

Creation and Development of Websites for Small and Medium – size Enterprises (SMEs) in Nigeria

fashanu .o johnson

federal polytechnic kaura – namoda, kaura – namoda, zamfara state, nigeria department of
computer, science p.m.b 1012

jfashanu2003@yahoo.com

Abstract. Small and medium-sized enterprises (SMEs) or small and medium-sized businesses (SMBs) are businesses whose personnel numbers fall below certain limits. The abbreviation "SME" is used in the European Union and by international organizations such as the World Bank, the United Nations and the World Trade Organization (WTO). Small enterprises outnumber large companies by a wide margin and also employ many more people. SMEs are also said to be responsible for driving innovation and competition in many economic sectors. A website can be defined as a collection of web pages (documents that are accessed through the Internet), such as the yahoo website. A web page is what you see on the screen when you type in a web address, click on a link, or put a query in a search engine. Creating a website for a business put such a business on a global scene. This paper focuses on creating website for small or medium business enterprises in Nigeria incorporating into the website; dynamism of web technology capabilities using Hypertext Pre-processor (PHP) and Hypertext Mark-up Language (HTML), hence, promoting the business, allowing for availability of services 24/7, and the use of Uniform Resource Locator (URL) to link to other related website.

Keywords: enterprises, business, web page, Hypertext Mark-up Language, Hypertext Pre-processor, Uniform Resource Locator.

1 INTRODUCTION

Small and medium-sized enterprises (SMEs; sometimes also small and medium enterprises) or small and medium-sized businesses (SMBs) are businesses whose personnel numbers fall below certain limits. Countries around the world have difference concepts on small and medium-sized enterprises though they are all guided by the same principle of the definition of Small and medium-sized enterprises. For instance, The European definition of SME follows: "The category of micro, small and medium-sized enterprises (SMEs) is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding 50 million euro, and/or an annual balance sheet total not exceeding 43 million euro." EU member states have had individual definitions of what constitutes an SME. For example, the definition in Germany had a limit of 255 employees, while in Belgium it could have been 100. The result is that while a Belgian business of 249 employees would be taxed at full rate in Belgium, it would nevertheless be eligible for SME subsidy under a European-labeled program. In South African, Medium-sized businesses usually employ up to 200 people (100 in the Agricultural sector), and the maximum turnover varies from R5 million in the Agricultural sector to R51 million in the Manufacturing sector and R64 million in the Wholesale Trade, Commercial Agents and Allied Services sector. The Central Bank of Nigeria defines small and medium enterprises in Nigeria according to asset base and a number of staff employed. The criteria are an asset base between ₦4 million and ₦500 million, and a staff strength of 10 and 100 employees.

1.1 Web site

A website, also written as web site, or simply site, is a set of related web pages typically served from a single web domain. A website is hosted on at least one web server, accessible via a network such as the Internet or a private local area network through an Internet address known as a uniform resource locator (URL). All publicly accessible websites collectively constitute the World Wide Web. Web pages, which are the building blocks of websites, are documents, typically written in plain text interspersed with formatting instructions of Hypertext Markup Language (HTML, XHTML). The pages of a website can usually be accessed from a simple Uniform Resource Locator (URL) called the web address. Websites can be divided into two broad categories - static and interactive/dynamic. A static website is one that has web pages stored on the server in the format that is sent to a client web browser. It is primarily coded in Hypertext Markup Language (HTML); Cascading Style Sheets (CSS) are used to control appearance beyond basic HTML. Images are commonly used to effect the desired appearance and as part of the main content. Audio or video might also be considered "static" content if it plays automatically or is generally non-interactive. A dynamic website is one that changes or customizes itself frequently and automatically. Server-side dynamic pages are generated "on the fly" by computer code that produces the HTML (CSS are responsible for appearance and thus, are static files). There are a wide range of software systems, such as CGI, Java Servlets and Java Server Pages (JSP), Active Server Pages and ColdFusion (CFML) that are available to generate dynamic web systems and dynamic sites. Web development can range from developing the simplest static single page of plain text to the most complex web-based internet applications, electronic businesses, and social network services. Among web professionals, "web development" usually refers to the main non-design aspects of building web sites: writing markup and coding. Most recently Web development has come to mean the creation of content management systems or CMS. These CMS can be made from scratch, proprietary or open source. In broad terms the CMS acts as middleware between the database and the user through the browser. A principle benefit of a CMS is that it allows non-technical people to make changes to their web site without having technical knowledge.

1.2 Hypertext Preprocessor

PHP is a server-side scripting language designed specifically for web. Within an HTML page, you can embed PHP code that will that will be executed each time the page is visited. Your PHP code is interpreted at the web server and generates HTML or other output that the visitor will see. PHP was conceived in 1994 and was originally the work of one man, Ramus Lerdorf. It was adopted by other talented people and has gone through four major rewrites to bring us the board, mature product we see today. As at January 2013, it was installed on 244 million sites and 2.1 million IP addresses. You can see the current number at <http://php.net/usage.php>. Web development is a broad term for the work involved in developing a web site for the Internet (World Wide Web) or an intranet (a private network).

1.3 Nigerian Communications Commission

The Nigerian Communications Commission is the independent National Regulatory Authority for the telecommunications industry in Nigeria. The Commission is responsible for creating an enabling environment for competition among operators in the industry as well as ensuring the provision of qualitative and efficient telecommunications services throughout the country. Some of the functions of NCC are as follows:

- 1 The facilitation of investments in and entry into the Nigerian market for provision and supply of communications services, equipment and facilities.
- 2 The protection and promotion of the interests of consumers against unfair practices including but not limited to matters relating to tariffs and charges for and the availability and quality of communications services, equipment and facilities.
- 3 Ensuring that licensees implement and operate at all times the most efficient and accurate billing system.
- 4 The promotion of fair competition in the communications industry and protection of communications services and facilities providers from misuse of market power or anti-competitive and unfair practices by other service or facilities providers or equipment suppliers.
- 5 Granting and renewing communications licences whether or not the licences themselves provide for renewal in accordance with the provisions of this Act and monitoring and enforcing compliance with licence terms and conditions by licensees.
- 6 Proposing and effecting amendments to licence conditions in accordance with the objectives and provisions of this Act.
- 7 Fixing and collecting fees for grant of communications licences and other regulatory services provided by the Commission.

It is important to note that everything needed for an online enterprise to thrive in Nigeria have been made available through conscious efforts by the Nigerian government through its agency – The NCC.

2 LITERATURE REVIEW

2.1 Introduction

With the advancement in web technologies and its embracement by people, website has made a significant transition from simple and static websites to dynamic, multimedia rich websites, capable of interacting with visitors in a sophisticated way. Web development is an ever-changing phenomenon, highly sensitive to all the expectations and requirements of a modern web user.

Web development need to harmonize the purpose of the website as well as its structure and interface with the expectations of the users. User-centered design is the solution to meet the expectations of the target web users. User-centered design must consider visibility, satisfaction, legibility, and language while planning the design of website. For the purpose, web developers should consider target users profile, e.g. their age, location, gender, and their education level. Defining the audience of the website, which will be created, requires fulfilling the significant research in order to take the road of success. The notion of web design and development is too broad and versatile; hence, it is not an easy task to define some common features or trends favored by both web developers and users. Managing web quality from the perspective of web developer requires understanding of the web server where site will be hosted, script language to be used at server and client end, browser compatibility issues at client end, web design and programming. Web quality from the perspective of web user is more tilted towards its usability, satisfaction and legibility. The content quality is again a major issue which prompts user to seek information from reputed websites.

The African region is witnessing one of the strongest increases in mobile data use in the world. Forecasts suggest that mobile internet traffic across Africa will double between 2014 and 2015, and will see a 20-fold increase by the end of the decade. As a result of fixed-line limitations, mobile services still represent more than 90% of all telephone lines in service in Africa. The popularity of cheaper prepaid services, which in some markets account for up to 98% of all mobile subscribers, as well as a steady fall in tariffs has meant that an increasing

proportion of the population can both access and afford a mobile phone. According to World Internet Statistics (<http://www.internetworldstats.com/stats1.htm>), Nigeria tops the top 10 African countries internet users

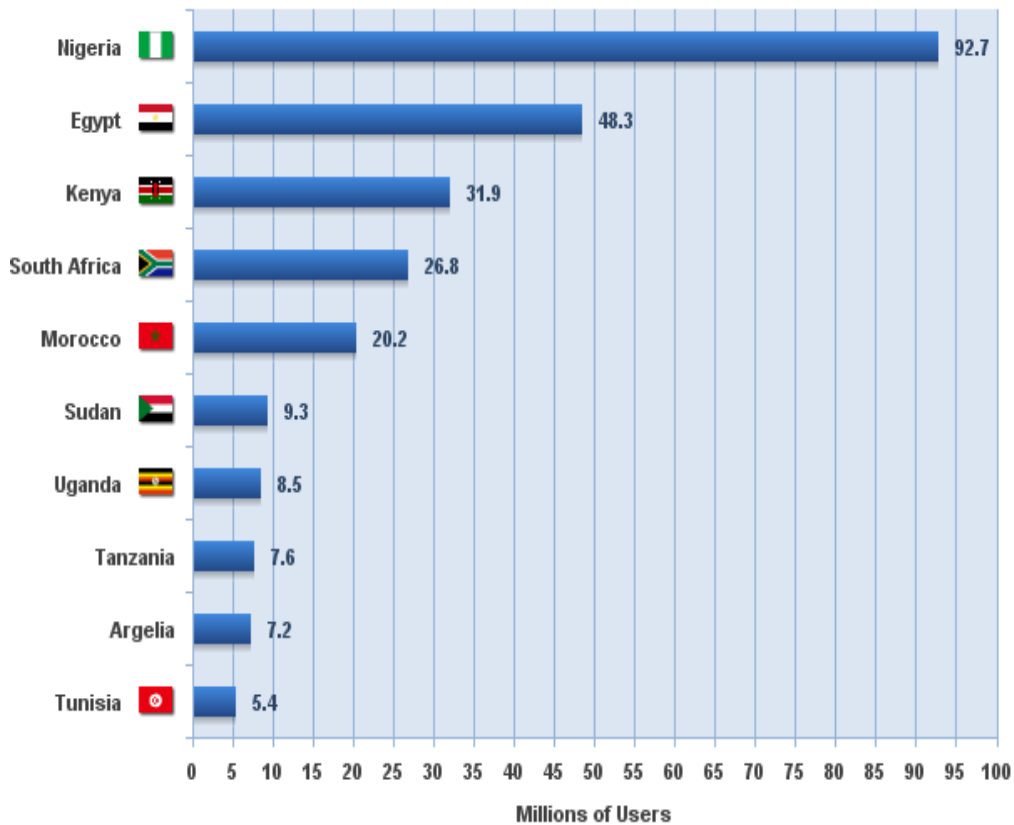


Figure 1 African Top Ten Internet Countries. November 2015.

The development of web has been exponential. Growth of web users has been tremendous and instrumental in development of a totally new web industry.

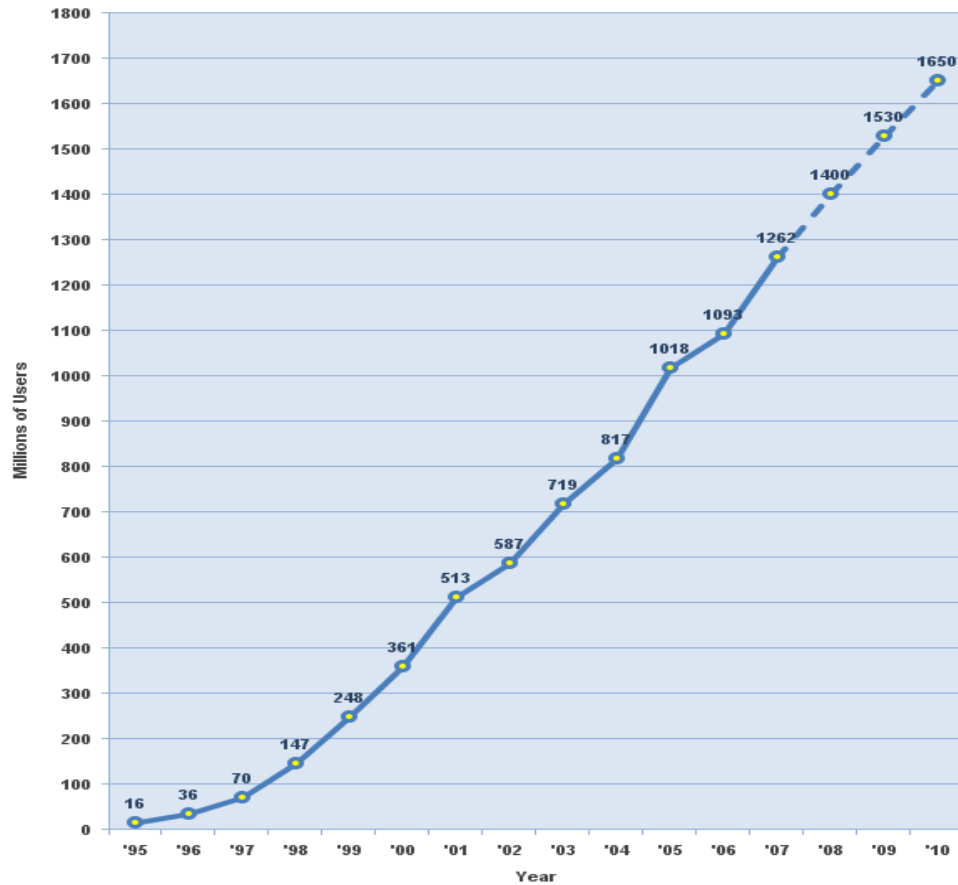


Figure 2 The growth of web users.

The growth in domain name registrations and website development has been multifold in last few years. One of the reasons of this growth is the availability of web development tools and platforms free of charge to aid in development. One of the most common example is the LAMP (Linux, Apache, MySQL, PHP) stack, which is usually distributed free of charge. Another contributing factor towards growth of websites has been the rise of easy to use WYSIWYG (What You See Is What You Get) web development software, most prominently Adobe Dreamweaver, or Microsoft Expression Studio. Within no time, virtually anyone can develop a website using such software even without any knowledge of HTML (Hyper Text Markup Language).

Web is no longer about simple information provider in the form of text and images only. Streaming audio and video content is common today. Media contents are commonly used in Media blocks on websites for a variety of purposes. They make websites look more vibrant, natural and functional. Flash is widely used for animated graphic content of an absolutely different nature – supported with dynamic content, enriched with visual and sound effects. The only problem is its unfriendliness with search engines. The advancement in computer technology has resulted in larger computer displays with higher resolution. Website layouts have accordingly increased its width and height to accommodate larger displays. The layout has become simpler in order to provide more comfort for reading and navigating the site.

Centered orientation is preferred over the previously popular left-site orientation of web pages.

Web development has moved to a new phase of internet communication. The most popular trend of communication on the internet seems to be social networking sites. Facebook and Twitter are two of the most popular social networking sites used to connect with people.

Web Content Management Systems are also widely popular to manage vast range of contents. Many of them are freely available like Joomla and Wordpress, with flexibility of moulding the site as per type of content.

The next generation of web development tools uses the strong growth in LAMP, Java Platform and Microsoft .NET technologies to provide the web as a way to run applications online. Web developers now help to deliver applications as web services which were traditionally only available as applications on a desk based computer.

As the development of web advanced to a new level, the concept of web quality also changed to an extent with certain new factors emerging as its defining criteria. To assimilate the web quality factors reflecting the contemporary advancement in web development, literature review was done.

3 Methodology

The methodology used for this work was observation / Internet, Observation (watching what people do) would seem to be an obvious method of carrying out research. Observation provides contextual information needed to frame the evaluation and make sense of data collected using other methods. The resources used was to observe business websites operating within Nigeria and monitor their activities, such as methods of advertising products, modes of payments employed, etc. The list of the ten most visited websites in Nigeria is as follows: Facebook, Yahoo.com, Google.com.ng, Google.com, Blogspot.com, Youtube, Twitter, Wikipedia, Nairaland.com, Live.com. Potential businesses can make use of these popular web sites to advertise their own websites as well as products.

The following lists are the top ten e-Commerce Sites in Nigeria observed in the course of this research work:

1. Jumia.com
2. Konga.com
3. Kaymu.com
4. Tafoo.com
5. Dealdey.com
6. Wakanow.com
7. Adibba.com
8. Shopaholic.com
9. Buycorrect.com
10. Mallforafrica.com

Table 1 Analysis of Activities of Some E – Commerce Website in Nigeria

WEB SITE	BUSINESS ACTIVITIES	METHOD OF PAYMENT	METHOD OF DELIVERY
Jumia.com	You can find virtually all your house hold needs on Jumia, from consumer electronics to fashion products, etc	Payment on delivery, or online payment through Mastercard/Verve/Visa, via Checkout	At chosen pick point station, or at door step, based on agreed fee.
Konga.com	Konga has a range of consumer electronics, bags, fashion items and many other products.	On this platform some merchants do not offer payment on delivery services, while others do payment could be done through kongapay, or Mastercard/Verve/Visa.	At chosen pick point station, or at door step, based on agreed fee.
Kaymu.com	Kaymu.com business model basically revolves around creating online market platforms that allow buyers and sellers carryout transactions on their website	Payment depends on methods offered by platform (such as Jumia, and Konga above).	Depends on the platform where the transaction was carried out.
Tafoo.com	Tafoo is also not so popular; they have actually been in existence since 2009. Taafoo.com is home to some of the best wearables you can think of.	Payment depends on methods offered by platform (such as papamachine.com).	Depends on the platform where the transaction was carried out.
Buycorrect.com	On BuyCorrect, you can easily place orders for machineries, home and décor, office equipments from the UK and America.	Payment on delivery, or online payment through Mastercard/Verve/Visa/inter switch/quick teller, via Checkout	At chosen pick point station, or at door step, based on agreed fee.

4 FINDINGS/DISCUSSION

4.1 Findings

In the course of this research work, I found that, all most all e commerce in Nigeria accept on delivery payment, with various security checks to prevent activities of fraudsters. Also two key PHP features are dominant on each of the platform which are Carting and Shuffling.

4.2 Discussion

4.2.1 Carting

Cart creation in PHP is a functionality that allows users who visit a website to be able to add and or remove one or more items to a virtual cart on the web site, with the ability to view the whole item, price of each item as well as the total cost of all item. Some of the basic requirements for building an online shopping cart are:

1. Allow the customer to add items to the cart
2. Allow for different quantities of each item
3. Allow the customer to alter the quantities of an item
4. Allow the customer to remove items from the cart

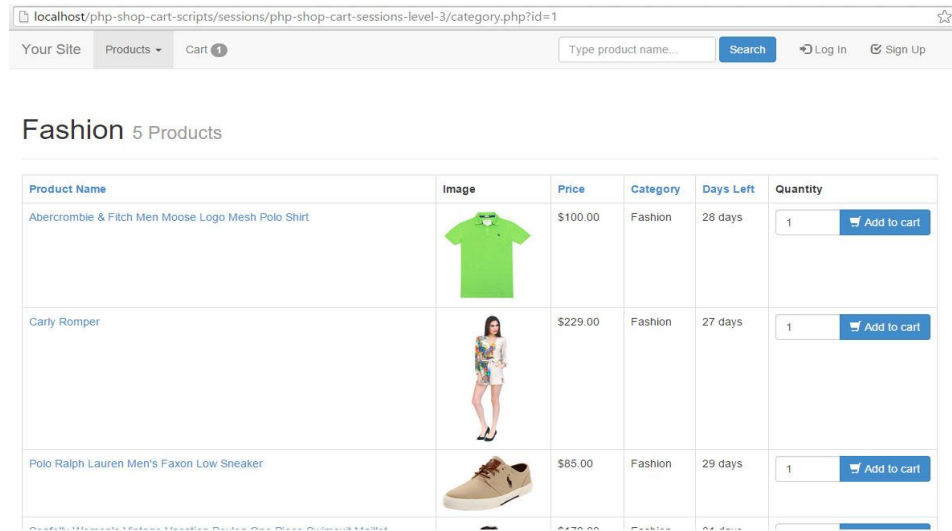


Figure 3. An example of a shopping Cart

4.2.2 Shuffling

The shuffle () function is used to randomize the order of the elements in an array. The function assigns new keys to the elements in array. It works in such a way that each time a page is refreshed; the items in the array are randomly selected and displayed on the page. The syntax is shuffle (array).

5 CONCLUSION/IMPLICATIONS

In conclusion, I will like to state here that Nigeria as a developing nation has a great prospect in the creation and development of websites with dynamic capability, and with the effort of the Nigerian government over the years through its IT agency (the NCC), the Nigerian market is ready for greater expansion.

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