Examination of External and Internal Enablers of Organizational E-Readiness to Implement E-Commerce. A Study of Ghana's Financial Sector

Carlo K.M.H. Adadevoh[1], Benjamin Ntim[2]

[1]Phd. Student, Accra Institute of Technology, Accra, Ghana

[2]Lecturer, Accra Institute of Technology, Accra, Ghana

Abstract: *E-commerce has become a global imperative for firms that must remain competitive, amidst a very complicated and increasingly convoluted environment. E-commerce could therefore make the difference between whether a firm goes bankrupt or stays profitable, leading some analyst to regard e-commerce proliferation as a double-edged sword that creates new opportunities for some firms while presenting challengesto other firms (Hong & Zhu, 2006). It is on this account that e-commerce has become an active research area in the informationsystems (IS) field (Hong & Zhu, 2006). The benefits of e-commerce, as opposed to traditional commerce, has been thoroughly debated in most studies, with some researchers noting that e-commerce cuts down on company expenses and improves its profit margins by cutting out sales agents while driving down operational expenses (Adadevoh, Yeboah& Kesse-Tachi, Prof. Ntim, 2018; Hong & Zhu, 2006; Lin & Lin, 2008; Thornton & Marche, 2003; Wang & Cheung, 2004). Additionally, it improves business efficiency by enabling the company reach out directly to client for their product development inputs as well as blurs international barriers by providing access to distant markets (Alam, Khatibi, Ahmad&BinIsmail, 2008; Gupta, Iyer&Weisskirch, 2010). This confirms e-commerce adoption as an undebatable business imperative, especially for firms in developing nations who are naturally disadvantaged in their ability to reach out to take advantage of vast global markets opportunities (Alam et al., 2008; Gupta et al., 2010).*

Keywords: E-Readiness, E- Commerce, Internal and External Enablers

1. Introduction

The potentials of web technologies (particularly e-commerce) notwithstanding, some firms have not benefited adequately from its adoption due to a myriad of factors, prominent amongst which is their readiness towards adoption. In other words, firms that are not e-ready do not benefit adequately from the proliferation of e-commerce (Adadevoh, 2018; Adadevoh, Yeboah& Kesse-Tachi, 2018; Lin & Lin, 2008; Thornton & Marche, 2003; Wang & Cheung, 2004). Adadevoh's (2018) study among commercial banks in Ghana affirmed that when banks have good telecommunication infrastructure and highly specialized IT employees, they are more likely to adopt ecommerce, confirming that e-readiness is a precursor to e-commerce adoption, similar to arguments by Lin and Lin (2008) and Wang and Cheung (2004).

Researchers believe that there are right conditions that facilitate e-readiness that has a cascading effect on e-commerce adoption (Adadevoh, 2018; Lin & Lin, 2008; Wang & Cheung, 2004).Corporate decision makers, according to Selim (2008), however struggle to determine the right conditionsthat positively influences e-commerce adoption and those factors that inhibit its adoption. Teo, Wei, and Bonbasat (2003) similarly argue that because the facilitating and the inhabiting factors are not clear to most organisational actors before embarking on e-commerce adoption, its eventual adoption, when it is done, does not yield the full potential benefit, which is why it is critical to examine the external and internal enablers of organization e-readiness to implement e-commerce in Ghana's financial service industry. The study was guided by the following objectives:

- Evaluate the influence of internal enablers on e-readiness among financial sector institutions.
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- Examine the effect of internal and external enablers on e-commerce adoptionamong financial sector institutions.
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Overview of the Financial Services Sector
The financial services sector in Ghana is divided into three main sectors. It includes firms that operate in the Banking and Finance sub-sector (including Non-Bank Financial Services and Forex Bureau), the insurance sub-sector and the financial market/capital markets sub-sector. The full list of institutions under the financial service sector, as at 2016, is presented in Table 1 below.

Table 1: Number of Companies in the Financial Services Sector in Ghana

Category	Sub-Sector	Number
Banking/Finance	Banks	26
	Rural and Community Banks	133
	Non-Bank Financial Institutions	52
	Forex Bureau	273
Insurance	Insurance Companies	18
	Re-insurance Companies	2
	Insurance Brokers	35
Financial Market/ Capital Markets	GSE Listed Companies	36
	GSE Licenced Stockbrokers	18

Source: Ghana Investment Promotion Council (2018).

The Government of Ghana (GoG) came up with the Financial Sector Adjustment Programme (FINSAP) to finetune the financial service sector into a better

performance sector in the Ghanaian economy. Since 1988, three phases of the FINSAP has been undertaken which has appropriately aligned the financial sector in Ghana. FINSAP-1 was undertaken between 1988 to 1991; FINSAP-2 took place between 1992 and 1995 while FINSAP-3 happened in 1995. Lately, there has been several regulatory policy issuances by the various regulatory agencies that have impacted on the performance of the financial service sector institutions in Ghana.

2. Literature Review

E-commerce is fast changing the conduct of business in both the developed and the developing world due to its attested benefits, amongst which is the propensity of ICT powered e-commerce to be an important economic indicator of growth and reducedtransaction cost (Molla & Licker, 2005). E-commerce adoption in developing countries have however lagged behind that of the developed countries due principally to adoptionbarriers, both micro and macro (Al-Hudhaif&Alkubeyyer, 2011; Molla & Licker, 2005). Similarly, few e-commerce analytical studies have been undertaken in developing countries, hence the need to undertake the present study. Most of the studies done in the developing country context have focused on environmental constraints, including technological, institutional, socio-economical and physical e-readiness and e-commerce barriers, without adequate coverage of the organisational factors that act as barriers to adoption (Jennex & Amoroso, 2002; Moodley &Morris, 2004).

E-commerce is not only influenced by macro level or environmental variables but firm-level e-readiness variables as well, including organisational and managerial related resources (Daniel & Grimshaw, 2002). So far, the most comprehensive study along these lines have been those of Molla and Licker's (2005) that focused not only on environmental variables but how firm-level readiness also influences e-commerce adoption (Al-Hudhaif&Alkubeyyer, 2011).It is therefore important to undertake a study that covers both the external and internal enablers to e-readiness towards e-commerce adoption.

The e-commerce adoption factors, according to the information system diffusion circuit, can be classified under two major categories – external and internal(Swanson, 1994). The external factorsrepresent the forces that are outside to the organisationwhich becomes the push force that trigger adoption or otherwise while the internal represents the inherent organisational pullforce that facilitate or act as barriers to adoption (Sohn & Wang, 1998). Using Swanson's categorization, Sohn and Wang (1998) came up with five internal factors and three external factors that determine e-

commerce adoption. The internal factors included top management support, inclination toward new technology, absorptive capacity, existence of championand cost incentive while the three external factors involved customer pressure, competitors action and institutional support.

A study undertaken by Selim (2008)sought to categorize the critical factors of e-commerce adoption by firms into internal and external factors. He came up with eight internal factors and six external factors that influences e-commerce adoption. These include financial readiness, IT readiness, management support, firm culture, staff readiness, firm strategy, anticipated benefits and firm size while the external factors were listed global competition, customer pressure, local competition, IT infrastructure, laws and regulations and government nature.

In Saudi Arabia, Al-Hudhaif & Alkubeyyer (2011) undertook a study in the retail sector to establish the internal and external enablers to e-readiness that in turn impact e-commerce adoption. The study concluded that the first step in e-commerce adoption and its related decisions were more dependent on theexternal factor than the internal factors. Mainly, market forces factors, i.e., partner and customers e-readiness, supporting industries e-readiness, effect of government e-readiness and support plays effective role of facilitating and directing adoption. Internal factors become more predominant or the main determinants as firms seek advanced form of e-commerce adoption. The important internal factors that come into play to inform this section of adoption include technology resources, commitment, awareness, and governance in a descending order.

The theoretical framework of the study adopts the interactionism imperative or the PERM model by Molla and Licker (2005). They came up with the multi-perspectives and dynamic framework to investigate the external and internal enablers to e-readiness and e-commerce adoption. This study finds those models equally relevant in assessing organizational e-readiness in e-commerce adoption. One study that understood the eclectic nature of e-commerce adoption and hence took such an approach in its theorizing was undertaken by Molla (2004). His study drew its theoretical base from socio-technical and innovation literature as well as those originating from resource-based and competitive context theories to form a framework that sought to explain how e-readiness impacts e-commerce success among developing nations' organizations. His framework, which formed the basis for the PERM model articulated e-readiness in a two-dimensional concept covering organizational and external e-readiness constructs (see details in Figure 1 below).
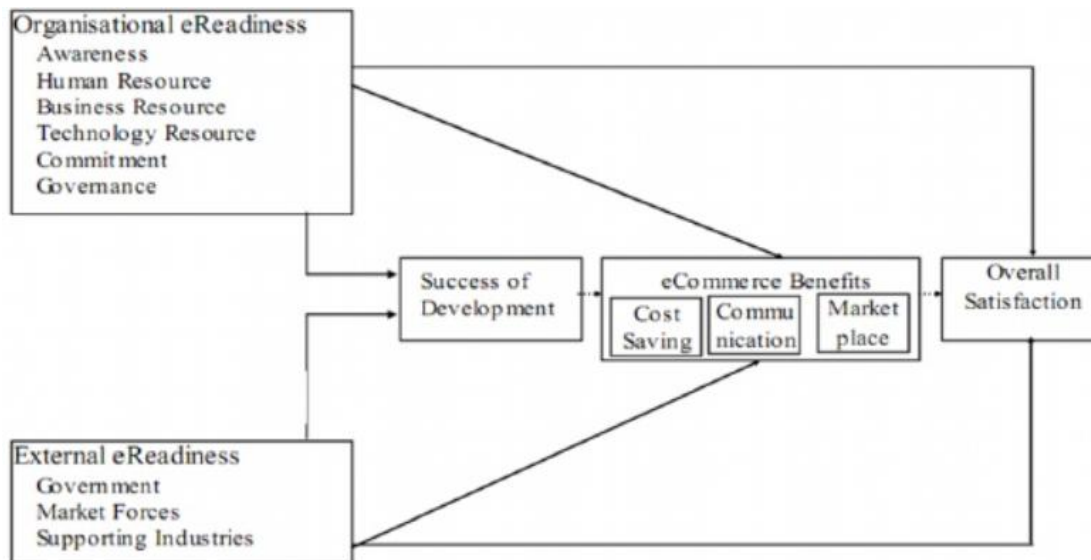
Figure 1: A model of e-reainess and e-commerce success
Source: Adapted by Molla (2004)

This observation stems from the fact that an organizations' actual e-commerce success is better measured by actual internal e-readiness, actual external e-readiness and other objective conditions which invariably makes an "integrated e-readiness" assessment model or method preferable in explaining the variance in organizations' success in adoption and using e-commerce. Such a model measures the difference between actual e-readiness, perceived e-readiness and other internal and external variables that impact on e-commerce adoption, though Quangdung et al (2013) is convinced that the "perceived internal e-readiness is very often not different considerably from the actual internal e-readiness" (p 40).

Study Methodology
Towards gathering data from a broad spectrum of industry players to make the study duly representative of the industry's view, data was gathered from the three major players in the financial services sector. The study accordingly collected data from 15% of the players in each category of institution listed in Table 1. A total of 59 institutions, represented the targeted 15%, were selected across the financial service industry. The details of the number of institutions and responded selected under each category is summarized in Table 2 below.

A total of 187 respondents were selected from the 59 financial institutions. Five respondents, representing top management were selected from each institution, except among the forex bureaus where only one respondent was selected from each bureau. The sheer number of forex bureaus make it imperative to selected only one respondent from that sector. The respondents were selected purposively, meaning that those whose views regarded important to the study, being top management staff, were selected for data gathering.

Table 2: Sample Size for the Study

Category	Sub-Sector	Number	15% Selected	Sample Selected
Banking/ Finance	Banks	26	3	13
	Rural and Community Banks	133	13	67
	Non-Bank Financial Institutions	52	5	26
	Forex Bureau	273	27	27
Insurance	Insurance Companies	18	2	9
	Re-insurance Companies	2	0	1
	Insurance Brokers	35	4	18
Financial Market/ Capital Markets	GSE Listed Companies	36	4	18
	GSE Licensed Stockbrokers	18	2	9
Total		**593**	**59**	**187**

Primary data was gathered with a structured questionnaire, using the 5-point Likert scale. The questionnaire covered demographics of institution under focus, views of enablers and hindrances to e-readiness and relationship between the external/internal enablers, e-readiness and e-commerce adoption. Results from the study was analyzed descriptively and inferential. Regression analysis was used in the present study as the inferential analysis.

Reliability and Validity
Table 3 presents the reliability of 9 construct which is made up of 59 items. For the constructs under the internal enablers, the Cronbach's alpha for eReadiness awareness is 0.726, for attitude and commitment is 0.983, for resources is 0.845, for governance is 0.962 and for business resources is 0.797. Also for the constructs under the external enablers, the Cronbach's alpha coefficient for market forces eReadiness is 0.983, for government eReadiness is 0.964 and for supporting industries eReadiness is 0.974. Finally, the Cronbach's alpha coefficient for the dependent variable ecommerce success is 0.891. According to Nunnally (1978) the minimum acceptable alpha for scale reliability is 0.70. As can be observed from Table 3, none of the items was "weak" or is suggested for deletion. Therefore, all of the

Cronbach's alpha scores for the constructs in the study are well above the acceptable point and are reliable.

Table 3: Reliability analysis of research variables

Variables	No. of measures	Cronbach's alpha (α)
Internal Enablers		
1. eReadiness awareness	11	0.726
2. Attitude and commitment	8	0.983
3. Resources	11	0.845
4. Governance	7	0.962
5. Business Resources	6	0.797
External Enablers		
1. Market forces eReadiness	2	0.983
2. Government eReadiness	4	0.964
3. Supporting Industries eReadiness	5	0.974
Ecommerce Success	5	0.891

3. Results

Data Analysis
A multiple regression analysis was carried out to examine the effect of internal enablers on e-commerce adoption among financial sector institutions. From Table 4, the model explained 75.2% of the variance in ecommerce success. Highly significant F-value indicates very good model fit (F = 148.299, p < 0.005).Table 5, present estimated model. As can be observed from Table 5, three out of the five internal enablers influence ecommerce success. Thus government, resources and business resources were found to be statistically significant in predicting e-commerce success in the financial sector. Of all the factors, government was the most significant factor ($\beta = 0.544$).

Table 4: ANOVA Results

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	11.095	3	3.698	148.299	.000
	Residual	3.566	143	.025		
	Total	14.662	146			
a. Dependent Variable: ES						
b. Predictors: (Constant), GOV, RE, BR						

Table 5: Estimated model

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.867	.178		10.511	.000
GOV	.544	.085	.755	6.384	.000
RE	.292	.105	.329	2.784	.006
BR	.218	.091	.226	2.404	.018
a. Dependent Variable: ES					

Effect of external enablers on ecommerce success
A multiple regression analysis was carried out to examine the effect of external enablers on e-commerce adoption among financial sector institutions. From Table 4, the model explained 69.3% of the variance in ecommerce success. Highly significant F-value indicates very good model fit (F = 330.080, p < 0.005). Table 7, present estimated model for the external enablers. As can be observed from Table 5, only one out of the three external enablers influence ecommerce success. Thus government ereadiness was found to be statistically significant in predicting e-commerce success in

the financial sector. It is important to mention that market forces ereadiness and supporting industries ereadiness were excluded from the model because they were not statistically significant.

Table 6: ANOVA results

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	10.187	1	10.187	330.080	.000[b]
	Residual	4.475	145	.031		
	Total	14.662	146			
a. Dependent Variable: ES						
b. Predictors: (Constant), GeR						

Table 7: Estimated model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.982	.157		12.607	.000
	GeR	.605	.033	.834	18.168	.000
a. Dependent Variable: ES						

Effect of internal and external enablers on ecommerce success
The regression analysis revealed that the adjusted R-square is 0.752. This implies that 75% of the variations in e-commerce success can be explained by the independent variables (government, resources and business resources). Table 8 present the Analysis of Variance results. The overall regression model obtained an F-statistic of 148.299 with a p-value of 0.000. This implies that collectively all the independent variables included in the model have significant effect on e-commerce success.Table 9, present estimated model. As can be observed from Table 9, that all the independent variables included in the model had a positive effect on e-commerce success. It is important to mention that all the external enablers variables were excluded from the main model suggesting that they do not significantly influence ecommerce success.

Table 8: ANOVA Results

	Model	Sum of Squares	df	Mean Square	F	Sig.
3	Regression	11.095	3	3.698	148.299	.000[d]
	Residual	3.566	143	.025		
	Total	14.662	146			
a. Dependent Variable: ES						
b. Predictors: (Constant), GOV, RE, BR						

Table 9: Estimated Model

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.867	.178		10.511	.000
GOV	.544	.085	.755	6.384	.000
RE	.292	.105	.329	2.784	.006
BR	.218	.091	.226	2.404	.018
a. Dependent Variable: Ecommerce success					

4. Discussion of findings

This study examined the effect of internal and external enablers of organization on e-commerce success in Ghana's financial service industry. The study showed that internal enablers such as governance, resources and business

resources significantly influence ecommerce success among the financial service industry in Ghana. It was noticed that governance had a huge effect on ecommerce success. The analysis also revealed that external enablers such as government influenced ecommerce success. After combining both internal and external enablers variables, it emerged that only internal enablers such as governance, resources and business resources significantly influenced ecommerce success in Ghana's financial service industry. This means that internal enablers have significant effect on ecommerce than external enablers. This finding is contrary to the findings of Al-Hudhaif & Alkubeyyer (2011)whose study concluded that the first step in e-commerce adoption and its related decisions were more dependent theexternal factor than the internal factors.

5. Conclusion

The study examined the effect of internal and external enablers of organization on e-commerce success in Ghana's financial service industry. The study used regression analysis as its main statistical tool. The result revealed that internal enablers better predict ecommerce success in the financial industry than external enablers.

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