

# **Awareness and Accessibility as Correlates of Utilization of Information and Communication Technology for Officiating Sports in Nigeria**

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## **Abstract**

*Sport officials in the developed world are aware of information and communication technology (ICT) for officiating sports, have widespread acceptance as they are aware and utilize ICT for sports officiating as well as that it led to efficiency in sports officiating. However, the level of awareness, availability which culminates to access to ICT leading to efficiency of sports officials in Nigeria while officiating sporting events in Nigeria was observed to be low. In light of this, the purpose of this study was to investigate awareness and accessibility as correlates of the utilization of ICT for officiating sports in Nigeria. The research was conducted using a descriptive survey approach. The research focused on a total of four thousand (4,000) sports administrators in Nigeria, with eight hundred (800) respondents being sampled. Purposive sampling methodology was used to select seven (7) states and the Federal Capital Territory (FCT) Abuja, making eight (8) states that were selected for the study. A hundred sports officials from each state were chosen using a basic random sample procedure with no replacement balloting. The survey only included 726 individuals who completed the questionnaire correctly. Data collected was analyzed using mean, Product Moment Correlation Coefficient (PPMC) and Regression analysis. It was found that Sports officials are not aware about utilization ICT for officiating sports in sports councils, ministries of sports, and sports federations in Nigeria and accessibility to ICT equipment for officiating will lead to efficiency on the part of sports official in Nigeria.*

*Based on the conclusions, it was therefore recommended that Sports officials in various sports should be exposed to ICT officiating equipment through trainings such as workshops whereby these equipment will be used in their presence and Nigeria sports officials should be sent to international competitions where these equipment are available so they can have a firsthand knowledge of how to operate these gadgets and Efficient performance on the part of sports official in Nigeria can only be achieved when the equipment are available. Therefore, officials should be provided with ICT equipment to officiate. They should be trained and equipped with the knowledge to operate the complex equipment to enhance accurate judgement of athletes' performances.*

**Keywords:** *Accessibility, Awareness, ICT, Sports Officials*

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## **I. Introduction**

ICT equipment are computerized and electronic gadgets that are used to facilitate measurements of athletes' performance during trainings and competitions. Aribamikan (2022b) in his findings stated that few ICT equipment for sports officiating were available in Nigeria namely electronic scoreboards, internet/e-mail/world wide web, electronic speakers/starting gun in athletics, shot clock in basketball and desktop/laptops computers for scoring in boxing were available while ICT such as Spider Cam, Overhead Cam and In Goal Cam in Handball, Video Replays in Basketball, Ear Piece for Football Referees, Goal Line Technology for Football, Video Assistant Referee (VAR), Hulk Eye for Tennis, Third Umpire with access to Television Replays in Cricket, Advanced Video Technology in Volleyball, Decision Referral System in Cricket and Large Television Screens for the display of performance and results were not available. This result was compatible with the fact that information and communication technology for sports administration was not available in Nigeria (Aribamikan et al, 2018b). ICT facilities should be used to facilitate sports officiating and communicate the official results of competitions to the world (Aribamikan et al, 2019a).

Sports Officials (SOs) are those charged with responsibility of judging performance in order to determine placement of positions in competitions. To perform optimally it is therefore expedient that SAs in Nigeria are aware of the latest cutting edge technology in sports administration, coaching, officiating, and broadcast in order to be a global player in the world of sports. Awareness in this paper has to do with familiarity with ICT resources such as Video Assistant Referee (VAR) and Earpiece for communication by football referees in football, Starting gun is connected to electronic scoreboard, speakers, starting blocks and photo-finish equipment in athletics and that distance can be measured in throws and jumps, Online registration of athletes and communication of official results, Third Umpire with access to Television Replays in Cricket and

Decision Referral System in Cricket, and Advanced Video Technology can be used in Volleyball, Hulk Eye for Tennis, Shot Clock in Basketball and Video Replays in Basketball and Scoring in boxing using Computers. Thanuskodi (2013) found that more awareness of electronic resources need to be created and that a friendly environment be provided so that SOs can make a better use of the facilities. SOs needed to be given ICT dependent tasks so as to familiarize them with these resources and as such conducive and enabling environment needed to be provided to enable them carry out their tasks efficiently because ICT enhances officiating, eliminates arbitrariness in order of positions, makes officiating less cumbersome, correct decisions are taken by officials, eliminates human error, ensures fairness to players and teams

The researcher observed low awareness among officials in Nigeria which might be due to the unavailability of ICT gadgets for officiating sports. It is against this background the study examined awareness about ICT for officiating sports, and whether availability of ICT leading to access will influence the efficiency sports officiating in Nigeria.

### **Statement of the Problem**

The trend in sports is that the ICT is being utilized to judge and determine athletes' performance thus eliminating poor judgement and arbitrariness during competitions Professional sports in the USA now utilize ICT in officiating which have changed the outlook of their sports. It therefore follows that sports officials in Nigeria should acquire and use ICT equipment to effectively officiate sports in Nigeria. The researcher observed that generally sports in Nigeria has not benefited in ICT in officiating. ICT has become a blessing to sports ensuring better performances through officiating using ICT by developed nations unlike Nigeria where ICT has not been properly utilized. National Sports Federations (NSFs) and State Sports Councils have not been officiating using ICT.

The use of ICT in officiating sports is lacking as observed by the researcher that even at football leagues in Nigeria, ear piece is not been used for communication by referees and assistant referees not to talk of the recently introduced Video Assistant Referee (VAR). In Athletics only the Athletics Federation of Nigeria (AFN) uses ICT for officiating, states sports councils do not have ICT equipment for officiating.

Officiating is one important process that athletes need to access their performances. This must be done timely and accurately as athletes' performance in any recognized competition in national, regional or world level may be his best performance, or even break a world record. This needed to be judged, computed, disseminated to the public and stored for future reference. This could only be achieved where ICT is utilized for officiating.

It is against this background that this study was conducted to investigate awareness and accessibility as correlates of utilization of ICT for officiating sports in Nigeria.

### **Research questions**

The following research questions guided the study

1. What is the level of awareness of sports officials on utilization of ICT for officiating sports in Nigeria?
2. Will access to ICT equipment promote the efficiency of sports officials in Nigeria?

### **Research hypotheses**

The following hypotheses were generated for the study

1. There is no significant difference in the level of awareness of sports officials on utilization of ICT for officiating sports in Nigeria.
2. Availability of ICT leading to access to ICT equipment will not significantly influence the efficiency of sports officials in Nigeria.

### **Design of the Study**

The research design for the study was the descriptive survey research. The survey research enables information to be obtained from a representative sample of the population so as to describe situation as they exist.

### **Population of the study**

The population for this study consisted of four thousand (4,000) sports administrators in all the 36 states as well as FCT Abuja in Nigeria. A total of eight hundred (800) respondents were sampled for this study. Purposive sampling technique was used to select seven (7) states and the Federal Capital Territory (FCT) Abuja making eight (8) states from which one hundred Sports Administrators per state were selected through simple random sampling technique using balloting without replacement. Only seven hundred and twenty six (726) respondents who duly completed the instrument were included in the study.

**Procedure**

A research questionnaire tagged as ‘Sports Officiating Questionnaire’ (SOQ) designed by the researcher will be used to collect data for the study. The instrument consisted of two sections. The first section dealt with socio-demographic variables of respondents, while the second section elicited responses which dealt with the variables of the study. The researcher sought the assistance and guidance of five (5) experts, three (3) in the field of Sports Administration and two (2) experts in ICT, in ascertaining content validity of the instrument. In order to determine the reliability of the questionnaire and its applicability to the Nigerian context, a pilot study was undertaken using test-retest method of determining reliability coefficient. In the pilot test, the questionnaire was administered on twenty (20) staff of Ekiti State Sports Council, Ado Ekiti, at two weeks interval. The scores from the two sets of responses will be correlated using Crombach alpha. A correlation coefficient 0.83 was obtained showing that the questionnaire was stable and appropriate to be used for data collection for the study. The data collected were analyzed using descriptive and inferential statistics. The data collected were analyzed using descriptive and inferential statistics. The descriptive statistics included percentages, frequency counts and mean scores, while inferential statistics include Pearson Product Moment Correlation (PPMC) and Multiple Regression. The hypotheses formulated for the study were tested at alpha = 0.05 level of significance (P<0.05)

**II. Results**

**Hypothesis 1:** There is no significant relationship between the level of awareness of sports officials and utilization of ICT for officiating sports in Nigeria.

**Table 1:** Pearson Correlation showing the level of awareness of sports officials and utilization of ICT for officiating sports in Nigeria

Variable	N	Mean	SD	r	p
Awareness of ICT	726	22.56	5.98	0.692*	0.01
Utilization of ICT Facilities	726	18.67	4.26		

\*p<0.05

Table 1 shows that the computed r-value (0.692) is significant at p<0.05 level of significance. The null hypothesis was rejected. This implies that there is significant relationship between the level of awareness of sports officials and utilization of ICT for officiating sports in Nigeria. The relationship between the level of awareness of sports officials and utilization of ICT for officiating sports in Nigeria is moderate and statistically significant in a positive direction.

**Hypothesis 2:** Availability leading to Access to ICT equipment will not significantly influence utilization of for sports officiating in Nigeria.

**Table 2:** Regression of Access to ICT equipment and efficiency of sports officials in Nigeria

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta ( β )		
(Constant)	7.484	.191		39.133	.000
Access to ICT Facilities	.309	.017	.564	18.396	.000
Multiple R = 0.564, Multiple R <sup>2</sup> = 0.319, Adjusted R <sup>2</sup> = 0.318, F <sub>1,724</sub> =338.423					

\*p<0.05

Table 12 shows that variables access to ICT equipment significantly influenced efficiency of sports officials in Nigeria. (F<sub>1,724</sub>=338.423, p<0.05). The null hypothesis is rejected. This implies that the predictor variable provides a significant explanation for the variation in the efficiency of sports officials in Nigeria. The table shows that there is significant positive multiple correlations between the predictor variables (access to ICT equipment) and efficiency of sports officials in Nigeria (R=0.564, p<0.05). This implied that the predictor variable is a factor that can exert influence on efficiency of sports officials. The value of the coefficient of determination indicates that the predictor variable accounted for 31.9% of the total variance in efficiency of sports officials while the remaining 68.1% unexplained variation is largely due to other variables not included in the study that can account for efficiency of sports officials in Nigeria.

**III. Discussions**

Findings from the study revealed in order of ranking that, SOs are aware that starting gun is connected to electronic scoreboard, speakers, starting blocks and photo-finish equipment in athletics and that distance can be measured in throws and jumps, Online registration of athletes and communication of official results ranked

second, Video Assistant Referee (VAR) and Earpiece for communication by football referees in football ranked third, Shot Clock in Basketball and Video Replays in Basketball ranked fourth, Scoring in boxing using Computers ranked fifth, Advanced Video Technology can be used in Volleyball ranked sixth, Third Umpire with access to Television Replays in Cricket and Decision Referral System in Cricket ranked seventh while Hulk Eye for Tennis ranked ICT that SOs are least aware of.

To perform optimally it is therefore expedient that SOs in Nigeria are aware of the latest cutting edge technology in sports officiating. Awareness has to do with familiarity with ICT resources such as computer, phones, Ipad, laptops, projector, internet with its derivatives such as e-mail, facebook, twitter, teleconferencing, CAI, and so on (Aribamikan, Adegboyega & Ajayi-Vincent, 2017). Others are electronic scoreboard, internet/e-mail/world wide web, electronic speakers/starting gun in athletics, shot clock in basketball and desktop/laptops computers for scoring in boxing, Piece for Football Referees, Goal Line Technology for Football, Video Assistant Referee (VAR), Hulk Eye for Tennis, Third Umpire with access to Television Replays in Cricket, Advanced Video Technology in Volleyball, Decision Referral System in Cricket and Large Television Screens for display of performance and results. From their findings Aribamikan, Adegboyega and Ajayi-Vincent (2017) concluded that organizing secretaries were more aware of ICT by status while human resources and finance and grassroots sports departments showed high awareness about utilization of ICT. Sports officials need update their knowledge on the latest available ICTs in their sports for officiating so as to help perform efficiently and effectively.

Another finding from this study revealed that access to ICT enhances efficiency of SOs while officiating sports in Nigeria. Access to ICT enhances sports officiating in that it eliminates human error, makes officiating less cumbersome, eliminates arbitrariness in order of positions, ensures fairness to players and teams and that correct decisions are taken by officials. ICT is useful in decision making in the officiating of sports as well as that the use of ICT enhances effectiveness, productivity and efficiency of sports officials in Nigeria. Aribamikan, Fajemibola, Dada and Agunbiade (2018) stated that is it possible to command greater efficiency in officiating sports in Nigeria if sports officials of various sports are aware about ICT. This supports that there will be efficiency on the part of sports officials in Nigeria too if ICTs are availability and utilized for officiating in Nigeria.

#### **IV. Conclusions**

The results of the study revealed that

1. Sports officials are not aware about utilization ICT for officiating sports in sports councils, ministries of sports, and sports federations in Nigeria.
2. Availability of ICT equipment leading to access to ICT equipment for officiating enhances efficiency on the part of sports official in Nigeria.

#### **Recommendations**

Based on the findings of this study it was recommended that

1. Sports officials in various sports should be exposed to ICT officiating equipment through trainings such as workshops whereby these equipment will be used in their presence and Nigeria sports officials should be sent to international competitions where these equipment are available so they can have a firsthand knowledge of how to operate these gadgets.
2. Efficient performance on the part of sports official in Nigeria can only be achieved when the equipment are available. Therefore, officials should be provided with ICT equipment to officiate. They should be trained and equipped with the knowledge to operate the complex equipment to enhance accurate judgement of athletes' performances.

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