	7.527	.000	.794
The management of the company support employee training on XBRL and new advance technologies	102	4.13	.930	12.245	.000	1.127
The decision of application of advanced technology is linked to a company vision	102	4.03	.938	11.081	.000	1.029
The employees of the company accept the changes related to XBRL and new advance technologies	102	4.17	.934	12.611	.000	1.167

Table (5) shows that the opinions of the study sample about the role of technological factors on XBRL adoption were positive, where the mean for all the paragraphs was greater than the average measurement tool.

At 95% level of confidence and 101 degrees of freedom, the test results in Table (5) apparently indicated that there were significant differences in the answers of respondents who believe that the availability of expertise programmers can facilitate apply XBRL ( $t = 12.565, p = .000$ ). Availability of expertise Trainers can facilitate apply XBRL ( $t = 6.761, p = .000$ ). IT infrastructure have sufficient requirement to apply XBRL ( $t = 10.980, p = .000$ ). The costs of using XBRL outweigh the benefits expected from its use ( $t = 12.907, p = .000$ ). Outcomes of XBRL could easily be linked with current used applications. ( $t = 12.182, p = .000$ ). The integrity of accounting information will not affect when apply XBRL ( $t = 13.614, p = .000$ ). It's difficult to implement XBRL when compared to current reporting system ( $t = 9.422, p = .000$ ). It's important to try the XBRL application before applying. ( $t = 8.423, p = .000$ ). That mean the respondents believes that technological factors have a role in the adoption of XBRL, this is consistent with Rostami and Nayeri (2015) conclusion that technological factors have a clear impact in adoption XBRL. On the basis of the study findings, the null hypothesis is hereby rejected. The study, therefore upholds that there is a statistically significant difference in the role of technological factors on XBRL adoption in Jordan.

**Table 5:** The distribution of respondents to the role of technological factors on XBRL Adoption.

One-Sample Statistics				One-Sample Test, Test Value=3		
	N	Mean	Std. Deviation	t	Sig. (2-tailed)	Mean Difference
Availability of expertise programmers can facilitate apply XBRL	102	4.07	.859	12.565	.000	1.069
Availability of expertise trainers can facilitate apply XBRL	102	3.74	1.098	6.761	.000	.735
IT infrastructure have sufficient requirement to apply XBRL	102	4.10	1.010	10.980	.000	1.098
The costs of using XBRL outweigh the benefits expected from its use.	102	4.17	.913	12.907	.000	1.167
Outcomes of XBRL could easily be linked with current used applications.	102	4.09	.902	12.182	.000	1.088
The integrity of accounting information will not affect when apply XBRL	102	4.10	.815	13.614	.000	1.098
It's difficult to implement XBRL when compared to current reporting system	102	4.07	1.145	9.422	.000	1.069
It's important to try the XBRL application before applying.	102	3.86	1.034	8.423	.000	.863

#### Conclusion and Recommendations:

XBRL is a new technology-based reporting language for communicating financial information. It is expected to improve business information transparency, improve the quality of information, improve comparability and reliability, and improve business-to-government reporting process. The adoption of XBRL has potential benefits to stakeholder groups including auditors, financial managers, analysts, regulators and other stakeholders. Since XBRL adoption and implementation is new for Jordanian companies, this study examines the factors that affect XBRL adoption in Jordan. Specifically, this study examines the impact created by environmental, organizational, and technological factors on the adoption of XBRL in Jordan. The results clearly indicated that the XBRL adoption among Jordanian companies is associated with environmental factors such as external agencies and competitive environment pressures and can be influenced the process of XBRL implementation. This emphasizes the findings of the previous research carried out by (Tawfik *et al.* 2017; Faboyede *et al.*, 2017). Rostami and Nayeri (2015) found that the organizational factors play a significant role in the adoption of XBRL and in this study, factors such as interested and supportive management, interpersonal skills, sufficient knowledge, qualifications and experience of staff play a role on XBRL adoption. The role of technological factors such as the availability of expertise programmers and trainers, ease of understanding and use impact XBRL adoption and can be influence the process of XBRL implementation.

The study recommended that the securities commission has to encourage the companies listed on ASE to voluntarily apply XBRL and provide specialized training, courses, workshops and seminars in order to improve the awareness and understanding of various aspects of XBRL. Future research could be extended to examine the reasons why XBRL was not implemented in Jordanian companies so far by applying other research methodologies such as case studies regarding the initial process of XBRL adoption.

*Research Contributions:*

The current study integrates the suitable literature in order to consolidate our knowledge of technology adoption and provide clear guidance for future research, it has expanded the existing studies on XBRL adopting in Jordan, as it presents more empirical evidence on the role of environmental, organizational, and technological factors on XBRL adoption of in Jordan. As this study focuses on XBRL adopting in Jordan, the empirical findings of the current study is helpful for other researchers in the same field. The findings of this study are also reveals several issues that may assist securities commission and decision makers to acquiring better understanding of the adoption of XBRL.

**REFERENCES**

- Arpaci, I., Y. Yardimci and S. Ozkan, 2012. Organizational adoption of information technologies: a literature review. *International journal of e-business and e-government studies*, 4(2): 37-50
- Bonsón, E., V. Cortijo and T. Escobar, 2009. Towards the global adoption of XBRL using International Financial Reporting Standards (IFRS). *International Journal of Accounting Information Systems*, 10(1): 46-60.
- Doolin, B. and I. Troshani, 2007. Organizational adoption of XBRL. *Electronic Markets Journal*, 17(3): 199-209.
- Faboyede, O., O. Mukoro, F. Iyoha and A. Odafen, 2017. The Impact Of Extensible Business Reporting Language Education And Adoption On Stock Exchange Development: A Focus On Nigeria. *Journal of Accounting, Finance and Auditing Studies*, 3(3): 14-30.
- Ghani, E. and K. Muhammad, 2014. Financial Reporting Preparers' Perception on Usage Expectation of Extensible Business Reporting Language in Malaysia. *British Journal of Economics, Finance and Management Sciences*, 9(1): 1-12.
- Henderson, D., S. Sheetz and B. Trinkle, 2012. The determinants of inter-organizational and internal in-house adoption of XBRL: A structural equation model. *International Journal of Accounting Information System*, 13(2): 109-140.
- Kedaje, M. and M. Shojaeri, 2015. The ability of implementing eXtensible Business reporting language in Kurdistan Region of Iraq. *Jordan Journal of Applied science: Humanities Science Series*, 17(2): 179-212.
- Kaya, D., 2014. The influence of firm-specific characteristics on the extent of voluntary disclosure in XBRL: Empirical analysis of SEC filings. *International Journal of Accounting and Information Management*, 22(1): 2-17.
- Ilias, A. and E. Ghani, 2015. Examining the Adoption of Extensible Business Reporting Language among Public Listed Companies in Malaysia. *Procedia Economics and Finance*, 28(1): 32-38.
- Rogers, E.M., 2003. *Diffusion of Innovations*. Fifth Edition. New York: Free Press.
- Rostami, M. and M. Nayeri, 2015. Affecting factors on XBRL adoption. *Journal of Global Economics, Management and Business Research*, 2(4): 171-181.
- Sekaran, U., 2003. *Research methods for Business: A skill building approach*. Fourth Edition, New York: John Wiley & Sons.
- Tawfik, O., A. Hayek and A. Smady, 2017. The Extend of Applying the Extensible Business Reporting Language at Jordanian Industrial Companies. *International Review of Management and Marketing*, 7(1): 66-75.
- Umoren, A. and O. Jeremiah, 2015. Implications of XBRL Adoption in Nigeria: Perception of Professional Accountants. *Research Journal of Finance and Accounting*. 6(8): 97-103.
- Yassin, M., S. Bargouthi and I. Al-khatib, 2012. XBRL: The Future of Financial Reporting in Jordan. *Journal of advance social research*, pp: 1043-1059.
- XBRL, 2017. An introduction to XBRL. Available at <https://www.xbrl.org/the-standard/what/an-introduction-to-xbrl/>.