

Factors that explain the differences in the e-business level of assimilation among businesses in Lebanon

Completed Research Paper

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Abstract

E-business can bring positive potential to developing countries. It can make businesses more competitive. But despite this opportunity, e-business in Lebanon have been slow to put into practice. Today, a real divide exists between initial and advanced adopters (routinizers). This paper investigates the factors that explain the differences in the e-business level of assimilation among businesses. Therefore, the Perceived e-Readiness Model was adopted and then adapted to the Lebanese context. Quantitative data were collected from a large sample of 171 executives from three industries: banking, retailing, and tourism. Comparing initial adopters to routinizers, results show that while routinizers adopted e-Business based on a strategic choice, initial adopters did it mimetically.

Keywords

e-Business assimilation, IDT, Perceived e-Readiness model, initial adopters, advanced adopters

Introduction

E-business can bring positive potential to developing countries (Paré 2003). It can make businesses more competitive and can offer new opportunities and possibilities of development (Kannabiran and Narayan 2005). Indeed, according to Chaudhuri (2012: 328), “by reducing information asymmetry, the Web can increase market efficiency. By lowering intermediation costs, it increases transactional and operational effectiveness. By delinking the storage, processing and ferrying of information from location, it makes distance largely irrelevant, thereby multiplying the scope and scale of services delivery. Lastly, it is an enabling tool which people can use for increasing productivity.” By using the Web, firms in developing economies can have a chance to access to the global markets easily, operate more proficiently, and compete fairly (Heeks 2012). But despite these opportunities, e-business in these countries have been slow to put into practice (Novaes Zilber and de Araújo 2012). In Lebanon for example, despite the fact that there has been increased interest in the Web in a diverse range of sectors such as banking, tourism, retailing, education, and government, the e-business activities did not yet offer much to the economy¹. This is due to many reasons that hamper its growth including the weak presence of governmental

¹ <http://www.wamda.com/2013/02/overview-of-the-e-commerce-scene-in-lebanon>

programs to promote the benefits of e-business (Charbaji and Mikdashi 2003; Harfouche and Robbin 2012) and the lack of regulatory supports (Zhu and Kraemer 2005).

However, despite the importance of this topic, there has been in Lebanon very little systematic investigation about why some firms succeed in assimilating e-business whereas others do not. And there has been little study on the factors that explain the differences in the e-business level of assimilation among businesses. By assimilation we mean, “to which extent the information and communication technology (ICT) diffuses along the organization’s processes and to which extent it becomes integrated in the related activities within the organization” (Cooper and Zmud 1990).

This paper aims to identify the factors that can affect the e-business assimilation in Lebanon. Therefore, the Perceived e-Readiness Model (PERM model) of Molla and Licker (2005) was adopted and then adapted to the Lebanese context.

The research methodology was based on a survey. Quantitative data were collected from a large sample of 171 executives. The sample was randomly selected from three specific industries: banking, retailing, and tourism. Data collected were analyzed using the techniques of structural equation modeling (SEM).

This research reflects our concern in investigation factors that can help reaching different stages of e-business assimilation in developing countries (DC). Why and how do firms implement ICT have always been the researchers interest in Information System. Therefore, we will start by exposing different theories concerning the e-business assimilation. Then, we will resume our research model, methodology, and results.

E-business Assimilation Theory

Assimilation is a vital construct that can be observed since the firm’s adoption of ICT till the impact on its business performance (DeLone and McLean 1992). In our research, the Web assimilation will be considered as the level of the firm’s usage of web technologies in assisting its business strategy and operational plan. Our definition of the Web assimilation will focus on the relative success of firms in integrating the Web technology in the company’s strategy, process, and operations (Armstrong and Sambamurthy 1999). The e-Business assimilation will be considered as the result of a set of human behaviors and structures that adopt Web technologies to leverage their business strategies in order to enhance their performance outcomes or in order to improve the manner they serve their customers. Indeed, through e-business assimilation, organizations can enhance their business activities and create capabilities and core competencies that are necessary for the organization to remain competitive in a changing competitive environment (Elbashir et al. 2013).

The theory of Innovation Assimilation distinguishes between the adoption and the assimilation process. While the adoption refers the technology spread process across the organization and among its population, Zhu et al. (2006) defines e-business assimilation as a series of stages from a firm’s initial evaluation of e-business at the pre-adoption stage (initiation), to its formal adoption, and finally to its full- scale deployment at the post-adoption stage. During the routinization stage, the e-business becomes an integral part of the value chain activities. In this same logic, Purvis et al. (2001) defines the assimilation processes as “the extent to which the use of technology diffuses across the organizational work processes and becomes routinized in the activities of those processes”.

In this paper, we adopt Zhu et al. (2006) definition of the three stages of e-business assimilation: initiation, adoption, and routinization. The later two stages of assimilation (adoption and routinization), which describe various degrees of use of e-business, have particular relevance to our study.

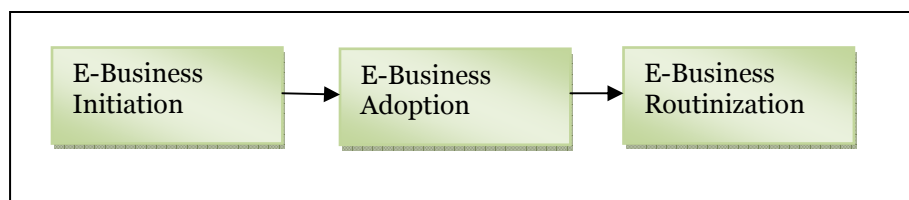


Figure 1. The e-Business Assimilation process

- The initiation stage

The first phase “amounts both to identifying and prioritizing needs and problems on one hand and to searching the organization’s environment to locate potential solutions that can meet the organization’s problems” (Rogers 1995, p. 391). Kwon and Zmud (1987) considered that the pressure to adopt the innovation can derive either from the organizational pressure and needs (pull), or from the technological innovations (push), and/or sometimes from both. This first stage is represented by the stages 1 to 3 in Rogers’ model (Figure 2).

- The adoption stage

After making the decision to implement the technology, the acceptance or rejection of this new technology within the organizations becomes crucial. This stage is represented by the stages 4 and 5 in Rogers’ model (Figure 2). After its initial adoption, the firm and its members usually do not have sufficient knowledge to leverage the system, and often misalignments occur between the new technology and the user environment (Zhu, Kraemer, et al. 2006b). Therefore, the use of resource allocation in this phase can help spreading the assimilation in the advanced stages (Cooper and Zmud 1990).

- The routinization stage

The e-business routinization is identified as the phase where e-business is broadly used as an essential part of the organization’s value chain (Zhu, Kraemer, et al. 2006b). At this level, the innovation becomes integrated within the business activities of the company.

For the purpose of our research, we omit the initiation phase of the assimilation process and we consider only the stages of adoption and routinization. Indeed, our aim is to identify the factors that might hinder the assimilation phase in adopting e-business and reaching a full routinization.

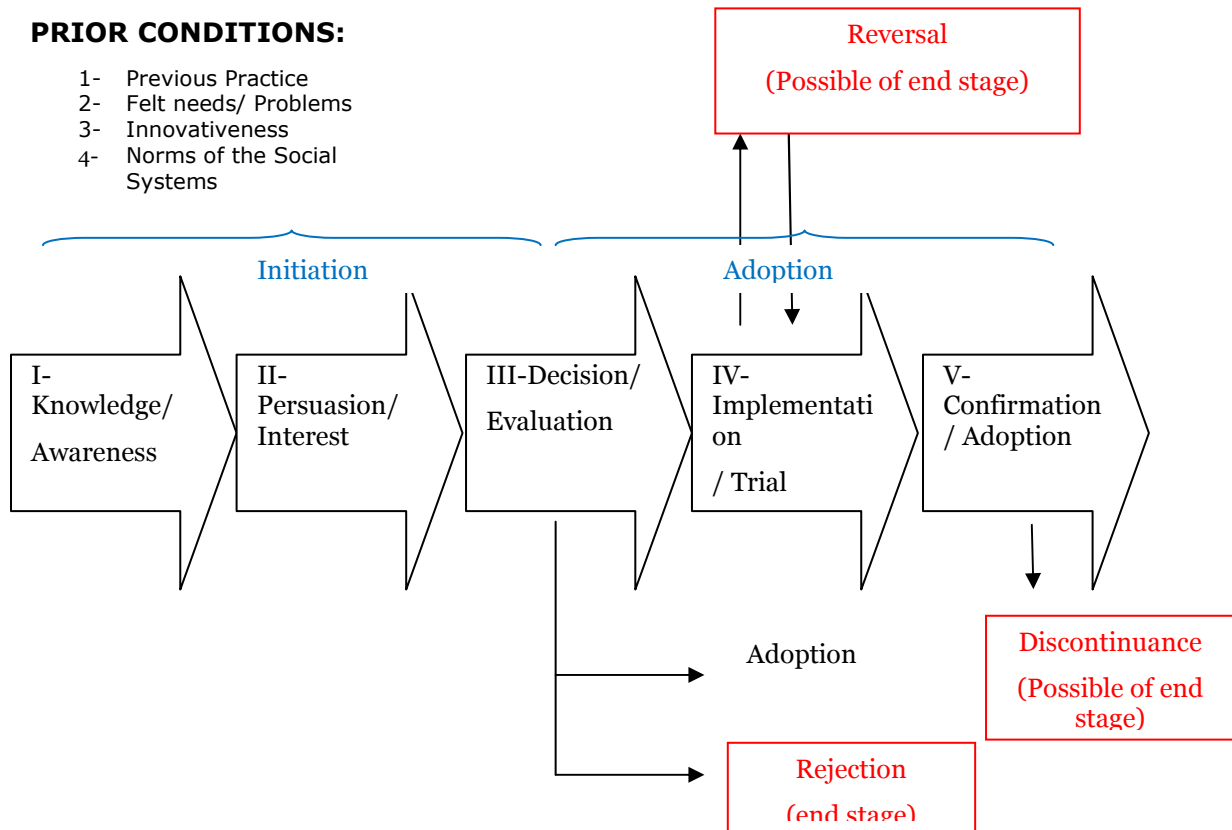


Figure 2. The Rogers’ (1995) Five Stages Model of adoption

Antecedents of e-Business Assimilation

Many theoretical frameworks were developed in order to investigate the factors that influence the e-business assimilation. Amongst the most widely cited, we may state: 1) the Diffusion of Innovation Theory, 2) the Technology-Organizational-Environmental Framework, and 3) the Institutional Theory, and 4) the Perceived e-Readiness Model. This part of the paper will be dedicated to explore these four theoretical models (DOI, TOE, IT, and PERM) and compare them accordingly as they explain the e-business assimilation in organizations.

- The Diffusion of Innovation Theory (DOI)

Rogers (1995) argues that the innovation diffusion process in an organization is influenced by individual's characteristics, as well as by internal and external factors. Indeed, he found that the leader's attitude towards change weighs on the overall decision. There is also the centralization of the decision, the complexity that refers to the employees level of expertise and knowledge, the formalization that refers to which extent the organization would push their employees to follow regulations and procedures within the system; the interconnectedness that refers to the extent to which the departments are connected within each other inside the organization, and last, the firms size. Rogers also cited the system openness as an important antecedent of the innovation assimilation.

- The Technology –Organization Environment Theory (TOE)

The Tornatzky and Fleisher's (1990) TOE model considers three different organizational characteristics that would have an impact on the way the company adopts the e-business: technological, organizational and environmental characteristics. Technological framework takes into consideration the external and internal factors that are relevant to the organization such as equipment and technologies availability. Organizational framework takes into consideration the size, the organization's structure and capacity. Environmental framework depends on the environment where the organization conducts its business such as the competition, the industry type, the existing government support and rules etc...

- The Institutional Theory (IT)

The Institutional theory accentuates the fact that the external environment has a very strong effect on the organization's behavior. It has been adopted in the IS research to study antecedents of ICT assimilation in organizations. According to this theory, organizational goals are not always driven by efficiency but sometimes they can be influenced by external environmental factors (DiMaggio and Powell 1983). Research results on IT assimilation (Purvis et al. 2001, Chatterjee et al. 2002, Teo et al. 2006) show that organization's predisposition for assimilation is influenced by three major factors: mimetic, coercive, and normative institutional pressures. The mimetic pressures are detected when the organization imitate other organizations in its environment (Soares-Agular and Palma-Dos-Reis 2008). The coercive Pressures are the informal or formal pressures that are being exerted on the company by other organizations (DiMaggio and Powell 1983). The normative pressures are the result of dyadic relationships between organizations. When the organization shares direct or indirect bounds (rules, norms and information) with other organizations, it will learn from the other's experience. The main limitation of the IT is that it only considers the influence of the external factors.

- The Perceived e-Readiness Model (PERM)

Based on the previous theories, many models were developed to study different perspectives of the e-business assimilation (see table 1). While some models have only examined the external environmental factors (Institutional Theory: Chatterjee et al. 2002), some others have considered only the technological factors (Claycomb et al. 2005).

Theoretical Model	IT Adoption	Authors
DOI	Material requirements planning (MRP)	Cooper and Zmud 1990
DOI	IS Adoption and extent of IS	Thong 1999

DOI	e-Business	Zhu et al. 2006b
DOI	e-Business	Hsu et al. 2006
TOE	e-Business initiation, adoption and routinization	Zhu, Dong, et al. 2006
TOE	e-Business Usage	Zhu and Kraemer 2005
TOE	e-Business	Zhu et al. 2003
TOE	Deployment of B2B e-Commerce firms versus non B2B firms	Teo et al. 2006
TOE & IT	Scope of e-Commerce Use	Gibbs & Kraemer 2004
TOE & IT	Electronic Procurement Systems (EPSs)	Soares-Agular and Palma-Dos-Reis 2008
TOE	Information Technology Adoption	Oliveira and Martins 2011

Table 1. Major studies based on previous stated theories

In addition, most of these studies were built up for developed countries. But developed countries differ from DC in terms of environmental factors such as the delivery and the payment systems. Therefore, we will adopt a model developed specifically for DC: the Perceived e-Readiness Model (PERM) that was proposed by Molla and Licker (2005). This model recognizes numerous organizational and contextual factors that might influence eBusiness assimilation in DC. It includes two major constructs that assess endogenous and exogenous factors: Perceived Organizational eReadiness (POER) and Perceived External e-Readiness (PEER). Both of these constructs take into consideration managers’ perception about the internal and external factors affecting the e-Business assimilation. The POER describes managers’ perception of the extent to which they believe that their firm is aware of the potential benefits, has the adequate resources, commitment, and organization’s governance to implement e-business (Molla and Licker 2005a). While the PEER construct describes managers’ perception as well as assessment of the extent to which they believe that external market forces, government e-readiness, and other supporting industries could encourage their organization to assimilate the e-Business activities.

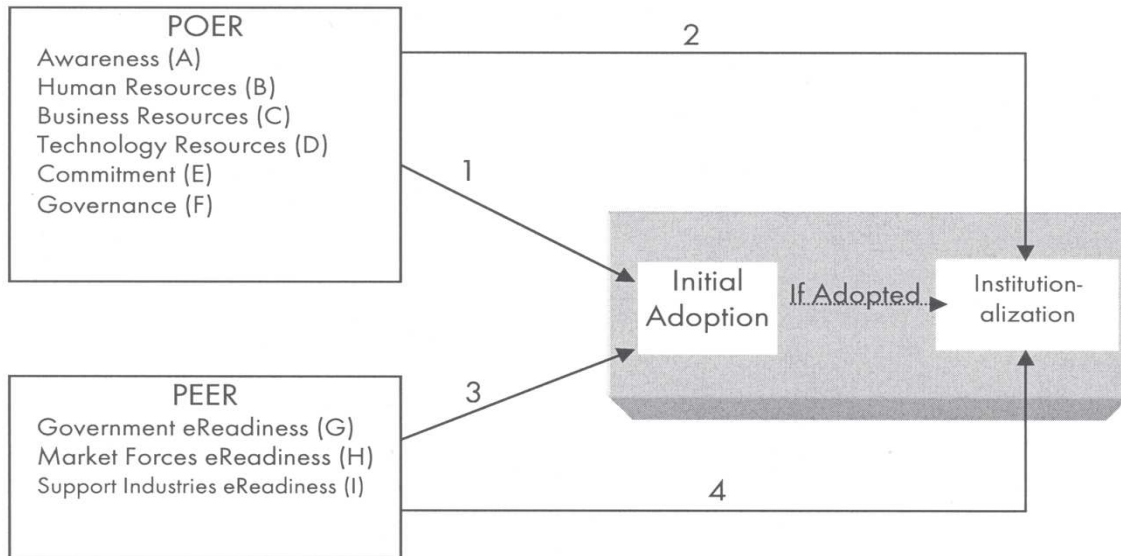


Figure 3 The PERM model (Molla and Licker 2005b)

Research methodology

This research explores the factors that can affect the e-business assimilation in Lebanon by comparing the antecedents of the initial adoption with the antecedents of the routinization stage. Our research methodology was based on a survey. Indeed, in order to find the variations in e-business assimilation, and the factors behind those who adopt and assimilate and those who lag behind, a quantitative data was collected from a large sample of executives. These managers were chosen from firms operating in the Lebanese local market by targeting key position people such as GMs, CEOs, Marketing Managers, and e-business managers. The sample of firms was randomly selected from three specific industries: banking, retailing, and tourism. To identify our sample, we have used the Five Index (5 index²) registered data. We conducted our empirical investigation through Survey Monkey Software. We selected those who do own a website for their business. 1044 emails were sent to managers from the targeted industries. We had reached almost 90% of the managers through this software and the remaining 10% were carried out by direct face-to-face contact.

Industry type	Response Rates		
	Sample	Response Group	Response Rate %
Banking	249	45	18%
Retailing	530	80	15%
Tourism	265	46	17.35%
Total Biased Responses		10	0.95%
Total Number of Responses	1044	181	17.33%

Table 2 The response rate distributed over the three sectors

181 questionnaires were returned back, among which 10 were biased and the remaining 171 were useful. The response rates are presented in table 2. These companies will be divided into two groups: initial adopters and routinizers according to their level of e-Business assimilation.

Data collected were analyzed using the techniques of structural equation modeling (SEM). These methods are widely accepted in IS especially when it comes to testing complex causal models with many latent variables. The estimation procedure we adopted was the Partial Least Squares Path Modeling (PLS). Data were processed using the software SmartPLS (Ringle, Wende and Will, 2005).

Research model

We adopted the Perceived e-Readiness Model in DC (PERM). The PERM model proposes “e-Business Adoption Level” as a dependent variable that is composed of two different levels: 1) Initial adoption of e-business and 2) institutionalization of e-Business. This model has two basic constructs: perceived organizational e-readiness (POER) and perceived external e-readiness (PEER). The model and its constructs reasonably cover the characteristics of the technology, the managers, the organization, and its context that previous studies identified as important determinants of innovation adoption.

POER and PEER are composed of several dimensions. The *POER* refers to organizational awareness, commitment and resources (technical, human, and business) that the organization could assess from its internal context. Awareness refers to the organization’s ability to perceive and comprehend any potential benefits, opportunities, and threats of the e-business. Resources refer to the human, technological and business resources level in the firm. Commitment refers to the management’s support, especially the upper management level, in an effort to champion e-business projects. Governance refers to the tactical, strategic and operational model that identifies the way the organizations structures to set up objectives, search up for resources and making decisions.

PEER refers to all environmental factors, such as e-Government Readiness, Market force e-Readiness and Supporting Industries e-Readiness. Government e-Readiness refers to the important role that government can play in encouraging the adoption of e-business in DC (Vatanasakdakul and D’Ambra 2007). Legal and regulatory frameworks were considered by many researchers as decisive factors. Market Forces e-Readiness refers to market environment. Indeed, organizations are mostly influenced by their market environment, such as: competitors, suppliers, and clients (DiMaggio & Powell, 1983). Supporting

² The 5 index is a comprehensive database consisting of an electronic search engine that includes fundamental information about businesses operating in the Lebanese market.

Industries E-Readiness refers to the development of support to e-Business in a given industry such as having the right e-payment systems available and at an affordable cost.

Scales measured these dimensions. In this study, we adopted the PERM original scales. Therefore, it was important to measure the quality of the selected scales in our research specific context. We did it in two steps: 1) Exploratory factor analysis and 2) Confirmatory factor analysis.

Exploratory factor analysis

The exploratory factor analysis has been done through a principal component analysis (PCA). We did one PCA for the external variables and another one for the internal variables. We started the verification process by validating the Kaiser-Meyer-Olkin's measure and the Bartlett's test. Both internal and external factors show a very good test of Kaiser-Meyer-Olkin measure (with 0.827 and 0.941 much higher than the minimum of 0.40 requested) and a significant Bartlett's test ($\text{sig} < 0.05$).

Then, we checked variables' commonality that estimates the percentage of each item that will be covered by their factors. No items show commonality less than 0.50, so no items should be eliminated.

To determine the number of factors to retain, we adopted the Kaiser's method that proposes to keep only factors with eigenvalues greater than 1. In the case of external factors, only the first three factors or components had an eigenvalue > 1 . In our model we also have three latent variables that resume the external forces (Government e-Readiness, Supporting Industries e-Readiness, and Market Forces e-Readiness). In the internal factors, only the first four factors had an eigenvalue > 1 . But in our model, we have seven latent variables (Awareness, Commitment, Governance, Human Resources, Business Resources, Technological Resources, and Level of e-Business adoption). Therefore, a new construct called e-Business Assimilation Level (e-BAL) was created by combining the four variables related to the firm's resources (Human, Business, and Technological) with the level of e-Business adoption.

Confirmatory factor analysis

The test of reliability was conducted with a confirmatory factor analysis (CFA). The validation was done through two elements: 1) the convergent validity, and 2) the internal validity.

Therefore, we first verified that all items actually converge to their respective variable. As shown in the table 3, the CFA confirms the results of the exploratory factor analysis for the latent variables: Government e-Readiness, Supporting Industries e-Readiness, Market Forces e-Readiness, Awareness, Commitment and Governance. Indeed, all their items show a loading greater than 0.7 ($\lambda > 0.7$). Nevertheless, the new construct that we have called Level of e-Business Assimilation has some items that do not fully converge to the construct. Indeed, the CFA showed that we need to eliminate HR2 ($\lambda=0.46$), TR4 ($\lambda=0.57$), BR1 ($\lambda=0.68$), BR3 ($\lambda=0.67$), and BR5 ($\lambda=0.58$) as their respective loadings do not meet the minimum value required ($\lambda > 0.7$).

	GeR	MFR	SIeR	A	C	G	e-Business Assimilation
GeR1	0,80	0,21	0,31	-0,04	0,10	0,14	0,03
GeR2	0,92	0,11	0,40	-0,06	0,12	0,13	-0,04
GeR3	0,90	0,19	0,41	-0,08	0,16	0,14	0,00
GeR4	0,84	0,13	0,42	-0,07	0,10	0,08	-0,03
MFR1	0,18	0,92	0,28	0,22	0,15	0,19	0,04
MFR2	0,15	0,90	0,31	0,25	0,14	0,13	0,16
SIeR1	0,25	0,26	0,72	0,09	0,16	0,22	0,18
SIeR2	0,32	0,32	0,78	0,22	0,25	0,31	0,20
SIeR3	0,27	0,39	0,74	0,12	0,24	0,19	0,15
SIeR4	0,19	0,25	0,76	0,07	0,16	0,19	0,11
SIeR5	0,28	0,29	0,70	0,13	0,33	0,32	0,25
SIeR6	0,26	0,34	0,75	0,23	0,32	0,37	0,32

A1	-0,04	0,38	0,20	0,84	0,18	0,19	0,32
A2	-0,07	0,38	0,20	0,89	0,16	0,18	0,28
A3	-0,05	0,37	0,12	0,84	0,07	0,30	0,29
A4	-0,07	0,37	0,15	0,84	0,27	0,13	0,19
A5	-0,03	0,37	0,17	0,86	0,19	0,21	0,20
A6	-0,07	0,25	0,09	0,82	0,02	0,22	0,36
A7	-0,13	0,34	0,15	0,75	0,19	0,06	0,27
C1	0,11	0,41	0,27	0,26	0,85	0,16	0,16
C2	0,03	0,43	0,23	0,26	0,82	0,19	0,17
C3	0,13	0,43	0,25	0,27	0,89	0,14	0,17
C4	0,21	0,36	0,33	0,14	0,74	0,17	0,15
C5	0,11	0,33	0,26	0,17	0,84	0,20	0,16
G1	0,04	0,34	0,29	0,16	0,12	0,83	0,16
G2	0,11	0,34	0,36	0,26	0,17	0,85	0,17
G3	0,20	0,25	0,35	0,36	0,17	0,84	0,17
G4	0,08	0,34	0,30	0,16	0,17	0,87	0,17
G5	0,09	0,34	0,28	0,16	0,17	0,86	0,16
G6	0,12	0,24	0,31	0,15	0,17	0,81	0,16
G7	0,20	0,33	0,26	0,14	0,16	0,79	0,16
G8	0,07	0,24	0,15	0,25	0,16	0,73	0,26
HR1	-0,04	0,14	0,10	0,15	0,15	0,15	0,73
HR2	-0,24	0,20	-0,08	0,23	0,25	0,22	0,46
TR1	0,05	0,32	0,24	0,15	0,16	0,26	0,70
TR2	0,05	0,28	0,26	0,16	0,16	0,16	0,75
TR3	-0,08	0,33	0,18	0,16	0,15	0,25	0,72
TR4	0,05	0,25	0,14	0,14	0,14	0,14	0,57
TR5	0,06	0,26	0,21	0,14	0,15	0,25	0,75
TR6	0,00	0,38	0,23	0,16	0,16	0,26	0,80
AdoptionLevel	0,09	0,38	0,24	0,14	0,15	0,25	0,70
BR1	-0,15	0,29	0,11	0,15	0,14	0,15	0,68
BR2	-0,06	0,26	0,10	0,15	0,15	0,15	0,71
BR3	0,05	0,26	0,17	0,15	0,15	0,15	0,67
BR4	-0,05	0,43	0,29	0,16	0,17	0,27	0,72
BR5	-0,24	-0,02	-0,05	0,09	0,02	0,03	0,58
BR6	0,03	0,32	0,25	0,15	0,16	0,26	0,76

After conducting a bootstrap, we found that all the items have a $t > |1.96|$ and a $p < 0.05$ except BR2 that has a $t = 1.955$ and $p = 0.051$; therefore we will also eliminate this item. The convergent validity per latent variable was then measured using the Average Variance Extracted (AVE) where as shown in Table 4, AVE are all greater than 0.5 ($AVE > 0.5$).

	AVE	Composite Reliability	R Square	Cronbachs Alpha	Convergent validity	Discriminant validity
A	0,70	0,94	0,18	0,93	VC	VC
C	0,69	0,92	0,48	0,89	VC	VC
E-Business-Assimilation	0,57	0,92	0,69	0,90	VC	VC
G	0,68	0,94	0,73	0,93	VC	VC
GeR	0,75	0,92	0,00	0,89	VC	VC
MFeR	0,83	0,90	0,17	0,79	VC	VC

SIeR	0,55	0,88	0,20	0,84	VC	VC
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VC = Validity is confirmed

Then, we verified the **internal validity or consistency** of each latent variable. The internal validity confirms that the chosen items capture the essence of the variable. The Cronbach's alpha will be used as an indicator to measure the reliability and to ensure that all the variable's items are compatible.

As shown in Table 4, all the latent variables have a Cronbach's alpha greater than 0.7. The index of Composite Reliability of Dillon and Goldstein will also be used to validate the reliability of the latent variables by checking the internal consistency of each block of indicators. Based on Nunnally and Bernstein (1994), we will adopt 0.70 as an acceptable level of Dillon and Goldstein's Rho. As shown in the table 4, all the latent variables have a great Composite Reliability higher than 0.88.

Research results

The research model (Figure 4) consists of three levels: 1) The external variables level: Government e-Readiness, Supporting Industries e-Readiness and Market Forces e-Readiness; 2) the managerial and strategic level: Awareness, Commitment, Governance; and 3) the e-Business Assimilation level.

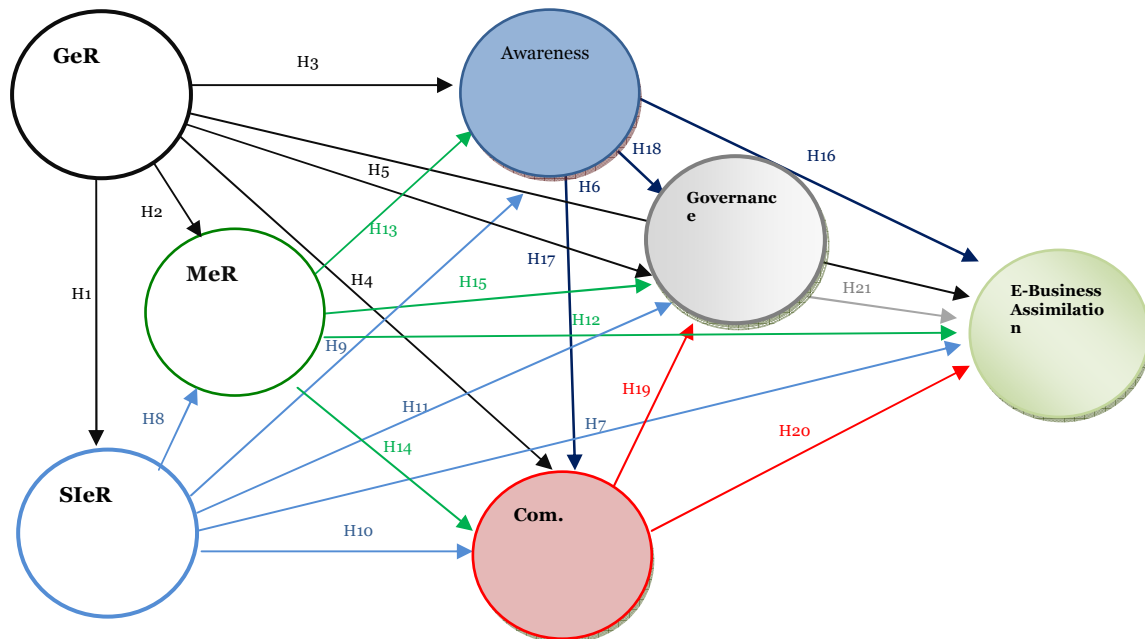


Figure 4 The Research model

This model will be estimated for two segments: initial adopters and routinizers.

Comparison between initial-adopters and routinizers

- Initial adopters: *Mimetic behavior*

In the adoption stage, the e-Business Assimilation process starts with the external forces. It starts from Government e-Readiness support towards SIeR, MFeR, Awareness (A), and Commitment (C). C appears to be explained (R2= 66.9%) by SIeR (SIeR->C path value= 0.8426, t=7.5093), MFeR (MFeR->C path value= 0.3974, t=7.1084), and GeR. C has a strong and significant relationship with Governance (C->G path value= 0.4087, t=2.1214). Finally, e-Business Assimilation is the direct result of 4 latent variables (MFeR->e-BAL path value=0.3655, t=5.65; C->e-BAL path value=0.3542, t=3.345; SIeR->eBAL path value=0.6792, t= 5.0649; and G->e-BAL path value=0.4479, t=3,8398). The e-Business Assimilation Level is 78.6% explained by those latent variables (R2= 0.786). The figure 5 represents the final estimated model of the Initial Adopters.

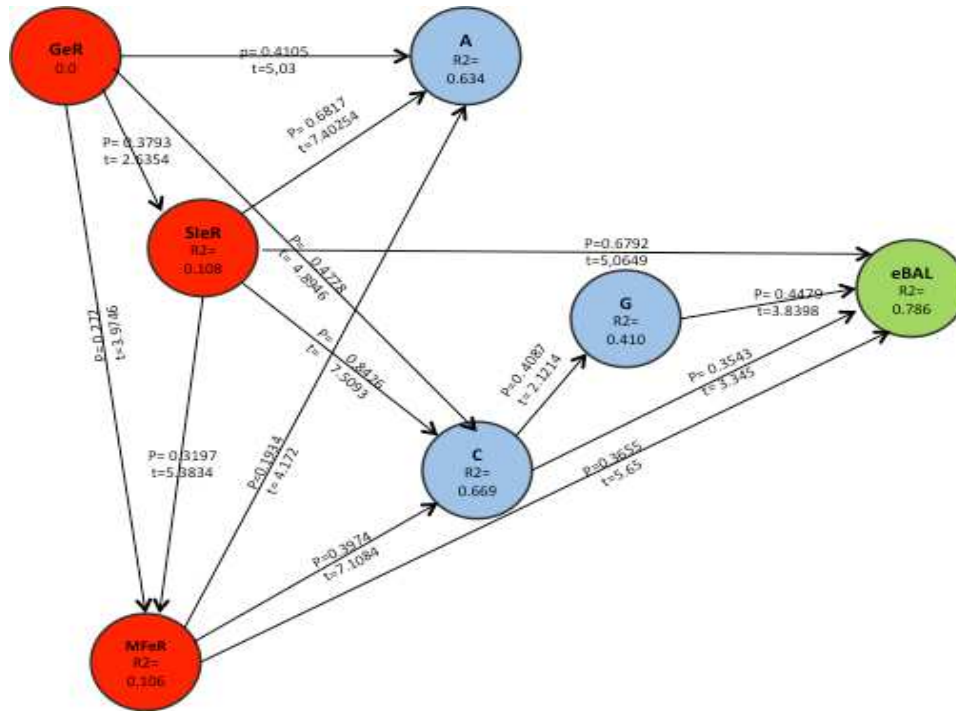


Figure 5 The Initial Adopters model estimated with path coefficient values and t values.

The structural model shows that there is a positive relation between the External Forces (SieR and MFeR) and Awareness and Commitment. But the decision to adopt the right Governance is a direct result of the Commitment (R2= 0.410) rather than the Awareness (no link between Awareness and Governance). Those results lead us to conclude that initial adopters are adopting e-business due to External Pressure with no strategic vision to reach a high Assimilation Level. The investment in e-Business is not based on Awareness of the potential benefits. The low Assimilation Level can be due to the imitation factors. That refers us back to the mimetic isomorphism of IT (DiMaggio and Powell 1983) that stated: “when goals are ambiguous, or when the environment creates symbolic uncertainty, organizations may model themselves on other organizations as a method for dealing with uncertainty”.

- Advanced Adopters: *Strategic Adoption*

The external pressure starts form GeR with three significant relations (GeR->MFeR path value = 0.2722, t= 4.0672; GeR->SieR path value = 0.4959, t= 7.888; GeR->C path value = 0.1425, t=2.6071). The pressure continues to be statistically significant from both SieR and MFeR towards Organizational Strategies and Awareness (SieR->C path value=0.2887, t= 4.9171; MFeR->A path value= 0,2415; t= 2,6227; MFeR->G path value= 0,2342, t= 4,0881; MFeR->C path value= 0,22; t= 3,9161). Commitment is mainly the result of Awareness (A->C path value= 0.527, t= 12.5844) despite the influence of the external factors (GeR->C path value = 0.1425, t= 2.6071; SieR->C path value=0.527, t= 12.5844; MFeR->C path value = 0.2342, t=4.0881). Where commitment is the result of External Forces e-Readiness and Awareness. But Awareness shows the strongest and most significant relationship with the Commitment with a Path value of 0,527 and a t= 12,5844.

Governance is the result of both MFeR and Commitment with an R2 of 0.581 where Commitment shows the strongest relationship with Governance (C-> G path value = 0,619 , t= 10,383; MFeR>G path value of 0.22, t= 3.9161. Finally e-Business Assimilation is the direct result of all three latent variables: Awareness, Commitment and Governance with an R squared value of 0.632 (A->e-BAL path value=0.2306, t= 2.981; C->e-BAL path value= 0.3578, t= 3.2138; G->eBAL path value = 0.3143, t=3.7826).

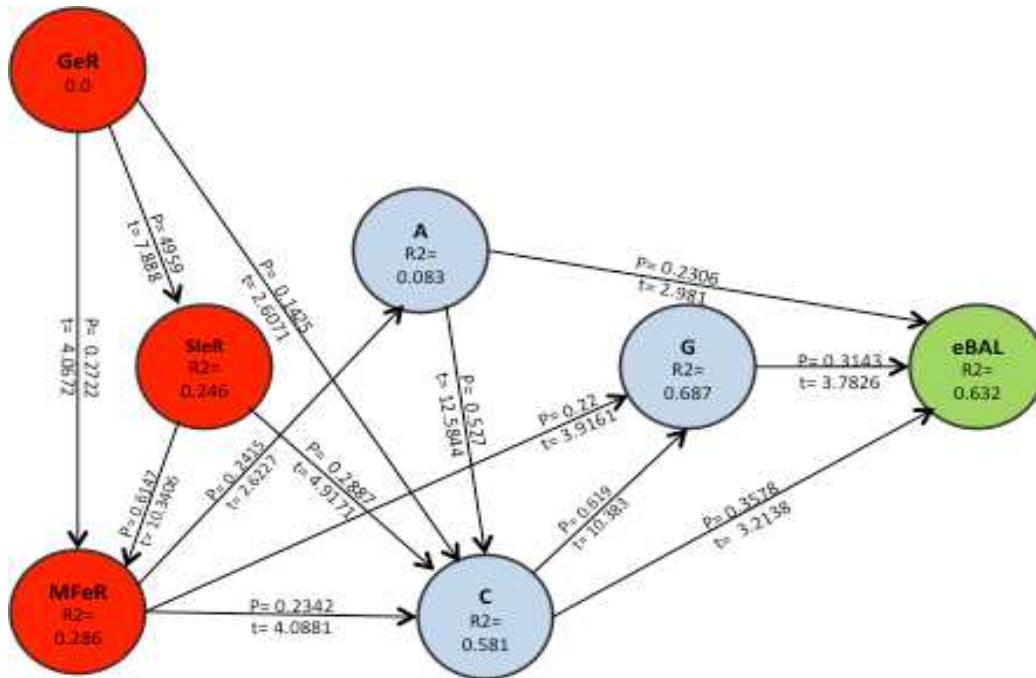


Figure 6 The routinizers model estimated with path coefficient values and t values.

This model is different from initial adopters with organizational strategies such as Awareness, Commitment and Governance explaining 62.3% of the e-Business Assimilation Level. There is a direct link between Awareness and eBAL. The adoption is mainly a strategic behavior.

Conclusion

Comparing initial adopter to routinizers, the results seem to be consistent with Tolbert and Zucker (1983) who confirmed that while some organizations adopt innovations to improve efficiency, others adopt to maintain legitimacy.

An interesting point arises common to both segments. Despite the fact that initial adopters and routinizers have different motives, priorities and needs, both of them are related to Market Force e-Readiness, to Supporting Industries e-Readiness, and to Government e-Readiness in terms of source of pressure. In both segments, Perceived External forces have a positive impact on the Commitment.

In the routinizers segment, the external forces influence the Awareness. The Awareness is translated in a strong and significant relationship with Commitment and with the Assimilation. Therefore, the assimilation is the results of a strategic behavior.

In the initial adopters segment, the external forces impact on assimilation is high. Therefore, the Assimilation is more mimetic.

This research is particular somehow in its content and results. Indeed, we adopted a model that was already tested before in DC and we adapted it to our current context. However, we propose future tests and refinement for our proposed models that would seem to be useful and helpful in advancing knowledge in this field.

Some of the limitations that are present in this research are related to the data while others are related to the study by itself. Given the fact that our study was based in a country that counts less than 53% of Web users (InternetWorldStat, 2013), and given that the study covered the three major industries, the number of respondents would have been recommended to be larger. Indeed, if the size of the sample of initial adopters fell within the accepted margins, it was nevertheless inadequate to produce the ideal statistical

results when it comes to analyzing each industry by itself and comparing initial to advanced adopters per industry.

An interesting further research in this area would be to develop a larger sample that includes not only the stated three industries but also enclose all related industries in Lebanon to obtain a more generalized result for this model. Also because our research was a Cross-sectional study, a further Longitude study is recommended to observe the same variables over longer period of time.

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