Usability and Accessibility Evaluation of Nigerian Mobile Network Operators' Websites

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Abstract— Usability and accessibility of websites have been a subject of great importance to human computer interaction researchers. Hence, this paper carries out the usability and accessibility evaluation of the four main Nigeria mobile network operators' websites. The websites tested are: www.mtnonline.com, www.gloworld.com, www.ng.airtel.com, and www.9mobile.com.ng. Four online automated tools were used which are: Mobile SEO, WAVE, TAW and Achecker. User testing was also conducted in a controlled environment with forty participants who were given five tasks to perform on the websites. The activities of the participants were recorded using Camtasia studio to get the total time taken to complete the task. Questionnaire for Interaction Satisfaction (QUIS) was used to get users feedback on the tested websites. The QUIS was designed based on five categories with each category dealing with an aspect of usability. The results show that the overall usability level of MTN was the best among the four. This was followed by GLO, 9mobile and Airtel respectively. From the results obtained, it is recommended that the web designers of the mobile network operators compare their website design with web content accessibility guideline (WCAG 2.0) to make sure the different categories of subscribers are satisfied with the features and services provided by the websites.

Keywords— Accessibility, Usability, Websites, mobile network operator,

I. INTRODUCTION

Since the introduction of internet technologies, a new communication channel has been opened for citizens, business organisation and government. This has subsequently paved way for effective and efficient way of access to information and services [1]. Among emerging business organisation, telecommunication sector with focus on mobile services have emerged with a formidable and conspicuous online platform via websites. Through this platform, a lot of services are made available to various subscribers. This unparallel uptake of mobile services in Nigeria and Africa as a whole has no doubt had sizeable direct and indirect impact on the local economies [2].The importance of websites has been increasing with leaps and bounds over the years. Hence, it has penetrated every aspect of life and many business organisation have embraced its usage in dissemination of timely, accurate and up to date information to users.

This is to ensure seamless communication between subscribers and mobile network operators (MNO). In addition to this they intimate subscribers and website users with the avalanche of available products, offers, promos, callers tune, data plan, Frequently Asked Questions (FAQ), customers feedback among others. So, a great level of interaction is expected between the users and the MNOs. This implies that the websites should not only be accessible but must also be usable.

For websites to be usable, the twin's quality of usability and accessibility must be met. It has been proved over the years that these elements are very crucial to the successful deployment of any website by any organization. Hence, tremendous research efforts have been channeled into evaluation websites based on usability and accessibility [3]–[5].

In Nigeria there are four major MNO which are MTN Nigeria communication Limited (MTN), Globacom limited (GLO), Airtel Nigeria (Airtel), and EMTS Limited (now 9mobile but formerly known as Etisalat). All these MNO use GSM and HSDPA technology. As at December, 2018 MTN has 67,133,009 million subscribers, GLO has 45,255,297million subscribers, Airtel has 44,180,484 million subscribers and 9mobile has 15,917,015 million subscribers [6]. So, these amount to over 172 million mobile subscribers as at 2018. Expectedly, some of these subscribers will have one reason or the other to carry out some tasks on the MNO websites. Hence, there is need for good usability and accessibility.

These MNO all have an online platform to provide services to their subscribers at any particular point in time. Thus, it provides easy means of accessing their services to their subscriber's. Presently the mobile network operator websites are being underutilized because most subscribers prefer to call customer care than to go online to solve their problem and not all their subscribers have access to the internet. MNO in Nigeria have websites so that their subscribers to get update of their services online, but they still make use of short message services (SMS) to send messages for their tariff plans updates, caller tunes among other services. The reason according to some subscribers is that the websites are not effective, efficiency and satisfactory enough. More so, they are not up to standard, most of the feature are not functional, and they are not well structured. Since, various services are being provided by these MNO on the websites which users interact with them always. Hence the need arises to