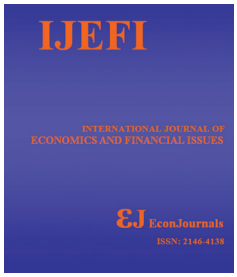


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# The Influence of Technological, Organizational and Environmental Factors on Accounting Information System Usage among Jordanian Small and Medium-sized Enterprises

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**ABSTRACT**

Accounting information plays a very crucial role in support of various business decisions. Widespread use of information technology enhances accounting functions to be more effective and efficient in supplementing accounting-related information. A computer-based accounting systems (accounting information system [AIS]) enables more accurate reporting, processing large amount of transactions and produce more meaningful reporting for analysis. Despite the promised benefits of AIS, small and medium-sized enterprises (SMEs) have been reported to be lagged behind on its use. Therefore, this study examines factors affecting the use of AIS amongst Jordanian SMEs based on technology–organization–environment (TOE) framework. The study employed self-administered survey questionnaire as a mean of data collection. Based on the responses from 187 firms, compatibility, owner/manager commitment, organizational readiness, competitive pressure and government support were found to have significant effect on AIS usage (AISU) among firms. This study confirms applicability of TOE framework in understanding factors affecting AISU in SMEs.

**Keywords:** Usage Decision, Accounting Information System, Technology–Organization–Environment Framework, Informal Networking
**JEL Classification**: M400

## 1. INTRODUCTION

Accounting information is crucial for businesses to manage short-range issues as it provides information to support control and monitoring functions in various critical areas such as cash flow, expenditure and costing (Son et al., 2006). Moreover, accounting information facilitates long-range strategic planning for businesses that are operating in a highly competitive and dynamic environment (Ali et al., 2012). With the advent of information technology (IT), the use of IT-related solution to support collection and communication of accounting information must be given priority as part of the initiatives to extend business competitiveness and productivity (Hameed and Counsell, 2012; Ismail and Ali, 2013). Nowadays, IT plays an extensive and integrated role in the way accounting functions are executed (Elbashir et al., 2011).

The importance of IT to the businesses in general and small-medium enterprises (SMEs) in particular has been often known as an effective way to improve accounting functions. Appropriate use of IT ensures timely and accurate accounting reports and other financial information to the firm's managers pertaining to the impacts of their decision making and the results of their business's operations on firm performance (Halabi et al., 2010; Saeidi, 2014). Given the growing importance of SMEs, the firms' survival is an issue of continual concern. Becoming a pillar of most nations' economy, SMEs need to be more aggressive to improve their competitiveness and productivity (Ali et al., 2012). Concerning this issue, Dyt and Halabi (2007) stressed that the distinctions between successful and unsuccessful SMEs is on how they make use of accounting information.

Earlier works reported that accounting and financial reports are the principle sources of information for SMEs. Thus, having a more sophisticated accounting information and financial reporting system guarantees firms to pursue their goals in most effective and efficient manner (McMahon, 2001; Ismail and King, 2007). As IT expands, provision of accounting and financial information is now transformed by computerized accounting information systems (AIS). By definition, AIS is an IS/IT tools that support collection, storage and processing of financial and accounting data for management decision making purposes (Khairi and Baridwan, 2015).

In line with other developing economies worldwide, the use of AIS among SMEs in Jordan is relatively low despite extensive of IT in their daily business operation. As reported, only about 14% of Jordanian SMEs have embraced AIS for their internal business reporting purpose (Smirat, 2013). Limited use of IT/IS in support of business operation, particularly accounting function, hampers firms' capability to fully leverage and improve their competitiveness (GIT Report, 2012). Furthermore, low level of AIS usage (AISU) resulted to poor data quality that ultimately affects decision making. To some other extent, low deployment of IT/IS related solution restrict Jordanian firms' capability to sustain competitiveness and to improve business productivity (Khassawneh, 2014).

In response, to enhance our understanding on current use of AIS among SMEs, this study investigates factors that facilitate or hinder firms to use AIS. Drawing upon technology–organization–environment framework (TOE), this study provides empirical evidence of technological, organizational and environmental factors in describing AISU among firms. It further examines the influence of informal (social) network on firm's use of AIS. In other words, the present research is expected to demonstrate how informal (social) network interact with other determinants and its effect to firm's decision to embrace AIS.

This study extends present AIS research literature by proposing a model that explains factors affecting AISU among SMEs, particularly in the context of developing economy. The findings could also benefit relevant agencies in specifying appropriate strategies and approaches to promote the use of AIS among firms.

This paper is presented in seven sections. The next two sections (Section 2 and Section 3) review prior works on AISU and the development of studies in IT/IS usage respectively. A proposed research model and hypotheses development are then outlined in Section 4. Meanwhile, Section 5 describes research method employed in response to the objectives of this study. Section 6 reports the results of data analysis and followed by the discussions, conclusion and implications of the study in Section 7.

## 2. PREVIOUS STUDIES ON AISU

Researchers have been struggling to identify what factors facilitate or hinder organizations' attempts to implement AIS. Some studies have investigated IS/IT deployment in support of AIS (Ismail and King, 2007; Kharuddin et al., 2010) and AIS adoption (Ali et al., 2012; Awosejo et al., 2013; Edison et al., 2012; Sam et al., 2012; Wang and Huynh, 2013). Several studies focused on the relationship between AISU and user satisfaction (Khalil and Elkordy, 1999; Ramli, 2013). Generally, most of the existing literature has paid very much attention on issues such as AIS adoption (Abduljalil and Zainuddin, 2015; Alamin et al., 2015) that is the first step in innovation diffusion instead of innovation usage i.e., the stage after adoption. In fact, adoption is not equivalent to usage as the latter confirms the satisfaction from using it (Hsu et al., 2004). Thus, understanding the factors that influence IT/IS usage is essential for both practitioners and researchers. Additionally, research on technology-related innovation should emphasize on both adoption and usage as dependent variables and not simply the adoption decisions (Tornatzky and Klein, 1982). In response, this study concentrates on the usage of AIS (post adoption stages) and, thus, fills the literature gap. By doing so, this paper seeks to shed additional light on AISU decision as well as increase our understanding of AISU.

## 3. IT/IS INNOVATION USAGE: A THEORETICAL FRAMEWORK

IS/IT literature has examined and validated various factors affecting IS/IT usage (Hameed et al., 2012). Generally, these research examined the influence of three major factors namely; innovation, organizational and environmental factors in which an organization operates. In general, most of the influencing factors are derived from two different perspectives. The first perspective include intra-organizational factors, whereas, the second focuses on the Institutional perspective that affects the usage decision (Alsaad et al., 2014).

Intra-organizational perspective predicts that innovation is used by rational decision makers who assess benefits and simplicity of available alternatives and select accordingly (Hillebrand et al., 2011). Innovation suitability is determined by assessment of innovation desirability as well as organizational capability (Alsaad et al., 2014; Guo and Wu, 2010). Innovation desirability refers to the decision makers' cognition toward innovation (such as AIS) as derived from an assessment of the innovation attributes (also called technology characteristics) i.e., relative advantage (RA), observability, complexity, compatibility and trialability. These attributes allow users to build cognition towards AIS whether or not is an appropriate choice (Lyytinen and Damsgaard, 2011; To and Ngai, 2006). A meta-analysis research indicates that RA and compatibility as compared with other technological characteristics have been reported as positively and significantly affecting innovation usage decision (Hameed and Counsell, 2014; Jeyaraj et al., 2006).

Similarly, organizational capability refers to the extent to which the available resources are perceived to be equivalent to the resources required for successfully maintaining and using specific innovation (Guo and Wu, 2010). Thus, researchers have extended further by incorporating other factors such as organizational readiness (OR), owner/manager support, firm scope, and firm size that have substantial role in determining suitability of an innovation

(Sila, 2013). Several works have empirically confirmed the positive effect of OR and owner/manager support on technology usage decision (Chwelos et al., 2001; Yoon and George, 2013). Among competing theories in innovation diffusion field, diffusion of innovation (DOI) theory by Rogers (2003) emerges as one of the most commonly used theories that provide causality using intra-organizational perspective (Mohamad and Ismail, 2009).

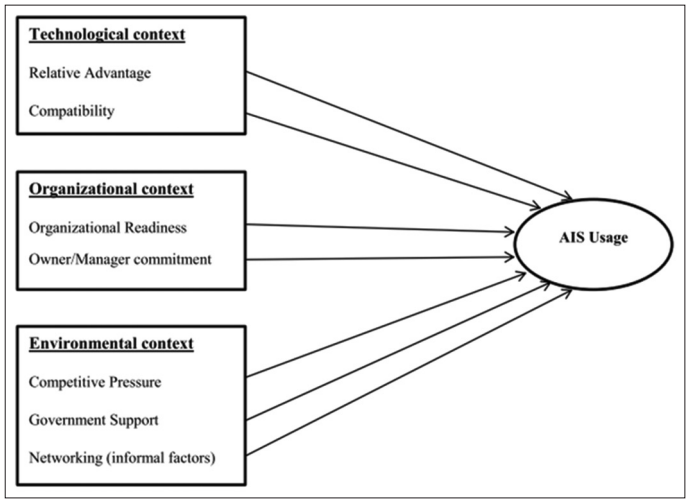
In contrast, the second perspective (institutional perspective) speculates that the social context in which firms are operating influences their behavior. Many research has given focus on the influence of environmental (institutional) factors on innovation usage decision. Researchers have identified factors such as government support (GS), industry pressure, and competitive pressures (CPs) to play a significant role in explaining innovation usage decision (Grover and Saeed, 2007; Teo et al., 2003). With this regard, they assert on positive effect of GS and CPs on innovation usage (Chwelos et al., 2001; Hameed et al., 2012).

Since DOI theory pays less attention on external perceptions, and innovation researchers have a consensus that technology usage decision is neither entirely intra-organizational action nor is it uniquely responsive to environmental (institutional) factors. Hence, scholars are more likely to incorporate both perspectives (intra-organizational and environmental) into a single theoretical framework namely TOE framework (Ramdani et al., 2013; Yoon and George, 2013). In spite of widely apparent agreement in the literature about the TOE framework, however, there are still some criticisms addressed to this model. One of these criticisms is that the model ignores social factors in the SMEs context related to family, friend, colleague and staff (Parker and Castleman, 2009). Such factors would help firms to acquire unavailable resources, to access new market/technologies, and to share complimentary skills (Watson, 2007). In other respect, SMEs could not afford either to retain or to recruit qualified IS/IT experts due to resources constraint (Cragg and King, 1993). Alternatively, firms compensate the constraint by seeking advice and assistance from alternative sources (Thong et al., 1996). To summarize, this paper incorporate technological, organizational, and environmental factors to examine firm's decision to use AIS. In addition, this study also considers social networking attribute that potentially influence firms use of AIS.

## 4. RESEARCH MODEL AND HYPOTHESES DEVELOPMENT

Responding to the above discussion, current paper assesses factors facilitating or hindering AISU amongst Jordanian firms. Figure 1 depicts a research model specifying relationship between selected independent variables and the dependent variable (AISU). This study groups the independent factors into three categories, namely; technological (RA and compatibility), organizational (owner/manager commitment [O/MC] and OR) and environmental (CP, GS and informal networking [IN]). The study hypotheses compliment the research framework on the next section.

**Figure 1:** Proposed framework




### 4.1. RA

The perceived RA refers to the degree of acceptance of possible benefits that AIS can provide to SMEs (Oliveira and Martins, 2010). Many empirical studies reported positive influences of the RA on adoption/use of various IT/IS innovation (Ali et al., 2012; Zhu et al., 2006). Conversely, several works found insignificant role of RA to explain adoption/use of IT-related innovations (Yoon and George, 2013). In view of limited resources as one of the concern for SMEs to invest on IT-related innovation, perceived greater RAs of AIS could increase the likelihood of its usage by the firm. Thus, this study hypothesizes the following:

$H_1$**:** RA positively influences AISU.

### 4.2. Compatibility

Compatibility refers to the extent that AIS fits with the firm's existing IT infrastructure, values, work practices and culture (Morteza et al., 2011; Rogers, 2003). Many studies that considered compatibility as one of the factors affecting IS/IT innovation found that it is among the top determinants of IS/IT innovation usage. As Rogers (2003) stresses, compatibility between technology innovation (e.g., AIS) and company policies will make it easier to be imagined in a more familiar context. Thus, it is anticipated that firm tends to consider AIS if it is in alignment with prevailing firm's values, strategic needs and culture as reflected in following hypothesis:

$H_2$: Compatibility positively influences AISU.

### 4.3. O/MC

O/MC represents the level of commitment by the SMEs owner/manager in AIS related activities of the firm. Several works on IT/IS related areas proved significant importance of committed owner/manager on adoption decision (Teo et al., 2006; Scupola, 2009). Rationally, when SMEs owner/manager perceived a technology to be valuable, they would manage and support IT-related activities, outline any obstacles affecting the system usage, such as the policies, strategies, and the firm's future directions (Wang et al., 2006). Accordingly, committed owner/manager's

tends to play dominant role in influencing firm's members to embrace AIS. Therefore, this study anticipates that:

$H_3$: O/MC positively influences AISU.

### 4.4. OR

Zhu et al. (2006) defines OR refers to the extent in which technical skills, technology infrastructure, and relevant systems in a business support technology usage. Earlier works on the role of OR in IS/IT innovation usage generally agreed on its positive effect on the use of IT (Chwelos et al., 2001; Zhu and Kraemer, 2005). Therefore, it is suggested that the greater the firm's readiness, the higher its tendency to deploy AIS, and vice versa. This is represented by the following hypothesis:

$H_4$: OR positively influences AISU.

### 4.5. CP

CP refers to the level of pressure from competitors within the environment in which the businesses operate (Zhu and Kraemer, 2005). A successful business approach is to build competitiveness in the marketplace. As several works suggested, CP do influence use of IT among firms (Salwani et al., 2009; Zhu and Kraemer, 2005; Chwelos et al., 2001) and it has been consistently reported as of one of the factors to influence IT usage. In other words, when competitors start to embrace AIS, firms will be pushed to employ AIS more widely as part of the measures to sustain their competitiveness. Following this argument, this study hypothesizes that:

$H_5$: CP positively influences AISU.

### 4.6. GS

GS refers to the authority assistance and commitment to encourage and inspire organizations to use and diffuse IT/IS in its context (Ifinedo, 2012). Some researchers found substantial evidence on the proposition that GS in terms of incentives and assistances would facilitate use of innovation (Hameed and Counsell, 2012). The importance of GS on IT/IS usage has been empirically reported by many researchers (Riyadh et al., 2009; Zhu and Kraemer, 2000; Tan et al., 2009). Therefore, it is appropriate to suggest that GS plays an important role in promoting AISU, facilitating the usage and dealing with various constraints inhibiting its use among firms. Accordingly, authors reflect this argument as in the following hypothesis:

$H_6$: GS positively influences AISU.

### 4.7. IN

Firms may obtain advice pertaining to IT-related matters via two possible sources i.e. informal and formal, depending on strength of ties between them. IN comprises of parties having close ties with the owner/manager such as friends, relatives, and staff. Whereas, formal networking includes consultants, vendors, accounting firms and government assistance (Thong, 2001). Several works reported that SMEs perceive greater tendency to rely upon IN for IT/IS-related support and advice (MacGregor, 2004; Mohamad, 2012). As Ahmad (2005) and MacGregor (2004) further suggested, the relationship with diverse persons in the same scope of businesses allows exchanging the ideas and thought to compete with other business. This is partly because informal networks that has stronger ties with the firm, promises greater level of trust, low cost of advice, and easily accessible as compared to a more formal types of networks (Allinson et al., 2004). Prior research, however, focused mainly on the influence of formal networks on IT/IS usage while putting less emphasize on informal networks (Parker and Castelman, 2009; Bhattacherjee and Sanford, 2006) while the latter could have more substantial role in assisting SMEs to embrace IT/IS. This is partly due to limited managerial capacities of SMEs in implementing IT/IS. In turn, firms seek support from outside resources (Copp and Ivy, 2001).

Taking into account the nature of SMEs as well as cost of getting advice on IT/IS related matters, informal networks is expected to have greater role in advising SMEs about AIS. Following this argument, this study predicts a positive relationship between the level of firm's reliance on informal networks and the extent of AISU as outlined in the hypothesis below:

$H_7$: IN positively influences AISU.

## 5. RESEARCH METHOD

In line with the study aim to examine the effect of technological, organizational and environmental factors on AISU among Jordanian SMEs, authors have considered firms listed in Amman Chamber Industry directory (ACI, 2014) as a sampling frame. 941 out of 8000 firms listed in the directory matched the definition of SMEs adopted in this study. Small firm refers to a firm with 10 to 49 full-time employees (FTEs) while medium-sized firm represents a firm with FTEs of between 50 and 249. As the study concerns on the firm's perception on AISU, therefore, firm becomes unit of analysis of the study with owner/manager was identified as the targeted respondent. The owner/manager generally has extensive understanding about firm's IS/IT practices and substantial influence on most of the firm's strategic decisions (Damanpour and Schneider, 2006).

The data was obtained using questionnaire survey. The questionnaire comprises of four sections namely; firm's demographic information, factors affecting AISU, the extent of AISU, and respondent's profile. Five-point scale was used to measure all main variables of the study that were adopted from previous studies. Authors pre-tested the instrument with 31 SMEs owner/manager in Jordan prior to the data collection. Out of 941 firms identified, 200 were selected for pilot testing purpose.

For the purpose of data collection, the chosen method of questionnaire delivery was a combination of a self-administered and email (online). The researchers delivered questionnaire to all 741 firms identified from the directory. A total of 204 responses were collected after series of follow up procedures. However, only 187 were found usable for further analysis resulting to 25.2% response rate. The usable responses received meet the minimum requirement for further analysis using partial least square (PLS) structural equation modeling i.e., 70 responses for a model with seven independent variables (Hair et al., 2014).

## 6. DATA ANALYSIS AND RESULTS

This study employed PLS for testing the proposed hypotheses. Hair et al. (2014) propose two-step procedures in PLS testing: (i) Test of constructs validity and reliability (measurement model) and test of hypotheses (structural model). Descriptive statistics for the latent variables are presented in Table 1. The properties of each scale were evaluated in terms of item loadings, internal consistency reliability, convergent validity and discriminant validity. Item loadings and internal consistency reliability (Cronbach's alpha [CA] and composite reliability [CR]) that are exceed the minimum cutoff value of 0.40 and 0.70, respectively are considered acceptable (Hair et al., 2014). As shown in Figure 2, all the item loadings were greater than the minimum cutoff value of 0.40. Similarly, Table 1 shows that all the latent variables demonstrate good internal consistency reliability, as evidenced by their CA and CR values, ranging from 0.708 to 0.853 and 0.826 to 0.898, respectively.

Average variance extracted (AVE) reflects the convergent validity of the latent variables. Scores of all the latent variables (Table 1) exceed the cutoff value of 0.50 (Hair et al., 2014). In addition, to determine the discriminant validity of the constructs, authors employed AVE square root approach. As Table 2 reports, the AVE square root for each construct is greater than its correlation with other constructs suggesting strong properties of convergent and discriminant validity.

Structural model was examined next by applying the same PLS algorithm (5000 resamples). The path coeffcients and explained variances ($R^2$) for the model were obtained using a bootstrapping procedure and are shown in Figure 2. The $R^2$ value of 0.238 suggests that the independent variables altogether explain about 23.8% of the variances in dependent variable (AISU). The $R^2$ value of closed to 0.26 had a substantial value based on Cohen (1988) criterion for assessing coefficient of determination (Table 1 and Figure 2 for the results of PLS algorithm). In addition, the results of PLS bootstrapping for each of the significant variable to determine the effect of each of the independent variable are presented in Figure 3. From the structural model results, only five out of seven hypotheses were supported. Two hypotheses related to the effect of RA ($H_1$) and IN ($H_7$) on AISU were rejected in the final model. As Figure 3 further suggests, compatibility ($H_2$), O/MC ($H_3$), OR ($H_4$), CP ($H_5$) and GS ($H_6$) have significant effect to AISU with the t-value of 2.740, 1.465, 1.441, 2.231, 1.546, respectively. Table 3 summarizes empirical findings of hypotheses testing.

**Table 1: Latent variables reliability and validity**

| Latent constructs | CA | CR | AVE | $R^2$ |
|---|---|---|---|---|
| AISU | 0.718 | 0.826 | 0.545 | 0.238 |
| RA | 0.836 | 0.874 | 0.541 | |
| CO | 0.708 | 0.830 | 0.622 | |
| O/MC | 0.853 | 0.893 | 0.627 | |
| OR | 0.849 | 0.893 | 0.628 | |
| CP | 0.766 | 0.843 | 0.536 | |
| GS | 0.770 | 0.845 | 0.523 | |
| IN | 0.851 | 0.898 | 0.690 | |

CA: Cronbach's alpha, CR: Composite reliability, AVE: Average variance extracted, AISU: Accounting information system usage, RA: Relative advantage, CP: Competitive pressure, GS: Government support, IN: Informal networking, OR: Organizational readiness, O/MC: Owner/manager commitment, CO: Compatibility

## 7. DISCUSSION AND CONCLUSIONS

This study contributes to the literature by applying TOE model, a framework that receives little attention in earlier AISU studies. Overall, the results support the applicability of the TOE to explain the AISU factors. The following paragraphs discusses in further details the reported results.

With respect to the technological factors, compatibility was found to be a factor affecting AISU. Moreover, compatibility has the strongest effect on AISU among all the factors examined in this study. This implies that firms extensively use AIS when they perceive AIS as highly compatible with the business needs. Contrary to authors' prediction, RA do not significantly influence AISU. The result contradicts the previous studies that reported substantial influence of RA on various others IT/IS applications (e.g., Ali et al., 2012; Zhu et al., 2006). Nevertheless, the result corresponds to Wang et al. (2010) who found insignificant effect of RA on RFID adoption. A possible explanation is that when firms face external pressures, they tend to embrace relevant technology in order to avoid being left out of their industry or to foster their image and reputation within their industry, irrespective of any advantage consideration (Son and Benbasat, 2007). In such case, sustaining the competitiveness of the firm becomes priority instead of assessing the RAs that AIS might offer.

As for "organizational factors," the results suggest that firms with higher level of O/MC and OR tend to have greater extent of AISU. This is in line with Teo et al. (2006) that emphasize on the support of owner/manager in order to increase IT/IS usage.

**Table 2: Correlations and square roots of AVE of latent constructs**

| Latent constructs | AISU | CO | CP | GS | IN | OR | O/MC | RA |
|---|---|---|---|---|---|---|---|---|
| AISU | **0.739** | | | | | | | |
| CO | 0.356 | **0.789** | | | | | | |
| CP | 0.381 | 0.312 | **0.732** | | | | | |
| GS | 0.165 | 0.188 | 0.008 | **0.723** | | | | |
| IN | 0.297 | 0.246 | 0.658 | 0.057 | **0.830** | | | |
| OR | 0.259 | 0.148 | 0.424 | 0.091 | 0.290 | **0.793** | | |
| O/MC | 0.277 | 0.356 | 0.332 | 0.131 | 0.326 | 0.128 | **0.792** | |
| RA | 0.244 | 0.515 | 0.327 | 0.172 | 0.270 | 0.120 | 0.384 | **0.736** |

The diagonals in bold is the square root of the AVE, while the other entries are the correlations between variables. AVE: Average variance extracted, AISU: Accounting information system usage, RA: Relative advantage, CP: Competitive pressure, GS: Government support, IN: Informal networking, OR: Organizational readiness, O/MC: Owner/manager commitment, CO: Compatibility

**Figure 2:** Measurement model (partial least square algorithm)

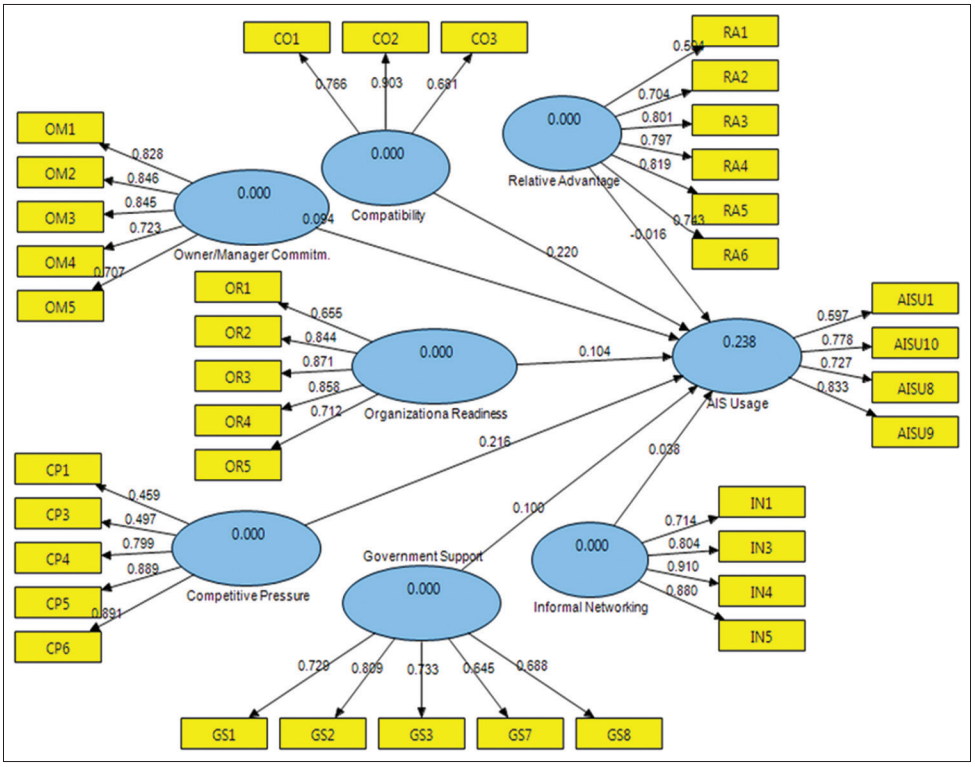
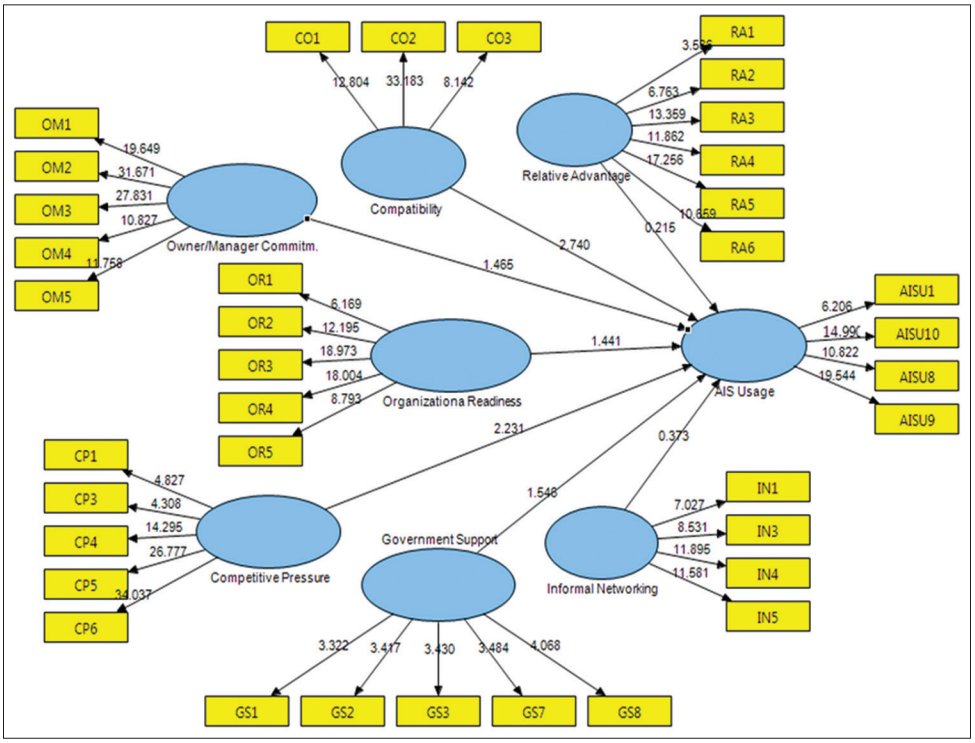



**Figure 3:** Structural model (partial least square bootstrapping)




Their study also confirms that the degree of owner/manager involvement in AISU and understanding on the importance of AIS would increase firm's likelihood to use AIS. Strong support from owner/manager would reduce the organizational resistance by creating the cultural values that support technology usage. Similarly, OR was found to be significant factor on the usage of AIS. This result receives considerable support in earlier studies (Chwelos et al., 2001; Zhu and Kraemer; 2005) that reported significant link between OR and technology usage. While compatibility encourages firms to embrace AIS, availability of financial and technical resources ensure successful deployment of AIS. Thus, the study confirms that firms having more resources

**Table 3: Hypotheses testing**

| H | Relationships | Beta | Standard error | t value | P value | Supported |
|---|---|---|---|---|---|---|
| $H_1$ | RA → AISU | −0.016 | 0.074 | 0.215 | - | No |
| $H_2$ | CO → AISU | 0.220 | 0.080 | 2.740** | 0.014 | Yes |
| $H_3$ | O/MC → AISU | 0.094 | 0.064 | 1.465* | 0.093 | Yes |
| $H_4$ | OR → AISU | 0.104 | 0.072 | 1.441* | 0.096 | Yes |
| $H_5$ | CP → AISU | 0.216 | 0.096 | 2.231** | 0.030 | Yes |
| $H_6$ | GS → AISU | 0.100 | 0.064 | 1.546* | 0.083 | Yes |
| $H_7$ | IN → AISU | 0.038 | 0.103 | 0.373 | - | No |

**Indicated significance at P<0.05; *indicated significance at P<0.10. AISU: Accounting information system usage, RA: Relative advantage, CP: Competitive pressure, GS: Government support, IN: Informal networking, OR: Organizational readiness, O/MC: Owner/manager commitment, CO: Compatibility

(not just equipment resources but also human resources) make greater usage of AIS.

With regard to the environmental-related factors, the results provide evidence that firms use of AIS positively influenced by two of the three factors: CP and GS. Based on the comparison of the path coefficients of the significant factors, CP has the second strongest effect on AIS usage after compatibility. The results demonstrate that in case of the business competitors successfully embrace AIS with reasonable benefits, a firm intends to imitate the move. Such move potentially enable them to avoid risks that are borne by the first-movers (Khalifa and Davison, 2006; Teo et al., 2003), avoid being left behind in its industry, or losing its competitive advantage.

Although the study found reasonable support on the positive relationship between GS and AISU, authors unable to provide adequate evidence on the effects of IN on AISU. Firms seem to favor formal types of networking such as government instead of informal types of networking while seeking supports and advice on AIS related matters. Active Jordanian government effort to facilitate use of IT/IS, including accounting-related software via various incentives/programs, apart from affordable cost to obtain advice/consultation from government-related agencies potentially explain firm's less reliance over the informal network.

This study demonstrates several important theoretical and practical implications. It extends AIS literature by extending applicability of TOE framework in explaining the relationship between selected technological, organizational and environmental factors and AISU. Despite extensive works on the use of IS/IT applications, very little has been specifically related to the AIS field.

To the SMEs managers and practitioners, policy-makers, industry leaders wishing to understand why SMEs are lagging behind their larger counterpart on the use of AIS can benefit from the results reported in this study. Given the fact that firms indicated insignificant role of IN as well as RA, more concerted efforts are expected to alert firms on the pertinence of formal networking supports e.g. government agencies, SMEs advisory center, IT consultants, finance institutions, to facilitate AISU.

The present study has several limitations. First, the research population was confined to manufacturing SMEs of Jordan. Hence, the results may not be generalizable to other sectors. Future research could replicate the study in other sectors or countries as to ensure consistency of the findings. Secondly, as this study employed cross-sectional data, therefore, causal relationship between factors could not be established. Use of longitudinal data could overcome such limitation. Thirdly, as the present research model examined a number of potential antecedent variables, effects of other variables such as organizational culture, firm size, and external support should be explored further in order to increase robustness of the results. Finally, the current study tested this framework for studying AISU (post-adoption stage). Future research may gain a more holistic picture of the post-adoption diffusion and impact of AIS, by incorporating TOE factors, for assessing AISU as a critical stage of impact creation at the firm level.

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