# THE IMPORTANCE AND CHALLENGES OF BIOMETRIC MACHINE IN SCHOOL SUPERVISION. A CASE STUDY OF ACCESS HIGH SCHOOL, CALABAR.

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**ABSTRACT**
Schools in the 21st century are supervised and managed electronically with the use of computer system and other electronic device. Biometric machine as one of such device is a unique machine capable of managing time attendance in any school or organization such as employee work hour, resumption and departure time, number of hours worked, number of days at work, amount of extra hours worked, amount of extra hours incentives earned, adequate staff monitoring, existence of ghost workers, number of punctual employees, number of late employees and number of absent employees. But there are numerous challenges faced by principals and school supervisors in using this wonderful machine. This paper seeks to identify these challenges and profound solutions to them. Questionnaires were designed, distributed and completed by twenty four administrative staff, fifty two teaching staff and fifty two staff from other department in Access High School, Calabar municipality in Cross River State. The departments were selected as a cluster to represent the school generally. Results indicated that administrative staff and the teaching staff believe that biometric machine strengthen their commitment to work as they are being monitor and paid accordingly. While other staff including kitchen, library, security, gardeners etc. believe that the use of biometric machine in school supervision contribute to the shortage in their salary. The paper concludes that the negative perception about the use of biometric machine in school supervision can only occur when the machine is faulty or as a backup battery problem and that biometric machine is a blessing for school supervisors and administrators and it makes their work more efficient than before.

**Keyword:** Employees, School supervision, Biometric machine, Management, System, control.

## Introduction

This paper is concerned with identifying the importance and challenges of using biometric machine in school supervision. Supervision is a way of stimulating, guiding, improving, refreshing, encouraging and overseeing certain group with the hope of seeking their cooperation. School supervision therefore is essentially the practice of monitoring the performance of school staff, noting their effectiveness and

their challenges and using appropriate and methods to ameliorate the flaws while still improving on the effectiveness thereby increasing the standard of schools and achieving educational goals (Ogunsaju, 1983; Effiong and Ekpo, 2016; Etim, Upula and Ekpo, 2016; Odu and Upula, 2016; Akpabio and Ogiriki, 2017).

According to Adepoju (1998), the term supervision is derived from word "Super video" meaning to oversee. Adepoju (1998) defines school supervision as the process of bringing about improvement in instruction by working with people who are working with pupils. It has also been described as a process of stimulating growth and a means of helping teachers to achieve excellence in teaching. Supervision in school therefore is a vital process and combination of activities which is concerned with the teaching and improvement of the teaching in the school framework.

The traditional method of supervision in Nigerian schools has pose great challenges due to it mechanical means of supervising marked by strenuous monitoring of teachers and the crude method of taking attendance. The foregoing calls for schools to be supervised and managed electronically with the used of Biometric machine for efficiency and productivity which is an emerging trend in school supervision. This is because human fingerprints cannot be forged, copied, stolen or borrowed; they are absolutely unique per individual. Biometric machine uses conventional access control methods, such as PIN codes, access cards or keys. Time and attendance tracking based on biometric technologies is most reliable, accurate and cost-efficient method of controlling employees in an office. Key elements of a good time and attendance system are ease of use, efficiency, accuracy and flexibility. Based on this premise, it becomes

paramount to theoretically consider how biometric exercise can be realistic in school supervision in Nigeria especially, in this era of computer age.

**Statement of Problem**

Considering the fact most schools in Nigeria are owned by government or private individuals and managed by various head teachers or principals, maintaining an effective supervisory method pose challenge. Any attempt to achieve the supervisory objectives of the school by varying administrators with different degree of performance in discipline cannot still solve the problem of managing the school crises on late payment of salary, improper cutting down of staff salary, lateness to school by staff and other administrative lapses due to the regular biometric machine malfunctioning used by the school for staff attendance. Some staffs are lay off and some their salary are cut down due to wrong report generated from biometric machine when it malfunctioned.

In the light of the above problems, this study is designed to investigate the extent to which biometric machine can be of supervisory importance to the school and to create a means in solving the challenges faced by the management and staff of any school or establishment who may be faced with similar problem.

**The Implication of Biometric Exercise in School Supervision**

Supervision is essentially the practice of monitoring the performance of school and the staffs. Supervisors with higher qualifications are more likely to perform better in the field than those with lower qualification. According to Okoro (2004), education personnel with higher qualifications display more confidence in their workplace. In addition, they are more accessible to quality information, and adapt to changing working conditions than their

counterparts with lower qualification, who are usually more indisposed and ill-equipped in adapting to modern changes. The introduction of biometric machines as an automated time attendance and access control becomes a good problem for lower qualification supervisor. Based on advance biometrics technology designed to manage employees' daily attendance and eliminate the inherent lapses of the traditional paper attendance sheets and other time thefts, it also equipped with a dual function of access control where you can restrict human access to specific operational areas (Tracy, 2012).

According to Ogunu (2005) secondary school principals are so weighed down by routine administrative burden that they hardly find time to visit the classrooms and observe how the teachers are teaching. Biometric exercises therefore manage employees' daily attendance report and eliminate the inherent lapses of the traditional paper attendance sheets and other time thefts.

Biometric exercise there exist to achieve the under listed;

- **Staff scheduling:** with biometric application, you can flexibly configure personal staff shift schedules. Which Take care of over-timers, night reports, under-time, early-hour-out, etc.

- **Flexible Reporting System:** There is no point in collecting data without using it properly afterwards. Biometric machine provide you with great-looking and ultimately detailed reports covering every check-in and check-out in the system, any location change and a complete summary of users' working hours. Biometric machine provide principles or human resource managers and business owners with a one-click method of taking a snapshot of the company's

performance with our Statistical Chat Systems.

- **Automated Payroll Calculation:** Monitoring results can be easily exported to a file for further processing in your accounting software. Biometric machine automatically tracks the total time worked, the time worked at nights, duration of overtimes – everything that, multiplied by an agreed base rate, produces the amount to be paid.

- **Support for a large branch network:** the client-server architecture of Biometric machine makes it completely suitable for companies of all sizes and with any number of offices and staff. The data collected from the device is always sent to the central server, so you can efficiently monitor the performance of your staff without leaving your own workplace. No matter how geographically distributed your school is, you will always stay informed.

**Importance of Biometric Machines**
i. Biometric machines uses a personal unique identity of individual to enable a purchase activates something or unlocks something. Biometrics encompasses Voice, Vein, Eye, Fingerprint, Facial recognition and more which are difficult to duplicate and so reduce any form of thefts.
ii. The disadvantages are numerous however: criminals have been known to remove fingers to open biometric locks, Biometrics requires a lot of data to be kept on a person, these systems are not always reliable as human beings change over time if you are ill; eyes puffy, voice hoarse or

your fingers are rough from laboring for example it maybe more difficult for the machinery to identify you accurately. Every time you use Biometrics you are being tracked by a database bringing up a range of privacy issues. The final disadvantage is the expense and technical complexity of such systems.

**CHALLENGES OF BIOMETRIC MACHINE IN SCHOOL SUPERVISION**

- The finger print of those people working in laboratory (especially in the chemistry and biology laboratory) is often affected. Therefore the use of finger print as mode of authentication becomes unfavourable to them.
- It is found that with age, the voice of a person differs. Also when the person has flu or throat infection the voice changes or if there are too much noise in the environment this method may not authenticate correctly. Therefore this method of verification is not workable all the time.
- For people affected with diabetes, the eyes get affected resulting in differences.
- The cost of securing and maintaining a biometric machine poses a serious concern to its use as a means of supervision in school management/administration. Perhaps, the school management may secure one, the issue of maintenance when it develop fault has pose a major setback to school supervision. Hence, biometrics is an expensive security solution.

**Methodology**

This research adopts a mixed method, using qualitative and quantitative approaches to define and outline the perceptions of management and staff of Access High School, in Calabar municipality of Cross River State. Twenty four administrative staff, fifty two teaching staff and fifty two other staff from other department were selected as a cluster to represent the school in generally. Relevant literature was reviewed, staff were interviewed, and questionnaires were also designed and distributed to find out their own experiences and opinions in the used of biometric machine in school supervision. Questionnaires were gathered and data was analysed and presented in tables and percentages. The results were then presented and compared with the percentages among school administrators and supervisors.

**RESULTS AND DISCUSSION**

Data in Table 1 below shows result on administrative staff response to the use of biometric machines in school supervision.

**Table 1: Respondents response on if administrative staff like the use of biometric machine in school supervision?**

| Administrative department | Yes | | No | |
|---|---|---|---|---|
| | F | % | F | % |
| Principals and vice principals | 4 | 100 | - | - |
| ICT | 10 | 90 | 2 | 10 |
| Secretaries | 10 | 90 | 2 | 10 |
| **Total** | **24** | **93.3** | **4** | **6.7** |

**Source:** Survey Result, 2017

Table 1 indicates that 56 (or 93.3%) of the administrative staff like the use of biometric machine in school supervision.

Data in table 2 also show teaching staff response on how biometric machine strengthens their commitment to work.

**Table 2: Respondent responses on if biometric machine strengthen commitment to work?**

| Teaching staff | Yes | | No | |
|---|---|---|---|---|
| | **F** | **%** | **F** | **%** |
| Teachers | 20 | 100 | - | - |
| Class attendance | 15 | 75 | 5 | 25 |
| Laboratory attendance | 17 | 85 | 3 | 15 |
| **Total** | **52** | **86.7** | **8** | **13.3** |

**Source:** Survey Result, 2017

Table 2 indicates that 52 (or 86.7%) of the teaching staff believe that biometric machine strengthen their commitment to work as they are being monitor and paid accordingly.
Respondents' responses from other staff on if biometric machine can cause shortage of salary are presented in Table 3 below.

**Tables 3: Respondents responses on if biometric machine cause shortage in staff salary if the machine is faulty?**

| Other staff | Yes | | No | |
|---|---|---|---|---|
| | **F** | **%** | **F** | **%** |
| Library staff | 17 | 85 | 3 | 15 |
| Cleaners | 17 | 85 | 3 | 15 |
| Kitchen and Securities | 18 | 90 | 2 | 10 |
| **Total** | **52** | **86.7** | **8** | **13.3** |

**Source:** Survey Result, 2017

Table 3 indicates that 52 (or 86.7%) of the other staff including kitchen, library, security, gardeners etc. believe that the use of biometric machine in school supervision contribute to the shortage in their salary.

**CONCLUSION AND RECOMMENDATIONS**

Biometric machine increase security - Provide a convenient and low-cost additional tier of security. It reduces fraud by employing hard-to-forge technologies and materials. For e.g. minimize the opportunity for ID fraud, buddy punching. Biometric machine also eliminate problems caused by lost IDs or forgotten passwords by using physiological attributes. For e.g. prevent unauthorized use of lost, stolen or "borrowed" ID cards.

Reduce password administration costs, replace hard-to-remember passwords which may be shared or observed, Integrate a wide range of biometric solutions and technologies, customer applications and databases into a robust and scalable control solution for facility and network access, make it possible, automatically, to know WHO did WHAT, WHERE and WHEN. Biometric machine offer significant cost savings or increasing ROI in areas such as Loss Prevention or Time & Attendance and unequivocally link an individual to a transaction or event.

The following recommendations were made based on findings from the study;

i. The finger print of those people working in Chemical laboratory in the school or chemical industries are often affected. Therefore the schools management should device a means whereby these categories of persons will be considered in school supervision through biometric exercise.

ii. It has been found out that with age, the voice of a person differs. Also when the person has flu or throat infection the voice changes or if there are too much noise in the environment this method may not authenticate correctly. Therefore this method of verification is not workable all the time

iii. For people affected with diabetes, the eyes get affected resulting in differences.

iv. Biometrics is an expensive security solution. Schools or organization who can afford the biometric machine.

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