

Can Business-to-Consumer Electronic Commerce Be a Game-Changer in Anglophone West African Countries? Insights from Secondary Data and Consumers' Perspectives

Stephen Nabareseh and Christian Nedu Osakwe

Tomas Bata University in Zlin, Faculty of Economics and Management Nam.
T.G. Masaryka 3050, 760 01 Zlin, Czech Republic

Abstract: Business-to-Consumer electronic commerce (B2C eCommerce) is transforming business all over the world and significantly increasing the GDPs of several economies. The upsurge of B2C eCommerce in developing countries has been rather slow. Sub-Saharan African economies have been hugely affected by the slow pace of B2C eCommerce adoption. Countries in the Anglophone block of West Africa have their first share of obstacles narrowing their full uptake of B2C eCommerce. This paper (1) reviews the basic features of electronic requirements found in Anglophone West African countries that affect the development of B2C eCommerce, (2) assesses some aspects of how B2C eCommerce could lead to free trade activities and (3) proffers areas of concentration to promote B2C eCommerce activities in the sub-region. The paper carefully analyses secondary data on Anglophone West African countries and primary data collected from citizens of the two influential Anglophone countries, Ghana and Nigeria.

Key words: Electronic Business • eCommerce • Anglophone West Africa • ECOWAS • Developing Countries • B2C

INTRODUCTION

Electronic commerce (eCommerce) appears to be revolutionizing the global business landscape given the way and manner in which modern-day businesses are conducted bearing in mind changing consumers' dynamics in a hyper-connected world. eCommerce debatably draws a huge possibility of adding greater value to businesses, customers and consumers in developing countries compared to developed countries [1]. However, business companies, customers and consumers in developing countries fall short of garnering the full benefits offered by the current level of eCommerce using contemporary information and communication technologies. Most developing countries have undergone and still experience some challenges electronically and other forms precluding them from harnessing the full potential of eCommerce. Numerous articles and reports have engaged in promoting models to overcome these

barriers to eCommerce, yet pragmatic substantiation in the developing world is apparently behind theoretical development [1].

That eCommerce is widely perceived as the tool that holds the ace to unlocking myriads of business opportunities as well as creating unique customer value propositions is no longer news, but what really counts is how nations and in particular organizations; strategically align themselves to deploy it in order to gain a strong foothold on the integrated global marketplace and in tandem grow their local economies. The rapid uptake of eCommerce across various segments in the globe has provided ample opportunities for organizations to extend their businesses beyond their geographical boundaries [2].

Due to advancement in the Internet, eCommerce has further reduced international trade bottlenecks and boundaries since firms can reach their global consumers directly [3]. The percentage of the world population using

the Internet soared from 0.4 % in December, 1995 to 38.4 % in March, 2013^[a]. Projected global retail web sales are also expected reach \$963 billion by the close of 2013 from a figure of \$572.5 billion in 2010^[b]. Global B2C eCommerce sales grew by 17.6% from 2011 to 2012 with an estimated market value of B2C eCommerce transactions in the Middle East and Africa pegged at \$27 billion^[c]. 31.3% of Internet users within the same region in 2013 were expected to engage in the online purchase of goods and/or services^[c].

It is widely believed that developing economies have huge B2C eCommerce potentials due to her large market size in terms of population. More so, some of these developing nations have over time witnessed a fast-tracked economic development and equally appear to share similar traits of socio-demographic profile like that of technologically-advanced nations [4].

Most companies who market their goods electronically in developing economies like Africa are confronted with varied challenges. In most African countries, obvious challenges as telecommunication infrastructure [5, 6], legal, delivery, credit card penetration [6], illiteracy, low income-level, cultural resistance [4, 5], trust and security issues are touted as the challenges confronting the eCommerce industry. The slow uptake of eCommerce in least developed countries is attributable to the poor state of eCommerce infrastructure, non-availability of eCommerce sites as well as high cost of access unlike a dvanced economies that have well-developed critical infrastructure which can easily support eCommerce capabilities and at the same time affordable [5, 7]. The absence of a legal framework guiding electronic transactions appears to be one of the worrisome factors impeding the growth of B2C eCommerce market within the West African sub-region and in particular Anglophone West Africa countries - Ghana, Liberia, Nigeria, Sierra Leone and The Gambia. It is on record that Ghana is the only country in Anglophone West Africa as well as one of the few countries in the African continent to enact an electronic transactions act.

These challenges have prevented most African countries and companies from moving away from the traditional "brick-and-mortar" way of doing business to eCommerce strategies. The much pronounced free trade in the West African sub-region still hinges on these

traditional "brick-and-mortar" business strategies. However, in today's global settings, free trade and borderless economic activities can only survive when countries and enterprise embrace eCommerce, be it B2C or B2B^[d].

The dawn of eCommerce has, to a high extent, transformed and promoted free trade as well as simplified the processes of business transactions in the European zone. In the West African sub-region, however, current structures, processes and models for free trade and the embrace of eCommerce by respective countries has to be upped for eCommerce markets [8]. For vibrant eCommerce in West Africa, especially in the Anglophone nations, quite a number of issues must be carefully and cautiously examined and addressed in order to facilitate the growth of Electronic Businesses (eBusiness)^[e].

After a couple of years and great efforts to advance economic integration and regional trade [9], nations in the Anglophone West African economic bloc are still dispersed from each other. With various talks and seminars in the past that intend to intensify synchronization of administrative rules and regulations for effective integration all appeared to have achieved very little [9].

A structural characteristic of Anglophone West African markets with current leaning on their macroeconomic development [9] suggests a grave strategic need for a conscious embrace of eCommerce.

This paper (1) reviews the basic features of electronic requirements found in Anglophone West African countries that affect the development of Business-to-Consumer (B2C) eCommerce, (2) assesses some aspects of how B2C eCommerce could lead to free trade activities and (3) proffers areas of concentration to promote B2C eCommerce activities in the sub-region. The paper carefully analyses secondary data on Anglophone West African countries and primary data collected from citizens of the two influential Anglophone countries, Ghana and Nigeria.

The paper is further divided into four sections. In section 2, we provided ample evidence on some of the key factors impacting on B2C eCommerce development within the Anglophone bloc of West Africa while section 3 is based on the choice of methodology used in this study.

[a] <http://www.internetworldstats.com/emarketing.htm>. Accessed 25-12-2013

[b] http://www.icharts.net/chartchannel/global-e-commerce-sales-are-growing-more-19-each-year_m3rqwitgc Accessed 25-12-2013

[c] <http://www.emarketer.com/Article/B2C-Ecommerce-Climbs-Worldwide-Emerging-Markets-Drive-Sales-Higher/1010004> Accessed 25-12-2013

[d] <http://www.ecommercetimes.com/story/54230.html>. Accessed on 25-12-2013

[e] <http://www.konnectafrica.net/2013/05/03/eCommerce-in-africa/>. Accessed on: 26-12- 2013

Table 1: Population of Anglophone West Africa (2008-2012)

Country	2008	2009	2010	2011	2012
Gambia	1,577,984	1,628,332	1,680,640	1,734,966	1,791,225
Ghana	23,110,139	23,691,533	24,262,901	24,820,706	25,366,462
Liberia	3,672,714	3,821,440	3,957,990	4,079,697	4,190,435
Nigeria	151,208,080	155,381,020	159,707,780	164,192,925	168,833,776
Sierra Leone	5,532,139	5,641,182	5,751,976	5,865,491	5,978,727

Source: World Development Indicators

Table 2: Internet users (per 100 people)

Country Name	2008	2009	2010	2011	2012	% Change
The Gambia	6.88	7.63	9.20	10.87	12.45	9.41
Ghana	4.27	5.44	7.80	14.11	17.11	9.75
Liberia	0.53	0.51	2.30	3.00	3.79	2.03
Nigeria	15.86	20.00	24.00	28.43	32.88	24.23
Sierra Leone	0.25	0.26	0.58	0.90	1.30	0.66

Source: World Development Indicators.

Table 3: Fixed broadband Internet subscribers (per 100 people)

Country Name	2008	2009	2010	2011	2012
The Gambia	0.0183	0.0178	0.0203	0.0246	0.0274
Ghana	0.0988	0.1150	0.2053	0.2509	0.2522
Liberia	0.0030	0.0039	0.0047	0.0015	0.0024
Nigeria	0.0450	0.0531	0.0626	0.1327	0.0086

Source: World Development Indicators

The findings and discussion are covered in section 4. Finally, we wrap up our suggestions and conclusion in section 5.

Overview of Key Factors Influencing B2c E-commerce Development in Anglophone West Africa

Population: According to [f], the total population of West Africa as at 2012 stood at 322 million. This figure represents an increase of 2.78% over the previous year’s figure of 314 million. Anglophone West Africa shares 63.97% of the 2012 total population figure as shown in Table 1.

In relation to economic growth, the averaged three year economic growth of the region is 2.5 percent, while the population increases by an average of 2.2 percent annually [g]. It is estimated that the region can only cut extreme poverty by 2015 the growth is about 6-7 percent a year. The embrace of eCommece will increase the economic growth of the region since it reduces transaction costs, improves supply chain management and reduces cost via global sourcing [10, 11].

Internet Users: The International Telecommunication Union (ITU) estimated that 39% of the world’s population will be hooked unto the internet by the close of 2013 [h].

Mobile cellular subscriptions (per 100 people)

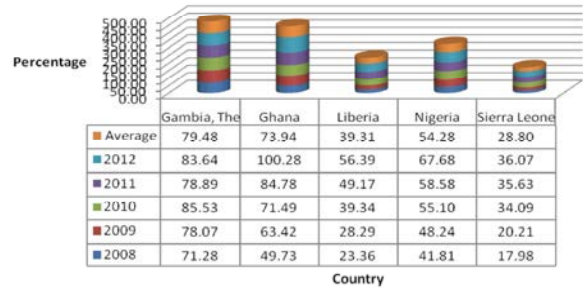


Fig. 1: Mobile cellular subscriptions in Anglophone West Africa

Source: World Development Indicators

However, the access to internet will continue to be limited to the developing countries with only 31% of the population forecast to be connected by close of 2013 against 77% in the developed world [f]. Africa’s penetration was estimated at 16% with Europe pegged at 75%. Household Internet penetration [g] continues to grow with an estimation of 41% of the world’s households being connected to the internet by December 2013 [f]. According to [g], internet access has increased rapidly over the past four years with an annual growth rate of 27%. This notwithstanding, a lot of sub-Saharan African households remain unconnected. Tables 2 and three portray the poor nature of internet connectivity in Anglophone West Africa per 100 people. Although the connectivity has been growing over the years, it is still woefully limited for a full uptake of B2C eCommerce in the sub-region.

Mobile Cellular Subscriptions: [g] predicts that an equivalence of mobile-cellular subscriptions to Human Beings on the planet. Mobile penetration is expected to reach 96% globally, 128% in the developed world and 89% in developing countries by the end of 2013 [h]. Mobile penetration in Anglophone West African countries has been soaring up in tandem with the global increase as seen in Figure 1.

[f] <http://databank.worldbank.org/data/views/reports/tableview.aspx>. Accessed on 06/01/2014

[g] <http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>. Accessed on 06/01/2013

[h] <http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:20179737~pagePK:34370~piPK:42768~theSitePK:4607,00.html>. Accessed on 06/01/2014

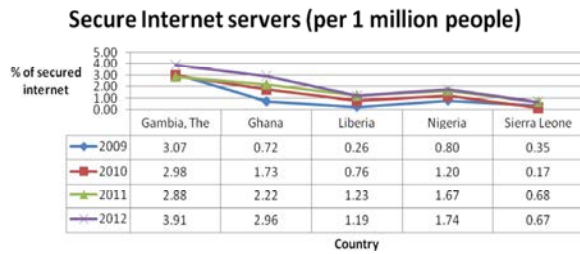


Fig. 2: Secure Internet servers in Anglophone West Africa
Source: World Development Indicators

Ghana leads the sub-region with an increase of 100.28% in 2012. This indicates that more people can easily be hooked onto the internet since mobile companies offer such facilities. The increase also opens the avenue for a greater uptake of B2C eCommerce by citizens since the mobile phone is a powerful tool for electronic transactions.

Internet Security: The circumstance, condition, or event with the potential to cause economic hardship to data or network resources is internet security [5]. Various companies and individuals use secure servers [1] to protect their websites and consumers from threats. The servers protect assets against internal and external threats and vulnerabilities [12]. Africa, West Africa and Anglophone West Africa in particular seriously lacks behind on secured internet servers per one million people. This, thus reduces drastically the trust in online transactions, hence reduces the desire and actual uptake of B2C eCommerce Figure 2: Secure Internet servers in Anglophone West Africa

Logistics Performance: As indicated by [1], the overall logistics performance index spanning from the efficiency of the process of customs clearance, quality of transport infrastructure, competitive priced shipments, quality of logistics services, ability to track and trace consignments and frequency with which shipments reach the consignee within the scheduled time has improved by some developing countries. With an index range of 1 to 5 (1=low to 5=high), Most of the Anglophone West African Countries have seen a marginal improvement except Nigeria and The Gambia which have reduced slightly as seen in Figure 3.

The efficiency of Logistics is a huge plus for B2C eCommerce uptake.

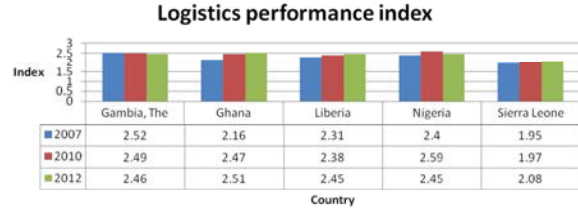


Fig. 3: Logistics performance index in Anglophone West Africa
Source: World Development Indicators

Access to Electricity: The access to reliable and affordable electricity is indubitably crucial for businesses [1]. Many firms and individuals in West African countries resort to self-supply of electricity due to the non-reliability and non-affordability of the electricity supplied by the State. Whether electricity is reliably available or not, the procedures, time and cost [13, 14] of getting it is very necessary for industry and human development [1]. It is absolutely clear that without electricity, B2C eCommerce will be a mirage. Results from [1] indicate that, in Anglophone West Africa, Ghana has the lowest number of days (79 days) to access electricity with Liberia (465 days) with the highest number of days for 2013. Access to electricity (% of population) for Ghana and Nigeria in 2010 is 60.5% and 50.3% respectively.

Credit Card Penetration and Economic Contribution: Payment cards stimulate growth for economies [15]. According to [15], the usage of electronic payments added \$983 billion in global economic growth between 2008 to 2012. [15] further reported that electronic payments contributed 0.8% increase in GDP in developing markets and 0.3% increase in developed markets between 2008 to 2012. Credit card penetration continues to increase in developing countries and under-developed countries over the years [16]. Credit Card usage makes every economy more efficient. The credit card penetration in Anglophone West Africa has been increasing [15, 16] but rather at a very slow pace. B2C eCommerce cannot be buoyant in the sub-region unless the access and usage of credit cards is highly adopted.

Websites: Websites are the bane for B2C eCommerce in every country. The security of the websites, robustness, easy to use and convenient navigating features primarily provide the impetus for usage of eCommerce sites.

[f] <http://databank.worldbank.org/data/views/reports/tableview.aspx>. Accessed on 06/01/2014

[i] c/~media/FPDKM/DoingBusiness/Documents/Profiles/Regional/DB2012/DB12-Economic-Community-West-African-States.pdf. Accessed on: 06/01/2014

[j] <http://www.worldenergyoutlook.org/resources/energydevelopment/accesstoelectricity/> Accessed on: 06/01/2014

08 The Alexa ranking of top websites [k] ranks “google.com” as the first globally with amazon.com as the highest used online retail shop. Ghana and Nigeria are the only countries that appeared in the Alexa ranking having “ghanaweb.com” and “nairaland.com” respectively appearing in the top eight (8) ranked websites for the two countries.

The only indigenous eCommerce sites that made the top 20 most visited sites in Nigeria were konga.com and jumia.com.ng. From the ranking, it appears there is not much of a web traffic to homegrown eCommerce sites in Ghana since none of the sites was ranked in the top 50 most visited sites.

MATERIALS AND METHODS

The authors used various descriptive statistical approaches to analyse both secondary and primary data on Anglophone West Africa with particular interest on B2C eCommerce. The primary data is focussed primarily on Ghana and Nigeria since these countries represent a majority of Anglophone West Africa. Based on our primary data and given the choice of our data collection instrument, the questionnaire in this instance, we decided to use categorical regression (CATREG) since our variables were both nominal and ordinal in nature.

More so, in order to test the robustness of some of our findings, we equally employed data mining technique based on association rule. The association rule data mining algorithm was employed on specific variables on the primary data to identify interesting patterns for policy focus on B2C eCommerce in the Sub-region.

RESULTS AND DISCUSSION

A total of 214 questionnaires was received from the sample survey. The respondents were selected based on a non-probability sampling technique (quota sampling). The data collection technique involved a mix of both web survey (60 percent) and hand-delivery (40 percent).

Demographic Profile: Among a total number of 214 respondents, 62.1 percent of the respondents were male while the female gender constituted 37.9 percent of the total number of respondents. The demographic profile of respondents in the survey is as shown in Table 4.

Table 4: Demographic Profile

Variable		Frequency	Percentage (%)
Gender	Female	81	37.9
	Male	133	62.1
Age Group	16-25	39	18.2
	26-35	127	59.3
	36-45	37	17.3
	Above 45	11	5.1
Education	High School/Diploma	26	12.1
	Undergraduate	36	16.8
	Graduate	116	54.2
	Postgraduate	36	16.8
Monthly Net Income	\$1 - \$149	40	18.7
	\$150 - \$350	27	12.6
	\$351 - \$700	37	17.3
	\$701 - \$ 1000	28	13.1
	Above \$1000	82	38.3
Occupation Type	Private Sector	97	45.3
	Public Sector	88	41.1
	Student	15	7.0
	Unemployed	1	0.5
	Self-employed	13	6.1
Citizenship	Ghanaian	48	22.4
	Nigerian	166	77.6

Source: Field Survey

Clustered Bar Chart of Respondents Motivating Factors: The clustered bar chart of respondents motivating factors across monthly net income group is as depicted in Figure 4.

It is evident to state that the motivating factors in B2C eCommerce usage differ slightly across the income group likewise the choice of items that respondents are willing to purchase online. The higher income (\$1001 +) class perceives B2C eCommerce to be a convenient platform. This income class would prefer to use B2C eCommerce sites for car purchase while the supposedly middle income (\$351 -\$700) class from the survey have an affinity towards B2C eCommerce price transparency with a tendency to prefer the purchase of miscellaneous items.

Stacked Bar Chart of Preferred Means of Shopping: A stacked bar chart showing respondents preferred means of shopping across both gender and age group is as illustrated in Figure 5.

From the stacked bar chart, a majority of respondents who prefer using the Internet to shop across the age group for male and female gender are within the age bracket of 26-35 and 16-25 respectively. It is apparent to state that the majority of male and female respondents prefer the shopping mall to any other means of shopping.

[k] <http://www.alexa.com/topsites/countries>. Accessed on 02/01/2014

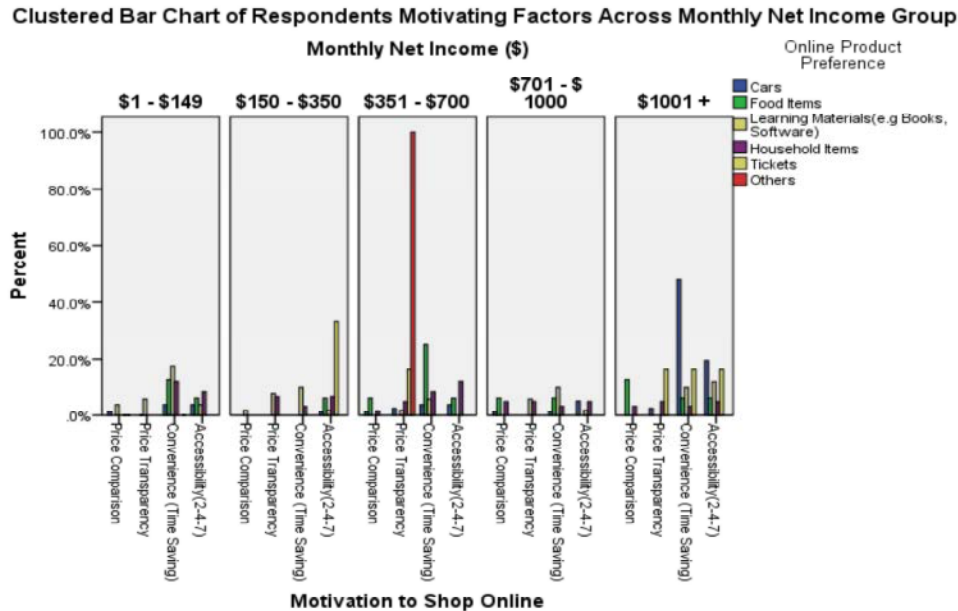


Fig. 4: Clustered Bar Chart of Motivating Factors Across Monthly Net Income Group (Field survey)

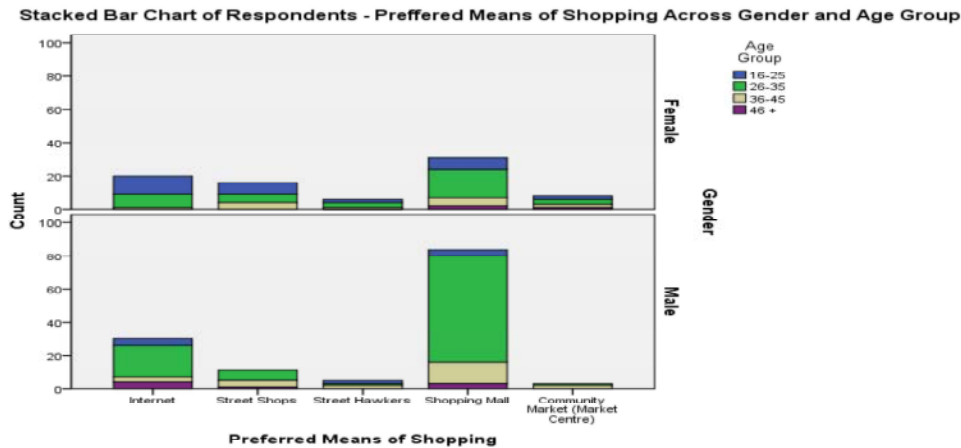


Fig. 5: Stacked Bar Chart of Preferred Means of Shopping Across Gender and Age Group (Field Survey)

Categorical Regression (CATREG) Analysis Output:

Given that the choice of variables used in this study is both a mix of nominal and ordinal variables, the Categorical regression technique was employed to find out the relationship between the dependent variable (willingness to adopt B2C eCommerce) and the independent variables (Income Size, Age Group, Digital Illiteracy, Perceived Mistrust, Dearth of Critical Infrastructure, Affordability of Internet Access, Usage of Online Social Networks, Demand for Disclosure of Personal Information and eCommerce Legislation).

The CATREG computation was done using the IBM SPSS Statistics 20. The robustness of the CATREG is not in doubt given that it performs so efficiently by means of transforming variables (nominal, ordinal and numerical) into optimal scaling level. Similarly, some authors [17-19] including the software developer, IBM Corporation, have attested to the performance efficiency of the CATREG technique.

The result of the categorical regression analysis is as shown in Table 5.

[1] http://web.uncg.edu/bae/lsiyer/ec_common/articles/Privacy%20and%20Security%20in%20E-business.pdf

[m] <http://www.mgmt.uestc.edu.cn/prc/papers/IWIF-II%20Liu+Miller.pdf> Retrieved 07-01-2014

Table 5: ANOVA with Model Summary

	Multiple R	R Square	Adjusted R Square	Sum of Squares	df	Mean Square	F	Sig.
Regression	.67995	.20	.3400	4.494	.000			
Residual	.146005	.193	.757			.564	.318	.247
Total	.214000	.213						

Table 6: Model Coefficients using CATREG

Variables	Standardized Coefficients			df	F	Sig.
	Beta	Bootstrap (1000) Estimate of Std. Error				
DI	-.086	.087		4	.996	.411
DDPInfo	-.202	.088		2	5.264	.006**
DCInfras	-.170	.111		2	2.353	.098*
UsgOSNs	.222	.111		2	4.006	.020**
Mistrust	-.050	.121		2	.167	.846
eLegislate	.092	.113		1	.660	.417
InterAcesAf	.067	.102		2	.435	.648
Income	.517	.080		3	42.033	.000***
AgeGrp	-.126	.083		2	2.316	.101

Note: The asterisks (**, *,) represent statistical significance level of 0.01, 0.05 and 0.10 respectively

Dependent Variable: Willingness to Adopt B2C

Independent Variable: DI (Digital Illiteracy); DDPInfo (Demand for Disclosure of Personal Information); DCInfras (Dearth of Critical Infrastructure); UsgOSNs (Usage of Online Social Networks); Mistrust, eLegislate (eCommerce Legislation); InterAcesAF (Internet Access Affordability); Income and AgeGrp (Age Group)

Source: Field Survey

From the table, the value of multiple R is 0.564, showing that the strength of association between the observed dependent variable and the predicted dependent variable (using the selected predictor variables) is moderately strong.

The coefficient of determination (R-squared) is 0.318. This shows that the model accounts for about 31.8 percent of the total variation in the dependent variable (willingness to adopt B2C eCommerce). Overall, the model represents a good fit since the result of the ANOVA statistic is statistically significant at the 0.01 level with an F-value of 4.494. From the table below (Table 6),

It is plausible to state that amongst the selected independent variables which are influencing B2C eCommerce adoption, only four of these variables appear to be statistically significant.

Out of the two demographic characteristics used in the model, income level appears to be positively associated with the willingness to adopt B2C eCommerce and it is statistically significant at the 0.01 level. This finding is akin to similar empirical works by [20-23]. This shows that as net monthly income increases, consumers are more likely to adopt B2C eCommerce, ceteris paribus.

Even though the age group appears to have an inverse relationship with willingness to adopt B2C eCommerce, there is no supportive evidence based on model since it is not statistically significant at the 0.1

level. Arguably, older adults in Anglophone West African countries are less likely to adopt B2C eCommerce perhaps due to cultural beliefs and risk aversion towards innovative processes and technologies.

The usage of online social networks appears to be statistically significant at the 0.05 level. This finding indicates that usage of social network sites (such as Face book, Twitter, Linkeldn, Google Plus +, MySpace, Tumblr, etc.) spurs the adoption of B2C eCommerce. In a way, this finding lends credence to the works of [24, 25].

Furthermore, disclosure of personal information (privacy concern) was found to be negatively associated with B2C eCommerce adoption and it is statistically significant at the 0.01 level. This shows that the more firms place demand for consumers to disclose their personal information, the less likelihood of consumers to partake in such B2C eCommerce sites. Unarguably, every rational consumer is very mindful of disclosing personal information to businesses and third-parties. This finding parallels the works of previous empirical and theoretical works of [26-29]. By and large, privacy concerns heighten the fears of online financial transactions on B2C eCommerce sites and consumers in the Anglophone bloc are a bit sceptical about disclosing their personal data and in particular, financial information, to B2C eCommerce sites.

[1] http://web.uncg.edu/bae/lsiyer/ec_common/articles/Privacy%20and%20Security%20in%20E-business.pdf

[m] <<http://www.mgmt.uestc.edu.cn/prc/papers/IWIF-II%20Liu+Miller.pdf>> Retrieved 07-01-2014

Table 7: Correlations and Tolerance

Variables	Correlations			Importance	Tolerance	
	Zero-Order	Partial	Part		After Transformation	Before Transformation
DI	-.036	-.092	-.077	.010	.783	.752
DPInfo	-.028	-.209	-.176	.017	.763	.792
DCInfras	-.129	-.185	-.155	.069	.830	.736
UsgOSNs	.227	.235	.199	.158	.805	.651
Mistrust	-.071	-.058	-.048	.011	.930	.891
eLegislate	-.030	.105	.087	-.009	.908	.869
InterAcesAf	.101	.076	.063	.021	.867	.703
Income	.445	.480	.452	.725	.764	.672
AgeGrp	.009	-.143	-.119	-.004	.896	.768

Dependent Variable: Willingness towards B2C eCommerce Adoption

Source: Field Survey

Not so surprisingly, the dearth of critical infrastructure appears to impede the adoption of B2C eCommerce and this is statistically significant at the level of 0.1. This result is analogous to the findings of earlier works of [30-35] which were both quantitative and qualitative in nature.

Within the scope of this study, the dearth of critical infrastructure includes incessant power cuts and poor transportation networks. Unarguably, the provision of critical infrastructure does only foster eCommerce but also it is a sine qua non for any meaningful economic development in developing countries and in particular, Anglophone West African countries.

Based on our study, we also found out that mistrust, digital illiteracy (in terms of lack of computer knowledge), eCommerce legislation and Internet access affordability, all appear to have the a priori signs (Table 6) but they were not all statistically significant using conventional significance levels (1%, 5% and 10%). Hence, it would be very infallible for us to draw further conclusions on these variables.

Also, also Table 7 for correlation and tolerance level interactions between the dependent variable (Willingness to adopt B2C eCommerce) and the independent variables. It is evident to state that there is no multicollinearity amongst the independent variables given that the tolerance level before and after transformation exceeds 0.2 (usually the rule of thumb).

The association between willingness to adopt B2C eCommerce and the perceived mistrust level of B2C eCommerce transactions are negatively correlated (-0.058), after controlling for the effects of other independent

variables in the model. Similarly, the income size captures uniquely about 20.4% ($r = 0.452$) of the variation in willingness to adopt B2C eCommerce.

Association Rule: Association Rule Mining [36] is a key data mining algorithm for discovering interesting relationships between variables in a dataset. We ran a simple association rule using the RapidMiner data mining tool to identify strong rules of interestingness with a 100% confidence and support. As seen below it is clear that with a confidence of 100%, the type of products respondents are prepared to buy online largely depends on their Net monthly income. There is a rule that respondents believe the absence of Government Legislation in most countries in Anglophone West Africa results in the distrust of online transactions. The other interesting rules are tabled below.

Association Rules:

- [Product to buy online] --> [Net monthly income] (confidence: 1.000)
- [Net monthly income] --> [Product to buy online] (confidence: 1.000)
- [Bought item online] --> [Product to buy online] (confidence: 1.000)
- [Bought item online] --> [Net monthly income] (confidence: 1.000)
- [Bought item online] --> [Product to buy online, Net monthly income] (confidence: 1.000)
- [Product to buy online, bought item online] --> [Net monthly income] (confidence: 1.000)
- [Net monthly income, bought item online] --> [Product to buy online] (confidence: 1.000)

[n] <<http://aisel.aisnet.org/cais/vol10/iss1/2/>>, Retrieved 08-01-2014

[o] <http://web.uncg.edu/bae/lseyer/ec_common/articles/Privacy%20and%20Security%20in%20E-business.pdf> Retrieved 07-01-2014

Association Rules:

[Disclosure of PIS affect online shopping] --> [People do not trust online transactions] (confidence: 1.000)
[People do not trust online transactions] --> [Government legislation on eTransactions] (confidence: 1.000)
[Government legislation on eTransactions] --> [People do not trust online transactions] (confidence: 1.000)
[Lack of stable power supply influences online shopping] --> [Consumers access to internet] (confidence: 1.000)
[Lack of stable power supply influences online shopping, Lack of computer knowledge limits online shopping] --> [People do not trust online transactions] (confidence: 1.000)
[Lack of computer knowledge limits online shopping, Disclosure of PIS affect online shopping] --> [People do not trust online transactions] (confidence: 1.000)

CONCLUSION

We believe that ECOWAS free trade can duly be fast tracked and enhanced in both blocs of Anglophone and Francophone countries given the possibilities of eCommerce to transcend beyond country boundaries and cultures. From the analysis above, it is evident that Anglophone West African countries would need to address certain key areas in order to boost citizen motivation to use B2C eCommerce sites.

First, this calls for more stakeholder collaboration amongst all players in the business ecosystem. Going forward, the provision of critical infrastructure such as good transportation networks, power supply and ICT infrastructure must be addressed by various governments within the Anglophone bloc and ECOWAS in general.

We suggest that the provision of Internet infrastructure such as the deployment of broadband cables in towns and villages should be vigorously pursued through public private partnership since the various governments cannot handle this onerous task alone. In this light, we would expect that various national governments within this subregion would similarly pursue the same goal.

Similarly, the various governments within the Anglophone bloc as a matter of urgency, should ensure that the cost of personal computer (PC) is further subsidized. Apparently, this would make PCs affordable and in tandem increase PC penetration amongst households. In the long-run, there is a need to encourage 'local' manufacturing of PCs, laptops, mobile handsets,

tablets and other computer accessories. This would definitely bring down the prices of ICT devices and most likely catalyse the eCommerce ecosystem as a whole.

Furthermore, the onus is on companies to beef up their websites securities. Based on the information gotten from our survey, the few respondents who stated to have used B2C eCommerce sites affirmed to have purchased items from only reputable foreign sites such as Amazon and eBay.

This clearly shows that there is a grave need for trusted and robust "local" websites for B2C e-commerce to thrive in West Africa and in particular, the Anglophone bloc. It would equally interest eCommerce sites to know that their potential customers are not so willing to disclose 'too much' of their personal information.

Hence, there is a need to extract only the most relevant data from customers as well as having the right information on their websites. B2C eCommerce sites must continually fashion out modalities on ways to improve customers' online experiences and engagement. Undoubtedly, the Internet space offers a plethora of opportunities for firms who are not only innovative but also customer-centric B2C eCommerce sites.

It is expedient for 'local' eCommerce sites to integrate online social network (OSN) sites to their websites. However, care must be taken in order to ensure that they communicate effectively by passing the right messages across to their online fan base as well as potential customers.

Indigenous B2C eCommerce sites should endeavour to create sustainable marketing channels through which they can reach their target markets and most notably youths and the rising educated middle-class within the Anglophone West African countries. Arguably, these two segments of the market represent the future of not only the Anglophone bloc in West Africa, but also that of Sub-Saharan Africa as a whole.

By and large, for anyone to make any transaction online, a valid credit or debit card is required. The rate of credit penetration in the sub-region must be of concern to banks and economists at the helm of affairs in the respective central banks. A well-accepted credit card system, trusted websites, electronic transactions legislation and others discussed earlier serve as a good ground for B2C eCommerce and a foundation on which the much desired free trade in West Africa can be built.

There are enormous business opportunities to be tapped from the B2C eCommerce ecosystem within the sub-region and in particular, the Anglophone countries

within this sub-region, if and only if all stakeholders can see the huge economic and social opportunities that eCommerce as a whole presents.

Free trade within ECOWAS is doable and the opportunities inherent in B2C eCommerce should be leveraged upon by member states in a bid to foster more economic integration not just amongst West African countries but also the need to be seen as a global competitive digital player.

Anglophone West African countries must rise to the challenges of the digital economy and 'local' businesses would have to do a re-think of their business strategies because B2C eCommerce is not only fundamentally about selling goods and services, but also, it demands giving customers' new experiences while trust and customer engagement remain the intrinsic dual currencies in the digital landscape.

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