#7368 SOCIO-DEMOGRAPHIC FACTORS CONTRIBUTING TO ADOPTION OF E-COMMERCE BY AGRIBUSINESS SMES IN THE UPPER EAST REGION OF GHANA

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ABSTRACT

The study's objective focused on examining some socio-demographic indicators influencing Agribusiness small and medium scale enterprises electronic commerce adoption and the preferred Agribusiness small and medium scale enterprises electronic commerce applications in the Upper East region of Ghana. A cross-sectional survey design was adopted for the study to determine the status of the variables and their interplay. The research used a purposive sampling technique for the study. Out of the 120 questionnaires administered for the study, only 100 (83.3%) respondents filled it. Data were analysed using both descriptive and inferential statistics. Results of the objectives showed that educational level, the scale of the enterprise, age, years in business and type of Agribusiness small and medium scale enterprise were significant to influencing the adoption decision of Agribusiness small and medium scale enterprises in the study area. The results also revealed that Agribusiness small and medium scale enterprises in the Upper East region use electronic commerce applications mostly for customer relation management and inter-organisation system.

INTRODUCTION

For businesses, E-commerce has become a playground as it offers a tremendous opportunity for growth and development of businesses (Ya-ping, 2012). Description of E-commerce includes the process of purchasing and selling goods over the Internet (Chong, 2008). Rainer and Cegielski (2011) defined it as "the process of buying, selling, transferring or exchanging of products, services and information via computer network including the internet". E-commerce is redefining the relationship between suppliers and customers as market-sensitive commodities are being released to need-based customers at the right time and ensuring efficient allocation of the resource by suppliers. Javalgi and Ramsey (2001) hold that E-commerce has caused a paradigm shift in the concept of market competition by making smaller businesses compete with more prominent and large market holders for market shares for quality and accessibility. Early researchers classified E-commerce into business and consumer interaction flow, while current researchers have acknowledged the increasing role of government as a market player.

On the other hand, Agribusiness SMEs around the globe have served as a reliable option for international economies development. In Ghana, the commonly used criterion for defining Agribusiness SME is the employees' number in the enterprise, which follows the Ghana statistical service (Ghana Statistical Service, 2007) framework of small-scale enterprises being enterprise with less than ten (10) employees with above ten (10) employees as a medium and large-sized enterprise. Bank Negara Malaysia (2005) reported that for SMEs to stay relevant continuously, they have to enhance their capacity and efficiency to produce a high-quality product at a competitive price, bearing in mind the role of E-commerce. Although Ghana is still trying to meet up with the swift progression of E-commerce, so far there has been little progress made. However, this paper was limited solely to the socio-demographic characteristics

which influence the E-commerce adoption of Agribusiness SMEs and usage of E-commerce applications Upper East region of Ghana. This study is essential as it aims to analysis various ways Agribusiness SMEs can stand out in the Agribusiness industry through E-commerce usage.

MATERIALS AND METHODS

The study adopted a cross-sectional survey design. The survey design was to help generalise the study to a larger population from a sample to make room for inferences about the population characteristics of the study. The population for the study was made of Agribusiness SME owners in the Upper East Region of Ghana. Using Slovin's formula (1960), the sample size for the study was 120 respondents. However, only 100 (83.33% response rate) respondents participated in the study. A purposive sampling technique was employed to select the various Agribusiness SMEs in the study area. The qualification for being part of this study was as follows: (a) the respondent must own a business that qualified to be an Agribusiness SME. (b) The location of the Agribusiness SME must be in the Upper East Region of Ghana. Primary data was collected through the use of questionnaires. Face validity and content validity of the research instrument was ensured through a pilot study before the data collection to help correct ambiguous questions, and an expert in the field also checked it. The data collected was analysed using SPSS version 21.0.

RESULTS AND DISCUSSION

Adoption of E-commerce Among Agribusiness SMEs

Table 1 reveals that as the age of respondents increases, their chance of adopting E-commerce for their operation falls by -3.656, and this was revealed to be significant (.058) to influencing adoption of E-commerce. The analysed result showed that age plays a significant role in the adoption of E-commerce by Agribusiness SMEs. The finding disagrees with Wu and Wang (2005) who reported that age is not a decisive factor (not significant) in the starting and the adoption of technologies. Instead attributed the decision to adopt E-commerce to enough training and preparation. The educational level of the respondents was significant (.017) to influencing adoption of E-commerce with the likelihood of the respondent adopting E-commerce falling by -2.793 as educational level increases. Educational level showed a significant relationship indicating that the level of educational attainment by an individual plays a vital role to influence adoption. It implies that Agribusiness owners with less or no formal education are less attracted to E-commerce. The findings agree with Quaye (2011) and Wadhwa *et al.* (2009) that 'the business owners with higher educational level are more likely to take the risk of adopting new technologies, hence greater chances of succeeding'. As the years in business increases, the chance of Agribusiness SME owner adopting E-commerce increases by 5.056 and this was significant. Years in business and the source of funding for the business also showed a statistically significant relationship with E-commerce adoption. Thus, the age of business does determine if an Agribusiness SME is going to adopt an E-commerce application or not. Interestingly, most of the businesses in the study area were less than 4 years implying that SME development and operation were on the rise in the study area. The finding of this research was consistent with Autio (2005) that 'the longer a business stays in operation, it gives the business an advantage to the acquisition of research over time, and hence the tendency to adopt new technologies like E-commerce application'. Again, it was revealed from Table 1 that the type of Agribusiness SME tends to increase the likelihood of the business adopting E-commerce by 3.120, and this was significance (.054) to influencing adoption of E-commerce. Lastly, the scale of the enterprise decreases the chance of Agribusiness SME

adopting E-commerce by -4.885. It was a significant influence on the adoption of E-commerce. The scale of the enterprise was revealed to be statistically significant showing that the smaller the size of an Agribusiness SME, the higher the tendency to the adoption of an E-commerce, this agrees with Stokes and Wilson (2010) that small Agribusiness SMEs are regarded as being innovative and willing to try new approaches to production. Agribusiness SMEs which are small in size, are more determined to increase market share. Hence the high likelihood to adopt an E-commerce technology to increase its market position.

Table 1. Binary Logistic Regression of socio-demographic characteristics on adoption of E-commerce.

Socio-demographic characteristics	ß	Std. Error	Sig.
Constant	12.663	6.204	.041 ***
Age	-3.656	1.930	.058**
Gender	-2.103	1.429	.141
Marital Status	1.062	1.415	.453
Educational Level	-2.793	1.166	.017***
Years in Business	5.056	2.586	.051**
Business Location	-.735	1.632	.203
Type of Agribusiness SME	3.120	1.618	.054**
Source of Funding	1.298	1.687	.442
Scale of Enterprise	-4.885	2.270	.031***
Annual Revenue	.136	1.332	.919
Model Summary			
Test		**Value**	**Sig.**
Omnibus Test of model coefficients		19.492	.021
Hosmer & Lemeshow Test		1.092	.998
Cox & Snell R square		.284	
Nagelkerke R square		.626	
-2 log Likelihood		27.055	

Note: ***represent significant level at 5%, ** represent significant level at 10%

Preferred E-commerce Applications Used by Agribusiness SMEs

The results of Table 2, using the mean score showed that E-commerce application used for Customer relation management (CRM) was the most used (1.7733), with Payment System being the least used E-commerce application (1.4650). This assertion is supported by Turban *et al.* (2002) and Ainin and Noorismawati (2003) that most Agribusiness SMEs prefer E-commerce application for customer relation management. This is because the business wants to stay in touch with their customers, which create trust, and assure the costumers of quality. It is also a way of helping the business in forecasting. On the other head, fewer respondents used E-commerce applications as a means of payment system. Agribusiness SME owners preferred physical cash payment to electronic payment. This method of payment was also revealed by Fatimah *et al.* (2000), that most Agribusiness SMEs in developing countries are yet to benefit fully from the use of E-commerce in payment. Although the introduction of mobile money payment has been introduced across developing countries, its adoption remains a challenge for Agribusiness SMEs due to service charges and the unwillingness of both parties to pay for the charges.

Table 2. The rank of E-commerce application used by Agribusiness SMEs.

E-commerce application	Mean	Standard Deviation	Mean Rank	Median Value
Market research	1.4967	.33667	2.59	1.33
Advertisement	1.5850	.33375	3.20	1.50
Customer relation management	1.7733	.27981	4.40	2.00
Inter-organisational system	1.7550	.24355	4.45	1.75
Business performance	1.6900	.33919	3.81	1.67
Payment System	1.4650	.30364	2.55	1.50

n= 100 $\square^2$= 131.923 Asymp. Sig = .000 Overall Median =1.625

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