INTEGRATING INFORMATION AND COMMUNICATION TECHNOLOGIES TO ENHANCE SPORTS ENTREPRENEURSHIP IN NIGERIA

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Abstract

This paper assessed the status of Information and Communication Technologies (ICTs) in sports entrepreneurship in Nigeria for better performance. Some of the ICTs used in sports are Hot Spot for technology in cricket, Goal Line Technology and Video Assistant Referee (VAR) in football and Hawk-eye Technology in badminton and lawn tennis. The application of cutting-edge ICTs in sports to enhance the development of Nigerian economy and entrepreneurial opportunities for the teeming youths includes database management, global visibility and ease access to information among others. Types of ICT facilities that are integrated into sports entrepreneurship are Computers, Digital Video Camera, Printers, Digital Storage Devices, Cloud Computing, Mobile Phones, Internet, Business Process Automation (BRA), Network Server Solution and Wireless Route. In spite of the benefits of integrating ICT facilities in sports entrepreneurship, it is faced with some challenges, which are lack of ICT and e-business skills, lack of local manufacturing industry, and poor internet connectivity among others. It was therefore suggested among others that government should create an enabling environment to encourage investment in local content production especially in the area of sports goods and services using ICT facilities.

Keywords: ICTs, Sports, and Entrepreneurship

INTRODUCTION

Modern technology has shown great developments and reforms in this present 21st century, which is apparently moving fast toward globalization. As a result of Information and Communication Technology (ICT), information and communication gap has never been drawn closer to the door steps of mankind as in recent time.

ICT is simply a set of activities which facilitate the process, transmission and display of information using modern electronic devices, principally the computer, the internet and other devices such as the telephone and television among others (Lee, 2004).Availability of the right kind of information is however important for realization of the right policy programmes for economic development. Economic development without appropriate educational system to facilitate its operational tendencies will not make any meaning to the nation, and as a result run into a hitch. In the present digital environment, ICT plays a central role to economic and national development. It is a pivot point around which every economic and social development revolves globally. ICTs are playing a pivotal role in every walk of life.

The integration of these technologies in sports has brought a paradigm shift in the sports industry and has dramatically improved the operations, products and services delivery in the sports industry. ICTs have brought about a lot of innovations and revolutionary transformations in sport industry. In cricket, hot spot technology is used to gain information and make precise decision. In football, goal line technology is used to detect when the ball crosses the goal line and

Video Assistant Referee (VAR) assists the referee in the event of a clear and obvious error or serious missed incident. In sports like badminton and lawn tennis, hawk-eye technology is used to make correct decisions (Gogoi 2019). The application of cutting-edge ICTs in Sports provide a lot of potentials to ensure efficiency in sports database management, enhance collaboration, co-ordination, global visibility, easy access to information and networking in sports industry for sustainable economic and social development in Nigeria. ICT will in no small measure enhance productivity of sports products, services, advertisement and marketing. On this note, Taiwo and Adeyanja(2013), agree that all sectors of the economy (trading, manufacturing, services, culture, entertainment, education, medical and transportation) have a lot to benefit from the existing ICTs such as micro-controllers, personal computers, internet access, mobile phones, digital video conferencing, e-mail, multimedia among others. This has offered most Nigerian youths employment opportunities by establishing outlets of sports products and services where people watch football match and other sports activities as well as predict sports outcomes, for example *BetNaija*. The field of sports entrepreneurship has certainly been affected by the penetrating influence of ICT the world over particularly in developed countries. ICT has resulted in very profound and remarkable changes on the quality and quantity of business that can be transacted in the area of sports. Accordingly, ICT applications in sports entrepreneurship has the potentials to accelerate, enrich, deepen and motivate business in the area of sports.

ICT can play a major role in the procurement and supply of sports products and services. This can be achieved through accessing electronic procurement systems. Electronic procurement is an internet-based business process for obtaining materials and services, and managing their inflow into the organization (Kameshwaran, Narahai, Rosa, Kulkami &Tew2013). This is a business-to-business or business-to consumer purchase and sale of supplies and services through the internet as well as other information and networking systems. Electronic procurements includes the use of purchasing cards, reverse auctions, integrated automatic procurement systems to facilitate the buying process. This helps in providing global visibility of sports products and services to allow sports manufacturing companies to have better access and control over their products as well as information flow across supply chain.

Abbah and Uzoamaka(2021) opined that, advertisement of sports equipment and services is another area that ICT can be employed by sports entrepreneurs. According to them, advertisement means the promotion of an enterprise's products and services with the main aim of driving up sales products and services. They postulated that, the use of websites and social networking sites for the advertisement of sporting events have ushered in a modern and innovative means of disseminating sports news to a wider population. These play a key role in advertising sports events, goods and services. These are usually harnessed by sports entrepreneurs to boost their sales and global visibility. Advertisements often increase sales of product and service, create and maintain a brand identity or image, communicate changes in the existing product line, and introduce new product or service. The ubiquitous availability, access and use of smartphone technologies also promotes online branding and mobile internet marketing of sports events, sports goods and services in Nigeria. Therefore, ICT has the capability of transforming sports business if well harnessed.

Taiwo and Adeyanju (2013) opine that, ICT plays a significant role in the area of business management. According to them, information available enables sports business managers and their employees to make fast business decisions. Many sports enterprises have been revolutionized and remodeled to best practices due to the introduction of ICT in its management. They pointed the areas in which technology is crucial to sports business to include; point of sales systems (POS) where customers pay for prediction of games, the use of ICT in management, accounting systems, and other aspects of day to day running of sports business activities.

Uzomaka, Abbah and Igwe (2019) postulated that, ICT has been proven to enhance customer satisfaction in entrepreneurial outfit. The perceived effect of ICT on service quality and customer satisfaction was investigated by (Otiso, Chelangat, and Bonuke, 2012). The study

established that as the ICT service delivery increases, so does the customer satisfaction. To enhance customer satisfaction, there is need to increase the use of ICT in service delivery. The ICT service delivery affects customer satisfaction. (Kabanda, 2000) also reported that ICT positively affects customer satisfaction and the ease of carrying out business. In addition, ICT have created opportunities for sports equipment entrepreneurs to advertise their business online. This allows wide visibility and remote access for the product (Uzoamaka, Abbah, and Igwe, 2019). Customers can thus order for sports equipment and services online. They can equally make online payments without the barrier of physical boundary. In the area of sports equipment design, technology is also playing a growing impact (Uzoamaka, Abbah and Igwe, 2019).

TYPES OF ICT FACILITIES THAT CAN BE INTEGRATED INTO SPORTS ENTREPRENEURSHIP

The rise of ICT has paved the way for various innovations. With the digitization of business through ICT, more businesses are increasingly leveraging the benefits of digital tools to improve their prospects and sports entrepreneurs are not exceptions. Information technology infrastructure includes computer hardware, software, data, storage technology, and networks providing a portfolio of shared information technology resources for the enterprise (Attom, 2008). ICT facilities that can be integrated into sports entrepreneurship can be categorized into two: software and hardware.

Hardware refers to any physical part of the computer system, which you can physically touch, hold, pick or move. Software on the other hand, refers to a set of instructions, which tells the computer what to do. These can be integrated for one purpose or the other in a sports enterprise.

COMPUTERS

Computers became so popular in business establishments solely for secretarial purposes namely word processing and spreadsheet management. However, computers are today, used to carry out different functions in a business enterprise. The types of computers that are useful in business include desktops, laptops, notepads, servers and even smart phones. Their uses in business are endless. Productivity tools such as Microsoft Word, a word processing package, and Microsoft Excel, a financial spreadsheet system are software used by business entrepreneurs depending on what they intend to do.

Computers are also used for marketing of products and services. This is possible when the business outfit has internet connectivity (LaMarco, 2019). The entrepreneur can also utilize different social media platforms to market their products and services. Computers are also very important as an accounting tool. They are critical for performing such tasks as preparing invoice for customers, calculating payroll, keeping income and expenditure accounts, among others. There is online accounting software like 'Xero', which does the work of an accountant and bookkeeper. It has the ability to track expenses, profits, and reconcile debts. It can also send invoices and create expense claims.

Digital Video Camera

The use of digital video cameras plays an indispensable role in recording performance of players in the field. The recorded video can be broadcast live or uploaded later on. It can be used to record motion pictures, capture moving images and synchronize sound. Recent advanced technology used high-tech video recorder to record any performance and can directly convert them to three-dimensional data using high level software, (Gogoi, 2019).

Printers

Printers are necessary in the event that you have the need to print out your marketing materials or need to handle basic jobs. Printers will enable you minimize costs by encouraging your employees to work as a paperless office whenever possible (Pratt, 2013). Printers are also needed for printing of contracts, legal documents, and other business materials. Some printers

have multiple functions including scanning, photocopying, and faxing (Pratt, 2013). Printers are used in sports entrepreneurship by printing the results of games fixtures for the gamblers, which are used as evidence to make claims of the results of the games.

Data Storage Devices

External Hard Drives are used to store certain types of information and help you stay organized. It is an important tool for entrepreneurs especially those that do not want to store information in the Cloud or on their computers' hard drives. External hard drives have the ability to protect valuable and sensitive business data in the event of an accident, such as a fire. It can also be used as back-up devices (Gogoi, 2019).

Cloud Computing

Cloud computing has offered a paradigm shift in sports industry and it is currently gaining grounds, popularity and acceptance globally. Cloud computing holds a lot of potentials, innovations and the capacity to transform the sports industry to a multi-million dollar business enterprise. Cloud computing involves storing data and information away from our physical location as against storing them on local hard disk or local servers. The term cloud computing means storing and accessing data and programmes over the internet from a remote location or computer instead of in the computer hard drive (Chandrasekeran, 2015). This is as opposed to local storage and computing (storing data or running a programme from the local computer hard drive). Therefore, for it to be considered *cloud computing*, one needs to access data or programmes over the internet. The result is the same; however, with an online connection, cloud computing can be done anywhere, anytime, and by any device such as smartphones, tablets, laptops that is connected to the internet. When the need to use such data or information arises, it is accessed and obtained through the internet. This makes such data and information accessible from anywhere. This is the essence of cloud computing.

The concept of cloud computing is immensely popular among entrepreneurial outfits due to the efficiency it provides in business operations. Some of the noteworthy benefits are cost savings, remote working, efficiency, flexibility, future proofing, morale boosting, and resilience without redundancy. It offers speedy, on-demand and easy access to sports data, products and services regardless of time and geographical boundaries. Adequate security of sports data from natural disaster, power and server failure is ensured. Cloud computing provides improved agility and time and resource management for businesses. Businesses are increasingly shifting to the clouds to leverage its many benefits. For cloud computing to be effectively utilized, a good internet connection and a commendable WiFi connectivity are important.

Mobile Phone

Mobile phone can be used to a great extent for short message service and multimedia message service. This can be used for communication purposes and advertisement placements. With over a billion handsets worldwide with majority being internet enabled, mobile phones have been one of the fastest adopted consumer products of all time which can be harnessed by entrepreneurs. Mobile phone has made possible wireless applications that enable person-to-person messaging, email, banking, news, games, music, shopping, ticketing, and information feeds. A lot of information and even advertisement can be carried out in Facebook, WhatsApp, YouTube, etc. These applications can be integrated into sports entrepreneurship in order to enhance business activities. Bester, (2012) noted that Sport can provide meaningful content for mobile technology, which entails the use of cellular communication technology to distribute information to consumers via cellular phones.

The Internet

The internet is a global communication network that provides direct connectivity to anyone over a local area network. The internet service can be accessed through an internet service provider (ISP). It is a public network that is connected and routed over gateways. The ISPs are

connected to the network service providers, and eventually to the internet appliances. Communication has been enhanced to a great extent through the internet. The internet has enabled improved internal communication, improved business partnership channels, effective marketing, sales, and customer support and facilitated collaborative activities support. In the area of business, the internet has enabled faster time to market goods and services, potential for simultaneous engineering and collaboration among business enterprises, lower design and production costs of goods and services, improved customer relationships, and creation of new business opportunities. It has also reduced operational costs for business enterprises. These can to a large extent improve the business outfits of sports entrepreneurs if well harnessed (Gogoi, 2019).

Business Process Automation (BPA)

ICT has enabled the automation of business processes. Business process automation (BPA) is the automation of the processes of business through technology. This allows businesses to cut costs and increase productivity. It also improves efficiency, increases workflow and saves time. BPA basically implies automating processes and workflow such as document approval process, employee on-boarding process, billing, tracking metrics, collecting customer data and monitoring (Pratt, 2013).

Network Server Solution

Network server solution is important to the sports entrepreneur because they need these types of network to support the data base, email applications, and other files in the business. The entrepreneur usually chooses from several server solutions based on the amount of storage needed in the business, security requirements, and backup options required. There is need for the entrepreneur to work with a specialist in the area of networking to ensure the right package based on current and future needs are procured (Pratt, 2013).

Wireless Router

Wireless router is important to ensure that the business outfit is connected to the internet wirelessly. A strong wireless connection can ensure high-speed connectivity to all linked computers and mobile devices (Pratt, 2013). It will also reduce the need for extra cables running in and around the business enterprise.

CHALLENGES OF INTEGRATING ICT IN SPORTS ENTREPRENEURSHIP IN NIGERIA

Notwithstanding the potentials of ICT in sports industry in Nigeria, there have been a lot of factors militating against the effective integration of ICT in sports entrepreneurship in Nigeria. Uzoamaka, Abbah and Igwe (2019) outline such challenges to include the following:

- **Lack of ICT and e-business skills:** lack of fundamental ICT skills such as navigating the internet and troubleshooting is a serious deterrent for most people who intend to venture into sports entrepreneurship in Nigeria. There is lack of ICT technical expertise needed in managing sports businesses and this is one of the serious barriers in Nigeria

- **Lack of Local Manufacturing Industry**: most ICT facilities used for sports in Nigeria are imported products and there is a very high import duty on such facilities, which make them very costly and unaffordable. This has been a bottleneck for sports entrepreneurs who may not have enough capital.

- **Poor Internet Connectivity:** poor network and broadband internet connection has been a bottleneck for the successful implementation of ICT in sports entrepreneurship in Nigeria. The growing digital divide in developing countries is a serious impediment to the utilization of ICT in sports entrepreneurship.

- **Lack of awareness:** ICT application in sports entrepreneurship has the potential of creating millions of job opportunities which are yet untapped. Most people in Nigeria are not yet exposed to the potentials of ICT in sports entrepreneurship.

- **Cost:** the initial cost of purchasing the ICT facilities such as computers, smart phones, internet connection, bandwidth, hardware, software and maintenance cost has been a very serious challenge facing potential entrepreneurs who want to venture into sports business.

- **Lack of Government incentive for sports entrepreneurs**: there is lack of incentive by the Nigerian Government to support sports entrepreneurship. The sports betting sector is blossoming and growing astronomically in Nigeria. The sports entrepreneurs are faced with the challenge of acquiring the ICT facilities such as mobile phones and internet connection required for such sports business venture. Some young sports entrepreneurs who have the passion to establish sports viewing centres do not have the capital.

- **Epileptic Power Supply**: one of the major constraints for integrating ICT in sports entrepreneurship in Nigeria is poor power supply. Most sports entrepreneurs usually run the business centres on power generators, adding to cost of sports goods and services. This has been a very serious setback to the integration of ICT facilities in sports entrepreneurship in Nigeria.

CONCLUSION

The integration of ICTs in sports entrepreneurship hinges on proper training, adequate funding, motivation and creating enabling environment for potential sports entrepreneurs to encourage best practices in sports industry in Nigeria. The current transformation, innovation and revolutionary changes brought by the integration of ICT in sports industry demands an urgent revamping and repositioning of sports industry in Nigeria.

SUGGESTIONS

In order to ensure the integration and sustainability of ICT in sports industry to boost entrepreneurship in Nigeria, the following suggestions are made:

1. Nigerian government need to ensure adequate human capacity training on ICT skill acquisition to enable individuals develop innovative ICT skill, knowledge and capacity to boost sports entrepreneurship in a competitive global digital environment. There is need for government, policymakers and stakeholders in sports industry to ensure the integration of ICT and e-business skills acquisition into education curriculum at all levels. Such training and skill acquisition must be proactive, tangible, and in real time where all the necessary tools, machines, equipment and ICT facilities should be adequately provided.

2. Creating an enabling environment by the government to encourage investments in local content development especially in the area of sports goods and services using ICT facilities.

3. Access to broadband internet connectivity has the potential of global visibility, connecting people, places, businesses and services without the problem of physical boundary. Sports business owners highly depend on broadband internet connectivity for global access, easy marketing and effective distribution of sports goods, products and services. Hence, government should ensure the availability and accessibility of internet connection is very critical for the effective implementation of ICT in sports entrepreneurship in Nigeria.

4. Creating awareness through sensitization programmes on the potentials of integrating ICTs in sports industry in Nigeria to boost sports entrepreneurship

5. Government should subsidize the cost of ICT facilities to encourage potential entrepreneurs who may want to venture into sports businesses. There is need to give incentives to young sports entrepreneurs to start off their business

6. Tackle the issue of poor power supply in Nigeria to encourage easy business operation.

REFERENCES

American National Council for Education (ANCET, 2000) Cited in Adegbija, M. V. (2003). Information and communication technology in women education in the new millennium. *Forty Years of Educational Technology in Nigeria,* 2,16-24

Attom, M. (2008). *Information systems strategy and knowledge-based SMEs in the Australian biotechnology industry: Does it need to reorient its thinking?* In: 15th Australian Conference on Information Systems, Hobart. 2008

Bester, T. S. (2012). The business environment of sport organizations: A review. African *Journal of Business Management,* 6(46): 11530-11535.

Chandrasekaran K. (2015). *Essentials of Cloud Computing.* LLCCRC: Taylor & Francis Group; 2015.

Cooke, V. I. (2007). *Modern technology and education attainment in London.* London: Longman Books.

DFID (2002). *The significance of Information and Communication Technologies for reducing poverty*. In: Derbyshire, H. (2003). Gender issue in the use of computers in education in Africa.

Forceful Digital Marketing Agency (2020). Paradigm-shift in sports industry with digital marketing. https://www.bidigital.co.uk/blog/digital-marketing/paradigm-shift-in-sport-industry-with-digital-marketing

Gogoi, H. (2019). *The Use of ICT in Sports and Physical Education. Advances in Physical Education and Sports Sciences*. Publisher: AkiNik Publications.

Kabanda, G. (2014). The impact of ICTs on customer service excellence in Zimbabwe. *International Journal of Emerging Technology and Advanced Engineering.* 2014;4(5):312-324.

Kameshwaran S, Narahari Y, Rosa C. H., Kulkarni, D. M.,& Tew J D (2013). Multiattribute electronic procurement using goal programming. *European Journal of Operational Research.* 2007;179(2):518-536.

LaMarco, N. (2019). Uses for computer in Business. Accessed online on 7/2/2020 from: https://smallbusiness.chron.com/uses-computers-business-56844.html.

Lee, J .K. (-2004). *ADB's experience in supporting community centres.* A presentation for international seminar on ICT policy reform and rural communication infrastructure. August, 26.

Ojeme, E. O. (2018). *Monograph of career in physical education,* Benin: NERA Publisher 5-7.

Open University (2016). Information technology living with technology: Block 2. In: Foundation Course Milton the Open University.

Otiso, K. N, Chelangat, D, & Bonuke, R. N. (2012). Improving the quality of customer service through ICT use in the Kenya power and lighting company. *Journal of Emerging Trends in Economics and Management (JETREMS).* 2012;3(5):461-466.

Pratt, M. (2013). Five essential hardware products for starting your business. Accessed online on 7/2/2020 from: https://www.business.org/it/hardware/essential-hardware-products-for-starting-your-business.

Rosandich, T. J. (2000). Sports equipment and technology. *The Sports Journal*. 2000;20

Taiwo, T. O. & Adeyanju, I. A, (2013). The role and Prospect of information and communication Technology in National Development. *International Journal of Computing Academic Research (IJCAR).* 2013;2(3):113-119 Retrieved from: https://silo.tips/download/the-role-and-prospect-of-information-and-communication-technology-in-national.

Uzoamaka, O., Abbah, O. I. &, Igwe, N. J. (2019). Perceived impact of information and communication Technology in Enhancing Entrepreneurship in sports among health and physical education teachers in Anambra state, Nigeria.