E-SERVICES ADOPTION MODEL AND THE INFLUENTIAL FACTORS IN A DEVELOPING NATION[1]

Mary Ann BARBOUR EL RASSI *Université Saint-Joseph de Beyrouth, maryann.barbourrassi@usj.edu.lb*

ABSTRACT

The fast development and expansion of the internet have impacted enormously the service industry structures globally. E-service symbolizes the digitalization of all processes and value chains in the service industry and surfaces as a term describing the ICTs applications on services and the insinuations for the value chain. While many studies had focused on identifying factors that help organizations to ensure success and avoid failure, investigating the e-business adoption process in a dynamic approach and that is by explaining how external and internal factors are enacted in different ways have been widely neglected in Developing Countries.

Our research aims at addressing this gap in knowledge by proposing a multilevel dynamic reading of a theoretical model that was previously developed in a Developing Country context (PERM model). Considering that the use of these scales in a different cultural context requires an adaptation and a validation test (Jolibert and Jourdan, 2006), it was important to measure the quality of the selected scales in our research specific context. We did it in two steps:

1. The purification of the scale through a principal component analysis (PCA),
2. The examination of the reliability of each latent variable by the mean of Cronbach's alpha.

The results of this research contribute to the understanding of this new phenomenon and propose an adjusted model to be tested in the future on a larger sample.

Keywords: e-services; ICT adoption; Developing Countries; e-readiness

1. Research in progress

1. INTRODUCTION

E-readiness has become a vital topic to investigate the importance and impact of e-business adoption. It is generally determined by how ready organization are to adopt e-business in order to create a competitive advantage that is associated with the company's e-readiness to manage ICTs (Park, Choi and Bok, 2013). Companies who adopt e-business can make a greater profit and significant benefits through extending their business globally. Therefore, e-readiness frameworks are very vital tools to assess the organization's readiness to take advantage of the potentials that e-business can bring (Dutta, Lanvin and Paua, 2004; Oxley and Yeung, 2001). E-readiness by the service industries in developing countries has been of a major interest in several studies but till today, this topic hasn't been investigated enough as most of the studies have focused on macro-level limitations and hence, demonstrated a crucial environmental perspective.

However, while several studies have discussed the organizational e-readiness factors that might influence e-business adoption (Iacovou, Benbasat and Dexter, 1995; Kuan and Chau, 2001), most of them have identified financial and technological readiness, technical competences and managerial support as relevant factors that might affect organizational readiness to adopt e-business. These studies, nevertheless, represent the organizational crucial perspectives and most of them are based on firms in developed countries.

Organizations lack enough internal resources and external environmental pressures that hinder their ability to adopt and assimilate e-business .The purpose of this research is to identify e-readiness factors that influence e-business adoption in the service industry in Lebanon. Therefore, we suggest investigating the following research question:

Q1: What are the e-readiness factors that can influence e-business adoption in the service industry in a developing country such as Lebanon?

Q2: How do these factors interact with each other?

Since the service industry plays a crucial role in nation building and especially in developing countries, answering this question seems to be worth investigating it further.

This study intends to address a topic that is still unexplored and that is by using a survey of 171 executives in organizations that have adopted e-business and is structured as follows: we first start by providing a brief overview of the key characteristic of e-readiness by organizations and their ICT use. We follow it by a brief overview of e-business adoption and then the characteristics and importance of services in Lebanon. We then follow it by a discussion of our methodology, present the major findings of this study and then we conclude with a discussion that concerns the services community in general and the policy providers as well.

2. LITERATURE REVIEW

2.1. E-readiness, a complex multilayered phenomenon.

E-business dimensions consist of several aspects and are considered as a complex multilayered phenomenon. Dimensions could vary from telecommunication infrastructures, human, business and technological resources, legal policies and frameworks as well. Dada (2006) defines a country's e-readiness as the stakeholders' capacity to take advantage of the potential benefits that the technology and information could offer. While some of the ereadiness tools were developed to evaluate or rank the countries' e-readiness, some of them have also studied the business and managers' e-readiness in a country. Authors such as Molla and Licker (2005) proposed a model to understand firm's assessment for ebusiness, organizational, managerial and external situations in adopting the right decisions for e-business Adoption. E-readiness could be defined as *"the ability to pursue value creation opportunities facilitated by the use of the internet"* (Choucri et al 2003).Thus, e-readiness, and for the context of our research, is described as an assessment and an investigation of the e-business environment where the organizations operate. Consequently, in developing countries where most of the supporting services are not available such as in developed countries, assessing the e-readiness would assist in identifying any shortcoming and avoid wasting resources. This can generate a better understanding of the environment and as a result, would help better in developing an efficient strategy to overcome those obstacles.

2.2. Barriers to e-Business Adoption by Organizations in DC

Usually, businesses in developing and developed countries vary in respect to information technology and electronic business framework. Businesses in developing countries, as a result of managerial, organizational, and environmental constraints, are faced to substantially larger risks in implementing electronic business much more than businesses in developed countries (Chau & Turner 2005; Molla and Licker, 2005; Xu, Zhu & Gibbs 2004). There are also some other possible challenges, one of which is the present level of technology access in the firm which influences the adoption of e-business (Iacovou, Benbasat and Dexter, 1995). The office of Economic Co-operation and Development (OECD, 1998) observed that the absence of awareness concerning e-business advantages is related to the lack in human resources skills, set-up costs, pricing issues and security. Poor communications infrastructure means poor internet connectivity, a shortage in the availability of fixed telephone lines and poor condition of Internet Service Providers (ISPs). Added to that is the need for an adequate legal environment that facilitates the development of e-business in developing countries. A survey concerning e-business acceptance by SMEs in South Africa showed that this use is strongly affected by internal elements for example (Elgarah et al, 2005).

Nevertheless, there haven't been many researches done concerning issues such as why some firms in developing countries implement electronic business while others still lag behind in a multi dynamic perspective.

This model supports the concept of perceived e-readiness defined as "*an organization's assessment of the e-Business, managerial, organizational, and external situations in making decisions about adopting e-Business*" (Molla and Licker 2005). The four adoption contexts (managerial, innovation, organizational, and environmental) are presented by two main constructs in the PERM model which stands for both POER (perceived organizational e-readiness) and PEER (perceived external e-readiness). In this study, and based on this framework, we intend to investigate the factors that influence eBusiness adoption in developing countries.

2.3. Service sector in Lebanon

In 1998, and with the advent of the World Wide Web, Lebanon had realized the importance of the ICT and established its first national policy regarding its adoption. The Lebanese economy is service-oriented and its main growth sectors include banking, tourism and retailing. The service industry accounted for 66.8% of the total GDP in 2008 and 75.4% in 2013. Unfortunately, and for the last decade, growth in Lebanon was lower and more volatile than in the rest of the MENA region, due to various shocks and armed conflicts. Despites these constraints, the Lebanese SMEs that have extended their business to the online platform have leveraged a positive outcome such as a growing market share and an international expansion as well. Most of the organizations in Lebanon have been lagging behind in exploiting such advantages in adopting e-business. In 2002, the Lebanese Ministry of Economy and Trade have identified the importance of e-business as an important tool that could help position Lebanese organizations to expand globally and benefit from the international exposure through the use of ICT and the international community has offered much help and support to help the service industry in Lebanon to take advantage of this new economy since 2002.

Both EU policy and the Lebanese government have planned to promote Lebanese organizations with the objective to promote competitiveness and encourage collaboration in order to provide the basis for innovation and accelerated expansion. Nevertheless, ebusiness adoption might be faced with many obstacles such as lack of governmental support, supporting industries factors and the market influence as well in addition to their organizational context (Gilmore, Carson, & Grant, 2001). Moreover, the Internet poses both opportunities as well as threats to local firms.

3. RESEARCH DESIGNS

3.1. Research model

Based on the PERM model discussed above, we propose to examine the factors that affect ebusiness adoption in the service industry in Lebanon. The reason why we chose this model is that the theoretical root of this model is interactionism, which allows a multi-perspective audit of the managerial, internal organizational and external contextual issues to provide meaningful predictors of e-Business adoption in developing countries (Molla and Licker, 2005). In addition, it was designed for the context of a developing country while other models were done for the purpose of developed countries.

In order to make an in-depth analysis, we target organizations that are in the service industry such as banking, tourism, hotels and restaurants among others. The definition variables that are derived from the literature are presented below and the hypothesis are presented in table 4.

3.2. Research variables and hypotheses

3.2.1 Perceived Organizational e-Readiness Factors

- Awareness: Rogers (1995) suggests that the early stage of innovation Adoption begins whenever the organization becomes aware of the valuable outcome of this move and would begin to search for evaluating and identifying its needs. At this point, assessing the firms' needs to such a solution weighs heavily on the organization's choice and decision to adopt this new innovation and its ability to perceive, comprehend and project any potential benefits, opportunities and threats of e-business from its environment. Previous studies had clearly agreed on that awareness is an important factor in technology diffusion (Molla and Licker 2005).
- Resources: refers to the human, technological and business resource level in a firm. Organizations' ability to respond to changes and challenges in e-business depend on the technology resources and availabilities (Hartman, Sifonis and Kador, 2000). Human Resources for example refer to the employees access with the Information Technology and other skills that could be needed to initiate or work with e-business, such as computerization and experience (Hartman et al 2000; Powell and Dent-Micallef, 1997) while business resources refers to the assets and capabilities such as to what extent the organization would be open and adapts to any changes, risk taking behavior and communications (Hartman et al 2000).
- Commitment: Commitment refers to the management's support, in an effort to champion e-business projects and IT implementation which is an important factor. In the absence of commitment, most e-business projects will be subject to failure and will not develop more than the entry level (Daniel and Grimshaw, 2002; Hartman et al 2000).

- Governance: Willcocks and Griffiths, (1997) define governance as the to the tactical, operational and strategic model that identifies the way firms organize their structure to set up objectives, search up for resources and make decisions . The term "governance" is considered as a goal setting, resource distribution, and a strategic operational model for decision-making whereas most of the firms who adopt e-business set up a formal plan to monitor the outcome and performance (Molla and Licker 2005).

According to those authors, the organizational governance should have a significant effect on the degree of e-business adoption and implementation as well.

3.2.2 Perceived External E-Readiness Factors:

External environmental factors are factors that affect the organization, such as eGovernment Readiness, Market force e-Readiness and Supporting Industries e-Readiness. -Market Forces e-Readiness: Most of the market forces for e-readiness are due to suppliers, customers or other competitors. In terms of practice, market pressure is the main reason for a corporation to accept and implement e-Business (Dos Santos and Peffers, 1998; Raymond, 2001).

Most of the organizations are influenced by their market environment such as customers, competitors and suppliers (Dos Santos and Peffers, 1998; Raymond, 2001).

- Government e-Readiness: From the environmental perspective, government has a significant role in promoting e-business by encouraging e-business adoption and supporting certain industries as well (Kuan and Chau, 2001). Many researchers have studied the impact of the government role, and have argued that in countries where there was a sufficient supportive project, adequate infrastructure and right regulation and laws, the adoption level was higher (Oxley and Yeung 2001)
- Supporting Industries e-Readiness: The development of support-giving industries is very important for the e-business development and adoption. Therefore, an efficient, rapid and preferential access to e-business inputs is important (Porter, 1990). According to Molla and Licker (2005), supporting industries e-readiness is an important factor that influences the degree of e-business adoption.

Given the arguments above, and because this research aims at investigating the e-business adoption process in a dynamic approach and that is by explaining how external and internal factors are enacted in different ways, the below figure represent the PERM model proposed earlier by Molla and Licker (2005) and we propose to investigate the three major questions: Does the Perceived External e-Readiness affect the Perceived

Organizational e-Readiness in the service industry?

Does the Perceived Organizational e-Readiness affect the e-Business Adoption in the service industry?

Does the Perceived External e-Readiness affect the e-Business Adoption in the service industry?

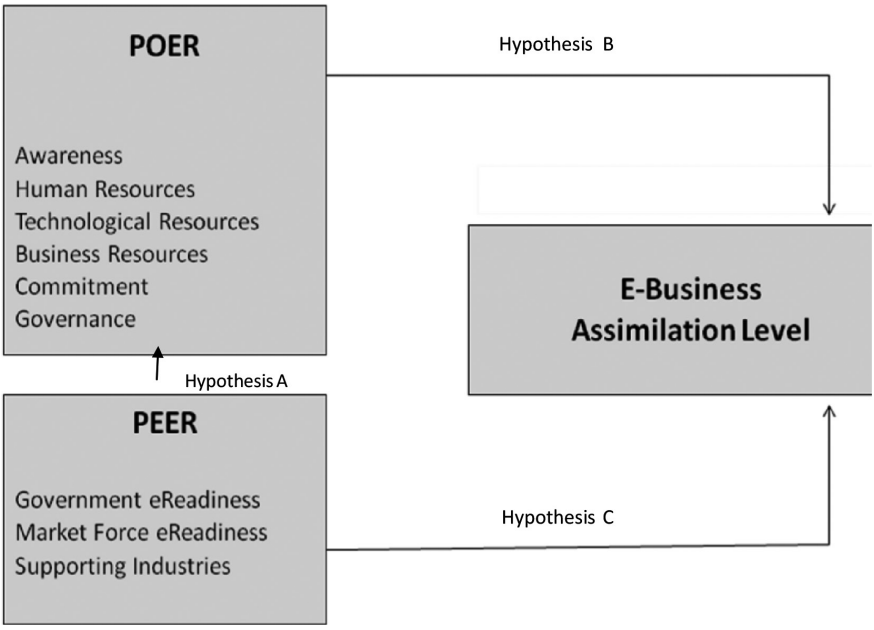

Figure 1: adopted from the PERM model (Mollah and Licker 1995)

Differently from the original model, we have considered only companies that have migrated to the internet and adopted e-business because our concern was to investigate how factors influence e-business adoption and not comparing adopters and non adopters and the variables are described in the below paragraph.

4. QUESTIONNAIRE AND DATA ANALYSIS

4.1. Data collection

To identify our panel, we have used the Five Index registered data. Five Index is a comprehensive database consisting of an electronic search engine organized in a way that classifies the nature of businesses by Name, Activity, Owners/Executives and firms' size.

The sample chosen concerned companies that were already adopting e-business and were classified as service industries. The reason why we have chosen the service industry in Lebanon because they accounted for 75.4 % of the country's GDP in 2013.

4.2. Validation/ reliability tests

Before proceeding further, and considering that the use of these scales in a different cultural context requires an adaptation and a validation test (Jolibert and Jourdan, 2006), it was important to measure the quality of the selected scales in our research specific context. We did it in two steps:

- The purification of the scale through a principal component analysis (PCA),
- The examination of the reliability of each latent variable by the mean of Cronbach's alpha.

We started the verification process by validating the Kaiser-Meyer-Olkin's Measure and the Bartlett's. Then, we checked variables' commonality.

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. We analyzed the Pattern matrix to examine the correlation between the items and the factors.

In the internal factors (table 1), we obtained only four factors with an eigenvalue > 1. But in the model that was adopted from Molla and Licker, seven latent variables in POER construct were proposed (Awareness, Commitment, Governance, Human Resources, Business Resources, Technological Resources, and Level of e-Business adoption).

Table 1. Total Variance Explained of the external factors

Compo-nent	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings(a)
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	**4,858**	**40,484**	**40,484**	**4,858**	**40,484**	**40,484**	**4,049**
2	**2,016**	**16,800**	**57,284**	**2,016**	**16,800**	**57,284**	**3,664**
3	**1,205**	**10,042**	**67,326**	**1,205**	**10,042**	**67,326**	**2,193**
4	,890	7,417	74,743				
5	,561	4,671	79,414				
6	,537	4,474	83,888				
7	,478	3,982	87,870				
8	,395	3,292	91,163				
9	,358	2,981	94,144				
10	,298	2,486	96,629				
11	,230	1,914	98,543				
12	,175	1,457	100,000				

Total Variance Explained of the internal factors

Compo-nent	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings(a)
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	**16,746**	**47,846**	**47,846**	**16,746**	**47,846**	**47,846**	**14,201**
2	**2,336**	**6,674**	**54,520**	**2,336**	**6,674**	**54,520**	**7,131**
3	**2,103**	**6,008**	**60,529**	**2,103**	**6,008**	**60,529**	**10,952**
4	**1,649**	**4,712**	**65,241**	**1,649**	**4,712**	**65,241**	**8,233**
5	0.917	2,892	68,432				
6	,942	2,693	71,125				
7	,836	2,388	73,513				
8	,761	2,176	75,689				
9	,718	2,051	77,740				
10	,692	1,978	79,717				
11	,613	1,752	81,469				
12	,527	1,506	82,975				
13	,514	1,468	84,443				
14	,488	1,395	85,839				
15	,458	1,310					
16	,399	1,140 87,149 88,289					
17	,374	1,069	89,358				
18	,341	,973	90,331				
19	,320	,915	91,246				
20	,305	,871	92,117				
21	,296	,846	92,962				
22	,269	,769					
23	,246	,704 ,652					
24	,228	,621 93,731					
25	,217	94,435 95,087 95,708					
26	,200	,571	96,278				
27	,195	,557	96,836				
28	,180	,513	97,349				
29	,160	,456	97,805				
30	,155	,444	98,249				

31	,150	,428	98,677				
32	,138	,393	99,070				
33	,122	,348	99,418				
34	,108	,308	99,726				
35	,096	,274	100,000				

Extraction Method: Principal Component Analysis.
When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

In addition, in the internal factors, the PCA (table 2) showed 15 items correlated to the factor number 4. The factor number four is a new construct that will combine four from our research constructs (Human Resources, Business Resources, Technological Resources, and eBusiness adoption). This new construct will be named e-Business Adoption.

Then we continued our study by doing the reliability test. It was conducted with a confirmatory factor analysis and the validation was done through two elements: 1) the convergent validity, and 2) the internal validity. Consequently, we first verified that all items do converge to their respective variable.

Table 2. Pattern Matrix(a) related to external factors

	Components		
Items	1	2	3
GeR1	-,139	**,864**	,157
GeR2	,041	**,913**	-,060
GeR3	,035	**,874**	,024
GeR4	,146	**,761**	-,082
SIeR1	**,559**	,277	-,014
SIeR2	**,769**	-,017	-,004
SIeR3	**,700**	,054	,159
SIeR4	**,754**	-,111	-,091
SIeR5	**,736**	,040	,014
SIeR6	**,796**	,100	,058
MFR1	,032	-,050	**,882**
MFR2	,051	-,001	**,887**

Pattern Matrix(a) related to internal factors

	Component			
Items	1	2	3	4
A1	-,072	,019	**,868**	,051
A2	,017	,054	**,803**	,120
A3	-,101	-,006	**,859**	,134
A4	,251	,111	**,613**	,031
A5	,157	,058	**,774**	-,035
A6	,058	-,001	**,776**	,015
A7	,162	-,070	**,718**	-,091
C1	-,021	**,686**	-,092	,092
C2	,053	**,565**	-,117	,193
C3	,085	**,745**	-,088	,033
C4	-,156	**,776**	-,043	-,001
C5	,030	**,598**	-,220	,090
G1	**,710**	,089	-,146	,010
G2	**,753**	,043	-,101	,054
G3	**,690**	,033	-,029	,183
G4	**,724**	,041	-,150	,030
G5	**,855**	,006	-,033	-,008
G6	**,877**	-,113	-,008	-,034
G7	**,834**	-,021	,081	,091
G8 BR1	**,565**	,244	,035	,145
	,119	,145	-,141	**,691**
BR2	,228	-,025	-,005	**,709**
BR3	,310	-,014	-,035	**,688**
BR4	,581	,016	-,230	**,696**
BR5	-,199	-,138	-,055	**,160**
BR6	,442	-,042	-,058	**,770**
TR1	-,031	,081	-,071	**,681**
TR2	,197	-,066	-,191	**,727**
TR3	-,098	,084	-,297	**,722**
TR4	-,111	,145	-,098	**,576**
TR5	,184	,251	,110	**,767**
TR6	,373	,213	-,062	**,793**
Adoption	,202	,100	,074	**,670**
HR1	,071	,384	-,161	**,697**
HR2	-,049	,239	,094	**,465**

Extraction Method: Principal Component Analysis. Rotation Method: Oblimin with Kaiser Normalization.

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 represent a loading greater than 0.7 ($\lambda > 0.7$). Nevertheless, the new construct that is called e-Business Adoption has some items that do not fully converge to the construct. The CFA results confirm that we need to eliminate as their respective loadings do not meet the minimum value required that is $\lambda > 0.7$.

4.3 Convergent and discriminate validity

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). 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 is used as an indicator to measure the reliability and to ensure that all the variables' items are compatible.

As shown in Table 3, all the latent variables have a Cronbach's alpha greater than 0.7 and a great Composite Reliability higher than 0.88. 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. We will adopt 0.70 as an acceptable level of Dillon and Goldstein's Rho.

All the Cronbach Alpha values are higher than 0.7 showing a strong consistency and reliability.

Table 3. Convergent and discriminate validity

	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 Adoption	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

These results confirm and validate our choice to cluster the three variables related to the firms' resources with the e-Business Adoption in order to create a new endogenous construct that we will called e-BAL whereas all concerned variables are grouped around seven components which leads us to forming three major constructs as follows:

1. The first construct consists of a set of components that is called Perceived External eReadiness (PEER) that includes variables such as Government e-Readiness, Market forces e-Readiness and Supporting Industries e-Readiness. This construct remains the same as in the PERM model.
2. The second construct consists of a set of components that includes variables such as organization's Awareness, Commitment and Governance. This construct differs from the PERM model in the number of variables only. Therefore, we called it Perceived Strategic Organizational e-Readiness (PSOER) instead of PEOR as it represents the strategic decisions only.
3. The third construct, which is a new construct based on the above validation results and consists of all resources grouped together, such as technological, human and business resources in addition to the adoption level. Therefore, we called it e-Business Assimilation Level (eBAL). The new adjusted model is represented in the below figure with the following hypothesis.

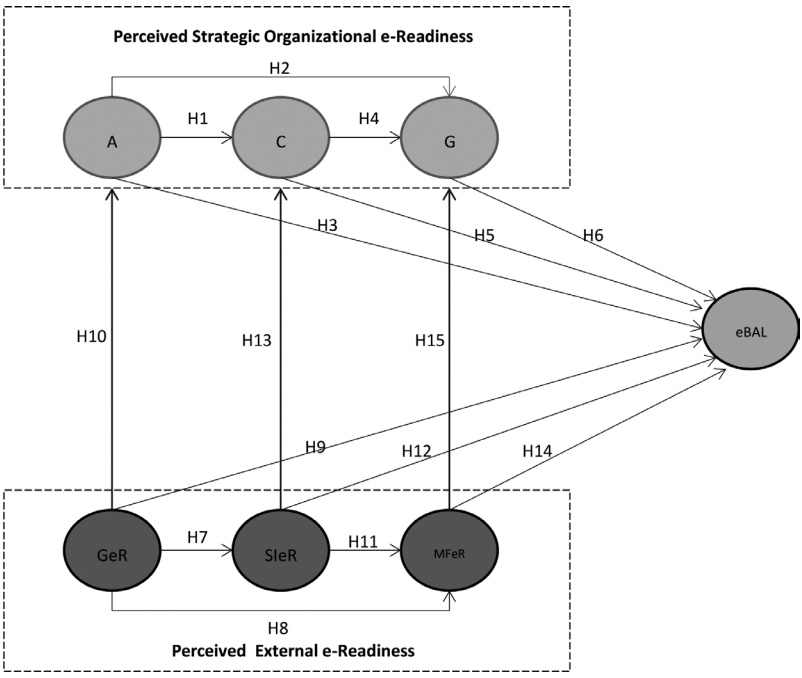

Figure 2: Adjusted PERM model (APERM)

Table 4 : Research Sub- Hypothesis
-Hypothesis 1: Awareness is expected to have a significant influence on organizational Commitment.
-Hypothesis 2: Awareness is expected to have a significant influence on organizational Governance.
-Hypothesis 3: Awareness is expected to have a significant influence on e-Business adoption level.
-Hypothesis 4: Commitment is expected to have a significant influence on organizational Governance.
-Hypothesis 5: Commitment is expected to have a significant influence on e-Business adoption level.
Hypothesis 6: Governance is expected to have a significant influence on e-business adoption level.
-Hypothesis 7: Government e-readiness is expected to have a significant influence on Supporting Industries e-readiness
-Hypothesis 8: Government e-Readiness is expected to have a significant influence on Market Force ereadiness.
-Hypothesis 9: Government e-Readiness is expected to have a significant influence on e-business adoption level .
-Hypothesis 10a: Government e-Readiness is expected to have a significant influence on organizational e-readiness such as awareness.
-Hypothesis 10b: Government e-Readiness is expected to have a significant influence on organizational e-readiness such as commitment.
-Hypothesis 10c: Government e-Readiness is expected to have a significant influence on organizational e-readiness such as governance.
-Hypothesis 11: Supporting industries e-readiness is expected to have a significant influence on Market Force e-readiness.
-Hypothesis 12: Supporting industries e-readiness is expected to have a significant influence on ebusiness adoption level .
-Hypothesis 13 a: Supporting industries e-readiness is expected to have a significant influence on Organizational e-readiness such as awareness.
-Hypothesis 13 b: Supporting industries e-readiness is expected to have a significant influence on Organizational e-readiness such as commitment.
-Hypothesis 13 c: Supporting industries e-readiness is expected to have a significant influence on Organizational e-readiness such as governance
- Hypothesis 14: Market forces e-readiness is expected to have a significant influence on e-business adoption level.
-Hypothesis 15 a: Market forces e-readiness is expected to have a significant influence on Organizational e-readiness such as awareness.
-Hypothesis 15 b: Market forces e-readiness is expected to have a significant influence on Organizational e-readiness such as commitment.
-Hypothesis 15 c: Market forces e-readiness is expected to have a significant influence on Organizational e-readiness such as governance.

5. DISCUSSIONS AND CONCLUSIONS

In this research, a proposal is made to adjust and apply the PERM model proposed by Molla and Licker for developing countries. As mentioned before, the use of these scales in a different cultural context requires an adaptation and a validation test before proceeding further. Thus, we have measured the quality of the selected scales to make sure it could be used in the Lebanese context. This was conducted in two phases:

1. First, we have conducted the purification of the scale through a principal component analysis (PCA),
2. Second, we examined of the reliability of each latent variable by the mean of Cronbach's alpha.

The results generated from this research lead us to some interesting findings. While the model still consists of three major constructs, three variables have been transferred to the eBusiness Assimilation and this new adjusted construct is called e-BAL. It includes the eBusiness adoption, Business Resources, Technology Resources and Human Resources that were part of the POER construct.

This is consistent with many researchers that have stated that resources are an important factor that contributes to the success of technology diffusion (Rogers 1985) and that do affect the level of e-business adoption. The use of technology resources in ebusiness adoption would help the assimilation process and are very crucial in pushing the adoption of technology towards a higher level of assimilation (Cooper and Zmud 1990). Referring back to Rogers DOI, if the firm's employees do not have the adequate skills and experience or knowledge to move forward in this phase, it might lead to a misalignments and therefore delay or hinder the assimilation process further. This might stop the diffusion at any stage even when the employees are committed.

Finally, and as our aim is to examine the explanatory power of the hypothesized model that is presented in figure 2 and the significance of every individual path, we recommend further research with a larger sample to test this adjusted model and that is by using the Structural Equation Model. SME is considered more versatile than other multivariate techniques and could allow us to measure all related variables and their interrelationships simultaneously in an attempt to investigate what factors could affect e-business adoption in the e-service industry in a developing country like Lebanon.

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