NO: 46 PERSPECTIVES OF STAKEHOLDERS ON THE MAY/JUNE WEST AFRICAN SENIOR SCHOOL CERTIFICATE EXAMINATION (WASSCE) ELECTRONIC REGISTRATION SYSTEM IN GHANA

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ABSTRACT

The mandate of The West African Examinations Council (WAEC) is to determine and conduct examinations in the public interest for English speaking countries in the West African sub-region. The Council is also expected to release results within three months after the last paper to pave way for candidates who write its examinations to continue with their education at the tertiary level. The first step towards the realization of these goals is the registration of prospective candidates. The traditional way of obtaining bio-data and other information from candidates was through manual completion of registration forms. With the continual increase in candidature, there was a transition of the registration process from the use of manual to electronic, which has made it possible for the Council to meet target dates for processing and release of results. The study highlighted the acceptance and use of the electronic registration portal for the May/June West African Senior School Certificate Examination (WASSCE). It also sought views and perspectives on the system from stakeholders in order to identify its strengths and weaknesses with a view of improving it. The study employed the survey approach and used the purposive and random sampling techniques. Descriptive statistics analysis technique was used for analyzing the data. The findings of the study included a total acceptance of the electronic registration system as an effective means of capturing data of a large number of candidates within a short period. The registration officers' inability to correct errors after the submission of the data to WAEC was indicated as a weakness of the electronic registration system. It was recommended that the software must be upgraded to be more efficient to ensure easy and fast registration. Adequate and regular training for the personnel involved in the school registration was also suggested.

Keywords: Stakeholders, Electronic Registration System, May/June West African Senior School Certificate Examination (WASSCE), Strength, Weakness

1. <u>INTRODUCTION</u>

Electronic registration, e-registration, web-based registration or online registration is an electronic version of a manual registration. A successful and well implemented electronic registration system provides easy accessibility, database management, less frustration and accommodation of an increasing candidature.

Gbola (2010) sums up the benefits of electronic registration as a system that allows institutions to focus less on processing paperwork and more on meeting the educational needs of their students and having a cost-efficient, secure registration process.

Electronic registration sites are mainly portals. Pena-Lopez (2007) describes a portal as a site on the World Wide Web where relevant information can be accessed. Brakel (2003) also indicate that a portal provides an infrastructure through which end-users can gain effective access to information sources needed to assist in daily tasks. The portal has therefore become a platform for governments, companies/entrepreneurs and educational institutions to tap from its technology to enhance their businesses.

Examining bodies have also taken advantage of the advancement in technology to boost their delivery processes from the initial registration stage to the final issuance of certificates.

The West African Examinations Council (WAEC) is one of such organizations. Members of the Council are Nigeria, Ghana, Sierra Leone, Liberia and The Gambia. Being the main examining body in each member country, it plays a very important role in the educational delivery system through the assessment of candidates at the end of different pre-tertiary levels. Established in 1952, it has the mandate to conduct examinations and award certificates comparable to those of equivalent examining authorities internationally (The West African Examinations Council Ordinance No. 40 of 1951). This responsibility calls for professionalism as well as excellence in the discharge of its work because the results are used for selection into tertiary institutions and for employment purposes (Quagraine, 2006). Consequently, the Council has tapped on the emerging technological transformation over the years.

Adeyegbe (2006) traced the history of the Council's use of automation in its processes from 1957 when Hollerith punch card machines handled all aspects of its examinations - from receipt of entry to the printing of certificates. This continued until the 1970s when they were replaced by Optical Mark Readers (OMRs). Continual increase in candidature together with the educational reforms led to the need to address the emerging concerns over quality of entry data, duration of processing of entries, security and storage of entry documents/ assessment data. Other concerns were the physical transfer of data from the satellite stations/branch offices to the main computer installation, release and communication of results to stakeholders, logistics and escalating costs.

Electronic registration was however pioneered in Nigeria by the Joint Admission and Matriculation Board (JAMB) that discarded the old method of manual registration and adopted the online registration which is the system currently in vogue worldwide. It began with the electronic registration of thousands of candidates for its examinations in 2003 (Vanguard Newspapers, 2006).

Many institutions in Nigeria realized the potential of the portal technology and as they developed and implemented it successfully, the Nigeria National office of The West African Examinations Council joined, thereby overcoming challenges associated with the manual registration. The Nigeria National office embarked on electronic registration for the first time in November 2004, registering over 1.1 million candidates for the May/June 2005 school examination. The online registration of private candidates for the November/December WASSCE came on board in 2005 (Adeyegbe, 2006).

The Ghana National office had also been experiencing difficulties over the past few years with the processing of large numbers for its examinations especially at the pre-examination stage due to poor handling of registration forms. In 1993, when the Senior Secondary School Certificate Examination (SSSCE) for school candidates was introduced, the candidature was 42,105. By 2004, the candidature had risen to 96,687. The candidature for the SSSCE for private candidates (PC) which started in 1999 also increased from 33,824 to 126,702 in 2004. In an attempt to find a lasting solution to these developing phenomena, the secretariat supported the piloting of an Online Registration System using the 2005 SSSCE (PC) examination. Following the successful implementation of the innovation, the system was employed fully in the registration of candidates for the November/December 2006 SSSCE (PC) which had 115,202 registrants. Electronic registration for school candidates started in 2007 and at the end of the period 134,035 candidates had registered (WAEC Annual Reports 1993-2007).

It is worth noting the difference between the two forms of electronic registration adopted by The West African Examinations Council, namely the online and offline registration.
For school candidates, both the online and offline application are used for the registration. At the inception of the new system, schools registered their candidates offline. They were given the registration software on a Compact Disc (CD) which they installed on their computers and the entries were submitted to the Council on CDs. Presently, schools download the software from the internet using a PIN provided by the Council and then register the candidates offline. At the end of the registration exercise, the entries are uploaded but each school submits a statement of entries, the photo file of the candidates and a backup of the software to the Council on a CD. Late registration is however done online by the participating schools. Private candidates, on the other hand, used to purchase scratch cards from WAEC authorized sales outlets and registered online at the Council's website. Presently, private candidates register online but their registrations are deemed complete after payment of the computer generated fees at any of the specified banks.
Also, batch registration (where multiple entries can be made at a time) is involved in the mode of registration for the school examination, whereas the private examination is on a single entry basis. However, institutions registering candidates for the private examination, also use batch registration.

2, LITERATURE REVIEW

A study by JISC Regional Support Centre, London, on Richmond Adult Community College (2008), showed greatly improved timeliness and efficiency of getting learner feedback than the previous paper-based process. Many of these modules enabled them to obtain bespoke systems more cost-effectively. Their first priority was to use new technologies to reduce transaction

costs between the college and the public by getting prospectus online, web based enrolment, web registration, timetable module, online helpdesk and electronic payment. The outcome of this project includes reliable electronic registration linking the student database to finance systems and modules for payroll and staff development which ensured accurate payments and strong financial control.

The simple web-based Quality Assurance System was an early action that Matovu (2009) introduced in a study titled "Availability, Accessibility and use of ICT in Management of Students Academic Affairs in Makerere University". This study emerged due to mismanagement of students academic records such as loss and miscalculation of marks. It established how ICT affected management of students' academic affairs. His findings indicated that internet facilities, computers, management information systems, electronic databases were all available and accessible to administrators, lecturers and students though with restricted access for viewing results, record keeping, setting and marking exams. ICT for registration was used for tracking students' registration progress by administrators and academic staff, underlining the fact that technology is beneficial to organizations.

Gbola (2010) in a study on Students' Perceptions of E-Registration at Ladoke Akintola University of Technology, Nigeria, showed that the use of electronic registration by students had made more time available for them to do other things, whereas they spent so much time on manual registration. He went on to suggest that more features such as access to results, chat facility, etc could be added to the portal while its management could also be made better to avoid issues such as course codes not matching course titles, pin rejection, etc to ease the frustration of users. In addition, he recommended that studies on electronic registration user requirements should be continuous and at intervals so that managers would receive feedback with a view of improving the system.
His research supported user satisfaction and portal reliability in line with the findings of Tarn, Razi, Wiley and Hsu (2007) and that of Crawford, Vicente and Clink (2004) in studies on the use of electronic information services by students at Glasgow Caledonian University.

3. OBJECTIVES

It is important for an institution to take into consideration user perceptions, requirements, needs and challenges when electronic registration and associated services are being initiated. The May/June WASSCE electronic registration system had been in existence for seven years now. The aim of the study was therefore to assess the effectiveness of the system over the manual form of registration. What is not known are the undocumented challenges associated with this kind of registration procedure.

The study therefore sought to:
(1)   find out whether the system was useful;
(2)   identify its strengths over the manual method of registration;
(3)   identify the weaknesses/challenges since its inception;
(4)   suggest ways to improve the electronic registration system.

4. METHODOLOGY AND DESIGN

The study employed the survey approach. Two (2) sets of questionnaires were developed for School Registration Officers (made up of Heads of School/Assistant Heads/ IT Officers) and WAEC Staff in the Test Administration/Computer Service Divisions. Questionnaires were distributed in all the 10 regions using purposive and random sampling techniques. Completed questionnaires questionnaires from 256 Registration Officers and 16 Staff were analyzed.

5. FINDINGS AND DISCUSSION

(1) Strengths

The registration officers and the WAEC staff mentioned that the electronic registration system was fast, easy to use and it generally reduced the registration time. Figures 1 and 2 respectively depict that 33.86% of the registration officers and 26.67% of the WAEC staff stated these features as strengths of the system. This finding is in line with the features indicated by Adeyegbe (2006) that electronic registration is fast and therefore registration time is greatly reduced. 53.33% of the WAEC staff stated that errors could easily be detected and corrected. This position was also affirmed by 12.20% of the registration officers. Other strengths from the registration officers were that the system was efficient (27.1%), less labourious (10.63%), ensured verifiable data (8.66%) and was able to take care of large candidature (7.48%). An additional strength indicated by the WAEC staff was the reduction in the usage of paper.

Fig 1: Strengths of the Electronic Registration System identified by Registration Officers
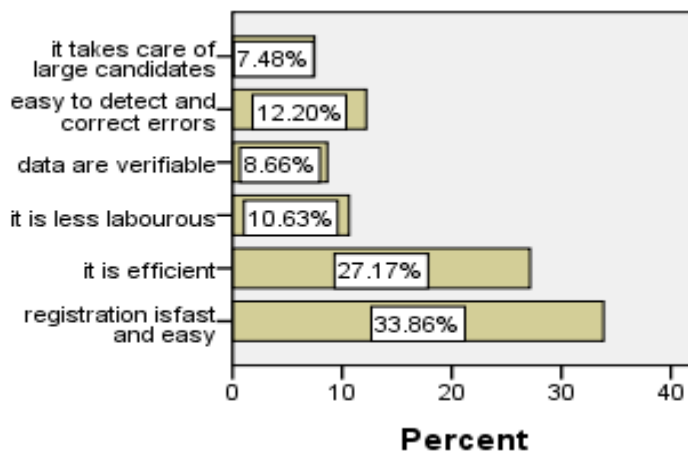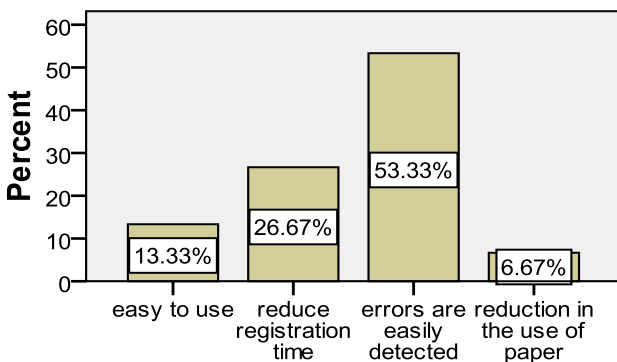
Fig 2: Strengths of the Electronic Registration System identified by WAEC Staff

The strengths have enabled the Council to cope with the increasing candidature in all of its examinations. With a very reliable data obtained at the registration stage, results have been processed faster and released in less than 12 weeks from the date of the last paper taken and this feat has won the satisfaction of its stakeholders. Senior high school candidates, for instance, do not have to wait for a year before they could continue with their education. The reduction of paperwork which was indicated by the WAEC staff has made registration cost-effective and enabled the Council to store registration documents better. Electronic registration has also reduced the period used for processing of the registration data and consequently, the Computer Services Division is able to produce reports and other documents (for example packing lists), which hitherto took a longer time to be delivered to the user departments.

(2) Weaknesses

In figure 3, the registration officers (31.10%) identified slow internet connectivity as a weakness to the electronic registration system. This challenge affected the uploading of data at the end of the registration exercise. Those who expressed concern about their inability to correct errors after the submission of the data to WAEC were 19.69%. After submission, they expected WAEC to give them access to the data again for final correction. Over six percent (6.30%) of them were also not happy about the fact that the electronic system of registration rejected some subject combinations during the registration exercise. Other weaknesses stated were difficulty in completing the continuous assessment scores (11.81%), unavailability of the registration information at times (11.81%), the difficulty in registering 1,000 candidates or more (9.84%) and mismatched candidate pictures (9.45%).

Figure 4 shows that 40.00% of the WAEC staff indicated that the registration software was not sufficient enough to verify entries. They were also concerned about inadequate computers in their offices (33.33%). Other weaknesses reported by them were the quality of CDs used by schools to input data to the Council (13.33%), network failure (6.67%) and inability of the system to detect barred candidates (6.67%).

Fig 3: Weaknesses of the Electronic Registration System Identified by Registration Officers
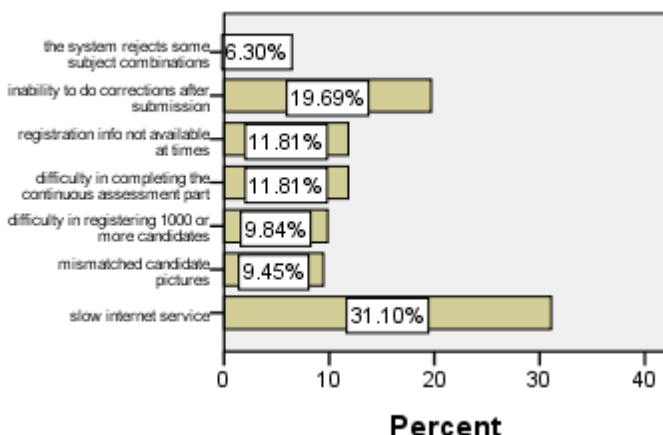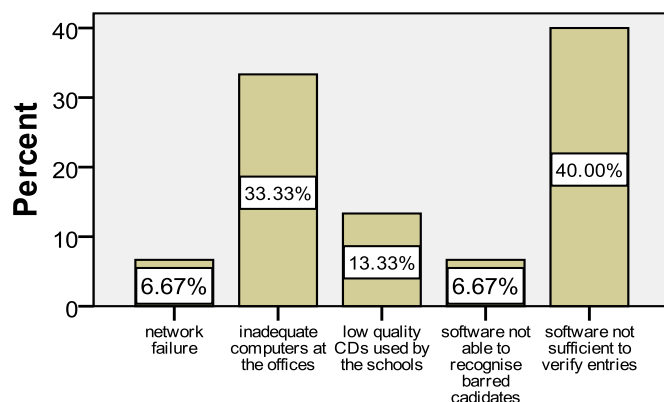

Fig 4: Weaknesses of the Electronic Registration System Identified by WAEC Staff

The electronic registration system limits candidates to the approved subject combinations set by the Curriculum, Research and Development Division of the Ghana Education Service (GES). That outfit determines the subject combination for the various programmes and not the Council. It is therefore very crucial for heads of senior high school to adhere to the acceptable subject combinations when choosing subjects for the various programmes, otherwise they may encounter challenges during registration process.

To minimize errors, officers were advised during the briefing sessions to allow candidates to verify their bio-data thoroughly before the transfer of data after which the system limits them to correction of errors in gender, subjects and date of birth. Unfortunately, some registration officers do not adhere to the guidelines stated in the manual.

On the issue of slow connectivity, exploring the services of other networks to find the most suitable one may help in addressing the shortcoming.

(3) Suggestions to overcome weaknesses

Both registration officers and the WAEC staff made some suggestions to overcome the weaknesses as shown in Figures 5 and 6. Regular training was indicated by 25.59% of registration officers and 13.33% of staff. Technology to prevent hacking/cyber attack was 8.66% and 33.33% respectively. Other suggestions by the registration officers were the upgrade of the system to be more efficient (23.23%), the extension of the registration period (16.14%), availability of the system at the right time (14.96%), be flexible to accept other subject combination (4.72%) allow picture data correction (3.94%), and provision of IT facilities to schools (2.76%). The staff, on the other hand, called for a system that would allow only eligible candidates to register (20.00%), taking the input of users into consideration before upgrading the system (20.00%) provide adequate facilities in the offices (6.67%), and ensure fast internet process (6.67%).

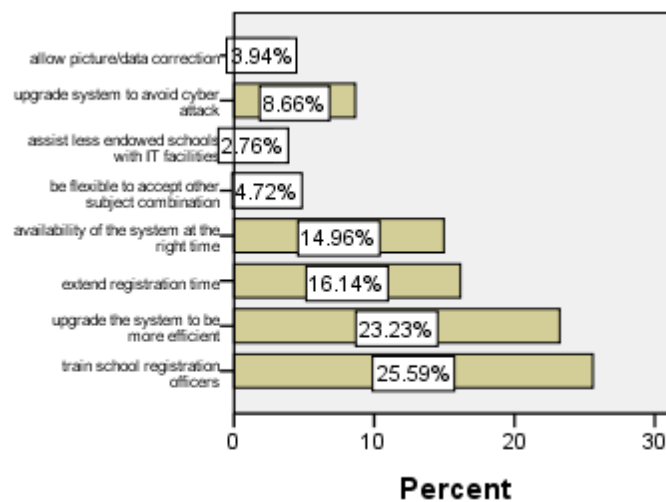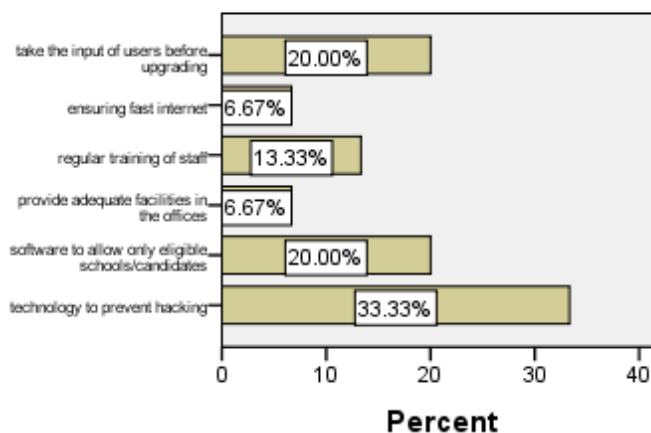**Fig 5: Suggestions by Registration Officers on how to Overcome the Weaknesses**

Fig 6: Suggestions by WAEC Staff about how to Overcome the Weaknesses

6. CONCLUSION

The study concludes that the electronic registration system reduces the registration time as compared to the manual registration. Again, it is less labourious and can also take care of large candidature.
Respondents identified inefficiency about the software with respect to input of continuous assessment scores as a weakness. All the stakeholders also raised concerns about training. Other weaknesses identified were the inability of registration officers to correct registration data such as names and photographs after submission and slow internet accessibility.

To address these weaknesses, the following suggestions were made:

➢ The entire registration software must be upgraded by the service provider to be more efficient to the users in order to ensure easy and fast registration of candidates since the electronic registration has come to stay.
➢ WAEC must give adequate and regular training to the personnel directly involved in the school registration for them to understand issues such as the subject combinations, picture editing and the need to adhere to the registration guide.
➢ Stakeholders must provide adequate and appropriate IT facilities to ensure smooth registration. Again, they should put their heads together and address the weaknesses of slow internet service.

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