

# Pragmatic Solutions to E-business Challenges in West-African Developing Countries

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**Abstract.** E-business adoption rate has been extremely low mainly in West-Africa mainly because of the digital divide. Nevertheless, given the economic situation of these countries, e-business still remains a viable option. The main objective of this paper is to provide a pragmatic approach for implementing e-business in West-African developing countries. We first identified some common challenges such as insufficient ICT infrastructures, logistics and banking systems and then based on what is already available as infrastructure, we proposed alternatives to be used in an e-business solution designed to help governments address issues like corruption and price fluctuations that continue to plague markets in those countries. The paper also tackles the deployment challenge by proposing wireless technologies as alternatives to costly ICT infrastructures and contributes to promote e-business adoption among developing countries in West-Africa.

**Keywords:** pragmatic e-business, economy, developing countries, West-Africa

## 1. Introduction

E-business has been around for quite a while, yet many developing countries in West-Africa are still struggling to understand how their economies can benefit from it. Also, the very fact that they seem to adopt an endless “wait and see” approach further slows down the adoption of e-business in West Africa. In order to avoid being left behind, these countries need to find a reliable way to embark on the digital era with e-business solutions that are tailored to address critical economic issues. But for this to happen, they need to overcome obstacles due to insufficient ICT infrastructures, logistics among others.

## 2. Literature Review

In the following sections we will review some literature to see why developing countries, in general, still lag behind in terms of e-business development and what the current situation offers in terms of improvement or boost to E-business.

### 2.1. The slow progress of e-business in developing countries

As far as developing countries are concerned, the main factors that prevent them from adopting e-business include the scarcity of ICT infrastructures as well as unfavorable political, economic, social and technological conditions. As a result, many of them end up adopting a “wait and see” approach, i.e. they keep waiting until they reach the “optimum level” in terms of ICT infrastructures (internet, computers, etc.) and other e-business related aspects (e-payment, logistics, etc.) before they would think to make e-business a major component in their economy. Yet another issue is the fact that many SMEs in developing countries do not see the great benefits in e-business and therefore do not commit all their efforts to it. The question

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remains whether there is sufficient information on the web of value to the average developing country entrepreneur to warrant the investment in Internet access [Andrea Goldstein and David O'Connor, 7].

## **2.2. The digital divide, an economic threat for developing countries**

Nowadays, the Internet has become a core feature of the global economy, affecting the way in which people communicate with each other, acquire information, learn, do business, and interact culturally. This gives poor countries and poor people access to markets, information, and other resources that would otherwise have been inaccessible [Andrea Goldstein and David O'Connor, 4]. However embarking on this digital economy requires certain conditions to be met and unfortunately, many developing countries, particularly those in West-Africa suffer from lack of sufficient ICT infrastructures or are not adopting information technologies even if there is a clear advantage in using them. As a result, the digital divide continues to deepen while reinforcing existing income and wealth inequalities within and between countries [Andrea Goldstein and David O'Connor, 4]. Also, companies that attempt to use the Internet to market in countries with emerging economies may face a number of challenges that are more pronounced than would be the case in developed economies [Stephen Hawk, 5]. Therefore, developing countries, like those in West Africa, need to find a reliable way to embark on this digital economy or face the risk of being left far behind other nations who did, but how viable is E-business for these countries.

## **2.3. The gains from e-business to developing countries**

Electronic commerce offers unprecedented opportunities to both developing and developed countries. Developing countries are far behind developed countries in terms of information-technology infrastructure (ICT). Given the cost savings offered by Internet technology and relative ease with which it can be provided, they can now skip several stages of technological development through which developed countries had to go [Panagariya, 1]. Currently, e-commerce revenue in developing countries is miniscule in comparison to that found in the advanced economies [Hoffman, 3]. Predictions are variable, but they tend to point to significant growth of Internet access among businesses and among consumers in many developing countries within the next five to ten years [McConnell, 2]. Therefore in the short run, the gains are likely to be concentrated in developed countries with better ICT infrastructures but, in the long run, developing countries have more to benefit because they can leap frog, skipping some of the stages in the development of information technology through which developed countries have had to pass [Panagariya, 1].

## **2.4. The growing mobile markets in developing countries**

Nowadays, wireless (or mobile) telephony has emerged as a potential solution to the rural telephone deficit. In many low-income countries mobile phones are diffusing rapidly, even in rural areas [Andrea Goldstein and David O'Connor, 7]. According to a report by Vital Wave Consulting, mobile penetration in emerging markets has grown 321% compared to 46% in developed countries since 2002. It is clear now that developing countries are the primary growth opportunity for the mobile industry and with the right business model and there is already a growing trend among businesses to create e-services accessible via mobile phones [Vital Wave Consulting, 6]. One important thing to note here is that mobile technology can contribute to mitigate the impact of the digital divide in developing countries because more and more people in these countries are getting access to information through the use of mobile phones.

## **3. Pragmatic e-business for West African developing countries**

All theory aside, it is important to realize that e-business can become a viable solution if it can help resolve issues that matters the most in West-African developing countries. Also, pragmatism should be the force driving e-business implementation in these countries, because any e-business model that requires significant investment in terms of infrastructure or other non-existing aspects will have a greater chance to fail. From this perspective, let us see some issues that are common to most countries in West Africa and discuss the type of e-business solutions to address them in a very efficient way.

### **3.1. Use E-business to leverage economic development**

In West-Africa, many countries are struggling to boost their economy to a satisfying level that can improve the life of their populations. Their governments have put in place strategies to address issues like the fluctuations of commodities prices, corruption, etc and E-business can help execute these strategies.

- Reduce price fluctuations and inflation

In West African countries, consumers suffer a lot from an uncontrolled fluctuation of the prices of products on the market and it is very common to have an increase of 200% of basic commodities price on the market. This results in a deep inflation, hence increasing the existing poverty. With an adequate e-business platform, the government can make information about commodities prices available to the average consumer and reduce considerably the speculations that cause prices to fluctuate on the market.

- Reducing corruption and strengthening cooperation among local SMEs

Corruption is one of the biggest issues West African developing countries face almost at every level of their society. Major Transactions involving business activities of high importance are not recorded using information systems; this situation opens the door to corruption and business misconduct from local SMEs. Using a B2B or G2B, governments can have a centralized repository of all major transactions with SMEs and will thus require all business participants to refrain from bribing and corruption. Furthermore, by requiring all local SMEs to register on the platform, the government offers them the possibilities to establish reliable supply chains by exposing their products or services to other local enterprises that might need them.

### **3.2. Take advantage of existing infrastructures**

Developing countries can offer their e-business users alternatives to e-payment and e-logistics by using already available infrastructures such as the national post which provides mail and courier delivery as well as money order services. Using these alternatives makes sense in West African developing countries because only a tiny number of their people in have access to computers and those who do, may not have the required skills to complete a transaction on internet.

### **3.3. Government involvement**

The most important player in the economic engine of West African developing countries is the government; most local businesses and services are either run by the government or under government supervision. Also, the government remains the biggest employer because private enterprises are not diversified enough to offer a broad range of economic sectors that can absorb a significant number of the working populations.

Also, unlike developed countries, there is an extremely low rate of literacy in West-African countries and this contributes to create a population of “government followers” who see their government as the only institution they should trust. Therefore, the only way to make anything work in these countries is to get full involvement from the government. This is especially true for e-business because of the possibilities of frauds which are widely spread on the internet and has raised the awareness level of many people in the developed world as well as the developing world.

### **3.4. Take advantage of wireless and mobile technologies**

Since the cost of deploying a wired ICT backbone is too high, the best alternative is to use some new affordable wireless technologies such as 3G and WIMAX technologies. These technologies offer data transmission rates high enough to support the most demanding e- services, making wireless data transmission technologies the most affordable solutions for West African developing countries.

On the other hand, the growing mobile market in West Africa suggests that the best way to provide e-business services to populations is via cell phones phone services which should be designed with an easy interface requiring the minimum interaction in order to provide users with information they need

### **3.5. Use a pragmatic e-business model**

Given the current conditions in West African developing countries (poverty, low income, illiteracy) as well as the cultural environment, it is undeniable that an e-business solution based on a model from some developed countries (Europe, USA) cannot create the same effects nor can it help the economies of these countries. Also business regulations and practices are quite different from those in developed countries, so a

model that matches the environment of West African countries is more than necessary. Taking into account all the factors mentioned previously, a pragmatic model can be designed to include the government at its core in order to direct and monitor most of the e-business transactions. The model includes a B2B platform for the small and medium sized enterprises (SMEs), a B2C platform where businesses conduct business with consumers and another C2C platform for the consumers' community as shown on figure 1.

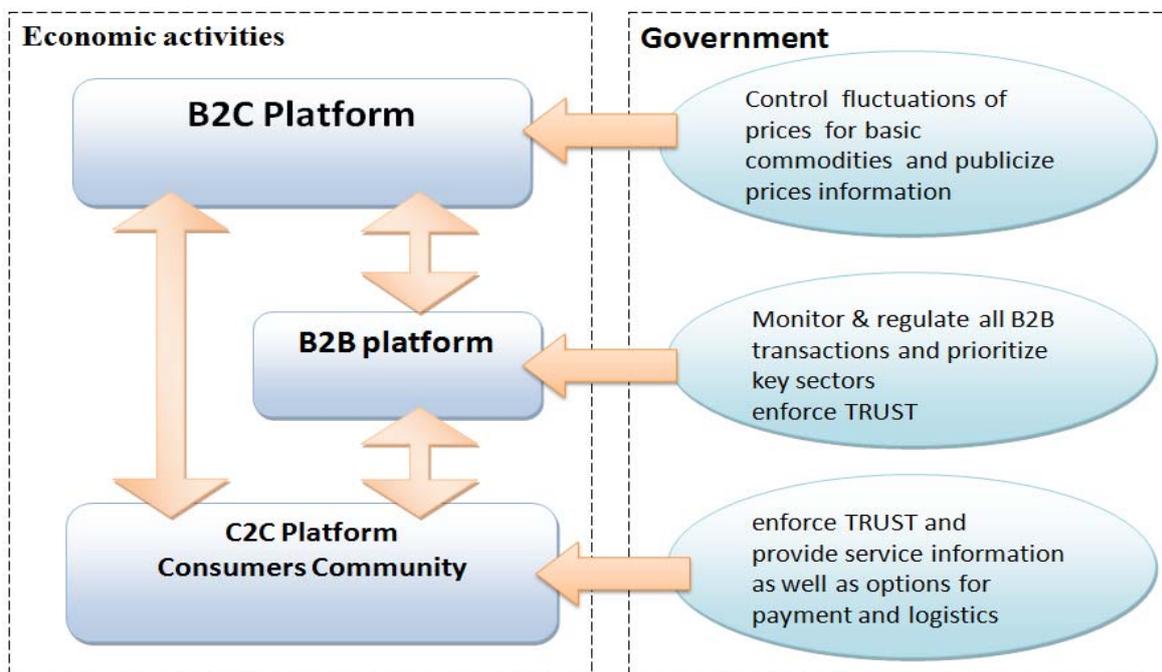


Figure 1. Pragmatic e-business model for developing countries

#### 4. Conclusion

By its nature, e-business presents both opportunities and challenges for developing countries. Opportunities include simplifying the execution of some of their key strategies especially in terms of economic development. This research has put forward some pragmatic solutions to overcome some of the most important challenges facing E-business in many developing countries. Additionally, the e-business model proposed in this research represents a reliable architecture to develop and implement an e-business platform that helps address some common issues in developing countries while ensuring that a great number of the populations can access those e-services through mobile phone services.

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