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Integrating Information and Communication Technology in Entrepreneurship in Sports: The Way Forward

Oliver Igwebuike Abbah and Uzoamaka Ogwo

Abstract

The topic delved into the use of Information and Communication Technology in sports entrepreneurship, in Nigeria. It discussed entrepreneurship in relation to small and medium scale sports enterprises. The topic explored the areas that Information and Communication Technology can be employed in sports entrepreneurship and the various types of ICT facilities that can be integrated into sports entrepreneurship at the small and medium scale level. Authors also discussed the challenges of integrating information and communication technology in sports entrepreneurship at this level. Finally, the way forward delved into strategies that can possibly be used to further the use of ICT in sports entrepreneurship in a developing economy like Nigeria.

Keywords: information and communication technology, entrepreneurship, sports, sports entrepreneurship

1. Introduction

The sports industry is growing extensively. It is a dynamic and unique industry that is inherently entrepreneurial on numerous fronts. Sports have progressed from a pure pursuit of leisure to a multi-million dollar industry [1]. It is a unique entertainment industry that has been growing in a geometric progression in a commercial environment. Sports provide a lucrative and continually growing marketplace worthy of immense investments [2], thereby providing not only economic impact, but also entertainment for millions of people globally. However, unlike other industries, sport has a unique combination of profit and non-profit organizations that work together to create a competitive environment [3]. While entrepreneurship literature has expanded to include various categories of entrepreneurship, including social, community based, and corporate entrepreneurship, few connections between sport and entrepreneurship exist in current literature.

Business organizations operate in a complex and competitive environment characterized by changing conditions and highly unpredictable economic climate. These changing environmental constraints not only affect their internal structure of business organizations but also their survival, growth and development. Thus, Information and Communication Technology (ICT) is at the centre of this global

change. ICT directly affects how managers decide, how they plan and what products and services are produced. Sports entrepreneurs need to acquire specialized ICT skills in order to develop new and innovative way to satisfy the growing needs of sports consumers.

Reference [4] defined sports entrepreneurs as those persons who act as change agents in the supply of sports products, who attempt to increase the output of the industry, improve the consumer experience, or raise interest in sports products by such means as developing new markets and creating new products. Most discuss on sports entrepreneurs are directed to large scale enterprises by focusing on how new products emerge in the market and the role of ICT in sports innovation. Thus focus has not been directed towards small and medium scale sports entrepreneurship which a graduate of physical education and sports studies can delve into in order to be self-employed. This group of entrepreneurs needs to be developed especially in a developing country like Nigeria where graduate unemployment rate is steadily on the increase. This chapter therefore, focuses on the integration of ICT in the operations of small business enterprises in the area of sports.

2. Sports entrepreneurship in Nigeria

Sport generally defined, means any form of physical activity that aims to improve fitness or mental well-being. The emphasis is on physical expression but it can vary in intensity from low impact sports like walking to high impact sports such as aerobics. Hence [5] considers it to be organized physical activities through which exercise, amusement, fun and play are enjoyed. It provides a lucrative and continually growing market place worthy of immense investments that provides not only economic impact but also entertainment for millions of people globally [2]. The sports industry has thus developed into big business which individuals can harness for entrepreneurship ventures.

The concept of entrepreneur is changing as there are evolving ways to conduct business depending on the market context. An entrepreneur refers to a person, an initiator of business ventures who identifies and harness opportunities and bearing the risk to produce goods and services in order to satisfy the needs of the consumers to maximize profit [6]. Entrepreneurs are innovative individuals who have developed an on-going business activity to satisfy the existing needs of people in order to maximize profit. Entrepreneurs constantly discover new markets and try to figure out how to supply those markets efficiently and make a profit. He is a person that searches for change, respond to change, and exploits change by converting change into business opportunity, [7]. Characteristics of entrepreneurs include being self-motivated individuals who start enterprises relying on their initiative to satisfy existing needs [8]; having the ability to implement their vision and confidence in their ability to develop a business. This means that an entrepreneur is a leader and individual who identifies and solve existing problems. He is creative, innovative, resourceful, opportunist, risk-taker, initiator, skilled and open minded with vision and mission to motivate and drive a business venture with sense of value, team-building and managerial skills, [9].

Entrepreneurship development is the pivot point for economic growth globally. Reference [10] defines entrepreneurship as any attempt at new businesses or venture creation, such as self-employment, a new business organization or the expansion of an existing business by an individual, team of individuals or established business. It is the practice of starting new organizations or revitalizing mature organizations particularly, new businesses in response to identified opportunities [11]. In other words, entrepreneurship requires skill acquisition, critical thinking to

know business opportunities, planning to map out strategies to execute them, and creative and innovative skills to develop new products [6]. These can be found in all fields of endeavor including sports.

The sports industry is growing extensively and offers variety of entrepreneurial opportunities. Sports entrepreneurship is the marketing of sports products and services to satisfy the sports needs of individuals and for profit making [6]. It entails the identification of conditions and procedures in which emergent business ventures with a social orientation are formed. In other words, it provides opportunities to promote innovations, investments, competitiveness, sustenance of sports business ventures and ability to create a market niche for income.

Sports entrepreneurship is a panacea for economic transformation in Nigeria as it encourages innovative activities that facilitate sustainable economic development. [5] noted that Sports organization in Nigeria has resources at their disposal that can be turned around for entrepreneurship development through sports marketing. [5] further noted that Sports also provide tremendous business opportunity in merchandising, whole lots of manufacturing industries have emerged producing sports attires, sports equipment, sports souvenirs, and services for sportsmen, women and fans. These sports industries are contributing immensely to entrepreneurship development in Nigeria. Sports entrepreneurship is supposed to thrive in Nigeria considering its population and the passion Nigerians have for sports. With a population of over 180 million of which 65% are between 15 and 35 years [12], Nigeria guarantees a long term market for sports entrepreneurship. This is complemented by a TV and media audience of between 25 and 50 million- capable of attracting a fair share of the over N400 Billion advertising spent on sports content and events; and a mobile and internet growth projection of 10% annually [12]. The creation and development of small and medium scale enterprises in the sports ancillary sectors such as merchandising, equipment manufacture as well as investment in venues and facilities construction and content development, management and broadcast, is capable of adding considerably to the size of the industry [12]. However, [13] lamented that the Nigerian sports landscape is replete with immense, yet untapped, business opportunities. The development of entrepreneurial practice among sports experts (especially graduates of Human Kinetics and sports) will go a long way to reducing graduate unemployment rampant in Nigeria.

Sports entrepreneurship has not really been harnessed by Physical education graduates in Nigeria. An industry as large as the sports industry requires educated people to run a variety of sports related businesses [14]. The sports industry entails a variety of entrepreneurial outfits. These may include: health club facilities, sports arena and facility operators, league owner/operators, sporting goods store owners, sports ticket agencies, and sport physical therapists – just to name a few [14]. [14] further stated that there has been significant growth in the coaching and fitness type businesses in recent years within the sports industry. In a study by [15] 23.19 per cent of Physical Education students undertook employment in sports-related occupations including sports coaching in a variety of sports, fitness gym coach, dance instructor, life guard and personal trainer. [16] equally reported that the most entrepreneurial engagement of graduates of physical education is sports events centres. Entrepreneurial practices of Physical education graduates include organizing sports events like inter-house, inter-community sports, etc. (21.30%), coaching (19.03%), establishment of health and fitness club (11.60%) and dance instructor (10.97%) [17]. In other words, organizing sports events like inter-house, inter-community sports, etc. is the most entrepreneurial practice engaged in by Physical education graduates, because most of them are in the teaching profession. This is partly due to the curricular deficiencies of the Physical education programme in Nigeria. The nature of the curriculum utilized for the preparation of prospective

physical education specialists lacks entrepreneurial skills. This is so because the curriculum as stipulated by the National Universities Commission (NUC) benchmarks and minimum standards consistently emphasized school-based Physical Education solely aimed at training prospective graduates to become teachers of Physical Education in schools. This has adversely affected the profession by restricting the role it could play in developing entrepreneurial skills and creating newer job opportunities in order to enhance national economic growth.

Possible entrepreneurial areas in sports that has been neglected by vast majority of physical education graduates include such businesses like sports magazines and newspaper, sports viewing centres, owning a sports shop, running a sports television and radio show, becoming personal trainers, coaching, owning an academy and a gym [18]. Others include becoming a football scout, nutrition coach, owning a local sports club, sports blog, public relations outfit for athletes, sports betting company and a sports jersey customization business.

Physical education graduates if well exposed to entrepreneurial skills can start a sports magazine or newspaper. Most people in Nigeria are not yet internet connected and as such still depend on the print media for news including sports news. This explains why a lot of people still flock newspaper stands today on a daily basis in order to read the latest news. Most sports lovers are not exempted from this practice as they follow news about their favorite players, athletes and football clubs both at home and abroad. A typical example of such magazines was SportsWorld floated in the 80s in Nigeria and also Complete Sports.

Sports viewing centres are also sports entrepreneurial outfit open to physical education graduates. Due the passion Nigerians have about sports, sports viewing centres are well patronized. During tournaments, tennis match, national and international football matches, club matches, etc.; such viewing centres are always filled up. This is because fans prefer where they will interact with fellow fans and engage in sports discussions about their clubs and favorite players. Most of these centres in Nigeria are floated by non-professionals.

Opening sports shop for sale of sports equipment and supplies are also sports entrepreneurial options that can be lucrative. So many people in Nigeria today engage in exercise and fitness workouts. Such individuals need sports wears in order to participate actively in such programmes. This can include producing customized jerseys and sportswear for individuals and teams. It is also not uncommon to find people wear sports wears for non-sporting activities and gathering either for the fun of it or to show solidarity and support for a team or sport among the people. Moreover, with the ever increasing population of the country, sports shop outlets are promising business. By starting a sports shop in a well visited sports environment, you can serve the needs of fitness junkies by selling sport shoes, trophies, gym supplements, gloves, jerseys, face towels, shakers, and a lot more [12].

Becoming a personal trainer can equally be a lucrative business venture. With the current rise in over weight and obesity brought about by changes in lifestyle and nutritional practices, a great number of people want to train in order to reduce or watch their shape. A lot of women for example, want to look beautiful after childbirth. Such women require the services of well trained professionals to guide and prescribe exercise for them. With a large market looking for ways to shed weight, [12] stated that one could apply for the job of a fitness trainer at a hotel, health centre, and more, to train people daily. More so, some of the trainees may request private sessions from their homes.

Sports coaching have become a very lucrative business in the world today. This is an entrepreneurial option that graduates needs to explore because so many athletes needs to start their career early in order to acquire the basic fundamentals and necessary complex skills in their chosen sport. The key element

is for them to undergo the right training to be able to improve their skills to a national or international level. This ability to a great extent depends partly on the ability of a good coach to guide them. Areas of specialization abound in the field of sports coaching. These include association football (soccer), athletic, basketball, volleyball, hockey, badminton, tennis, table tennis, squash, handball, squash, etc.

Establishment of sports academy gives young sportsmen and women the opportunity to hone their talents, and also offers them exposures that increase their chances of being spotted by higher clubs. This has over time proven to be a profitable venture. By starting a sports academy that trains would-be professional footballers, you will not just be responsible for the success of many future players, but would build a profitable business in the process [12].

Establishing or working in a multi-gym shop is one area with the potential of accommodating a lot of graduates in the area of sports entrepreneurial outfit. Many people flock the gyms and fitness centres these days just to maintain a sexy look. This can be attributed to the strong influence of social media. With the increasing number of people looking for places to engage in a workout, setting up a standard and affordable gym in a residential area is a smart sports business startup.

Starting a sports blog can also be an entrepreneurial outfit worthy to be ventured into. By taking advantage of people's cravings to find solutions to various health or fitness problems, starting a sports blog focused on fitness and general wellbeing could be a great bet [12].

Blogs can serve various purposes such as telling sports stories through a personal blog or media channel. One could also run a fitness blog, where people could learn various ways to stay healthy, how to work out right, and what meals to consume to be in top shape.

Sports betting have become one the most lucrative business enterprise today. So many people are addicted to placing bets on various matches every time there is a game to be played. According to [12], the average revenue generated from sports betting companies daily in Nigeria, is about \$7 million dollars. This has made the government to hike the cost of obtaining sports betting license to fifty million naira as at 2016.

3. Areas that ICT can be employed in sports entrepreneurship

In the present digital environment, Information and Communication Technology (ICT) is central and a key factor to economic and national development. It is a pivot point around which every economic and social development revolves globally. Information and Communication Technologies (ICTs) are playing a pivotal role in every walk of life. Information and communication technology (ICT) emerged from the fusion of information technology (IT) and communication technology. In explaining the concept of ICT, [19] defined (ICT) as the handling and processing of information using electronic devices. ICT is defined as the creation, collection, storage, processing, transmission, display and use of information by people and machines [20]. ICT is defined as the various technologies that facilitate communication, processing and transmission of information, goods and services by electronic means. It consists of hardware, software, networks and media for the collection, storage, processing, dissemination and presentation of information (such as audio, visual, text, images) as well as related services. Both traditional technologies (telephone, fax, radio, television, and print media) and newer technologies (such as mobile phones, computers, and internets) are usually included in the concept of ICT [21, 22].

Information and communications technology (ICT) describe the variety of technological tools and resources used to produce, distribute, store and manage information and knowledge [23]. These technological tools include all kind of computer system, software and applications and networking systems which facilitates communicate within the digital world, [24]. To [25], information and communication technology offers new innovation modes for all students at all education levels. In other words, they are those technological tools and resources utilized to create, store, manage and disseminate information. [26] identified these tools and resources as computers, the internet, broadcasting technologies such as radio and television and telephone (including mobile phones). ICT is at the centre of a global change curve that have directly affected how managers decide, how they plan and what products and services are produced. ICT has dramatically transformed the lives of individuals. It provides businesses the scope to analyze data and plan business strategies accordingly. Utilizing ICT means that the data analysis is accurate, thus optimizing profits. ICT has permeated all aspects of human endeavor globally.

The integration of these technologies in sports has brought a paradigm shift in sports industry and has dramatically improved the operations, products and services delivery in 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. In sports like badminton and lawn tennis, hawk-eye technology is used to make correct decision [24]. The application of cutting-edge Information and Communication Technologies in Sports has the potential to boost Nigerian Economy and entrepreneurial opportunities for the teeming population. It has a lot of potential 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, [27] agreed that all sectors of the economy (trading, manufacturing, services, culture, entertainment, education, medical, transportation etc.) have a lot to benefit from the existing information and communication technologies such as micro-controllers, personal computers, internet access, mobile phones, digital video conferencing, e-mail, multimedia among others. This has offered most Nigerian youth 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 *BetNiger*. 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 [28]. 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.

Electronic procurement can help to reduce problems associated with procurement and supplies, track data and make it easier for sports entrepreneurs to make their purchases and track their progress. E-Procurement, also known as electronic procurement or supplier exchange, is the purchase and sale of supplies, equipment, works and services through a web interface or other networked system. The technology is designed to centralize and automate interactions between an organization, customers, and other value chain partners to improve speed and efficiency of procurement practices [29]. Typically, E-Procurement web sites can be used to look for buyers or sellers of sports goods and services. Interested buyers and sellers may specify costs of the sports good. E-procurement can also reduce purchasing agent overhead costs. E-Procurement activities that can be utilized by sports entrepreneurs include online indents and demand aggregation, online expression of interest, online bid submission, system supported evaluation, online status publishing, online release of purchase order, letter of award, and order fulfillment and post procurement processes.

ICT provides the best tools for communicating with producers, wholesalers, customers and other business partners. It has unlocked the facilities like e-mail, social media and other messaging platforms for purposes of communication. This can be accessed for making inquiry and contacts by sports entrepreneurs. Also, information search is best achieved through ICT facilities. ICT can positively affect information processes and the information made available to sports entrepreneurs in making business decision.

ICT can be used by sports entrepreneurs in the design and manufacture of sports equipment and supplies. Sports equipment manufacturers can employ computer aided design such as 2D design, Pro-Desktop and Google Sketch up. These are computer software that allows the user to design their products on the computer. Others include rapid prototyping, virtual reality modeling and computer integrated manufacture. This can help to reduce the waste of materials as instant changes and developments can be sent virtually for partners to work on and make adjustments.

ICT can also play major roles in digital marketing of sports equipment and supplies. Digital Marketing according to the [30] is a term that encompasses modern marketing techniques used online, for example, Social Media, Blogging, Search Engine Optimization (SEO), Pay per Click Management (PPC), Branding, Content Marketing, Video Marketing and App creation. [31] stressed that nowadays, digital marketing is indispensable for successful sports retailers. If used properly it is much more than an ideal supplement to traditional advertising. With clever online marketing you can support product sales effectively, maintain your own image and build up your shop as a brand. Digital marketing of sports products and services is a key driver to economic development and is rapidly changing the way sports products are packaged, disseminated, accessed, consumed and sold to sports consumers. According to [32], sport has a unique marketing approach, as most of its messages and images are conveyed through media. ICT in marketing avoids storage costs as orders are readily available through quick response marketing. Also most products for sale are marked with a bar code. These bar codes are scanned at an Electronic Point of Sale machine. This means that individual items can be tracked from end of manufacture, to distribution, to shop and finally to sale. This is essential for JIT production and QRM. This implies that products do not need to be stored as only the essential amount of products are released at a time based on the stock currently held for example by the store.

Advertisement of sports equipment and services is another area that ICT can be employed by sports entrepreneurs. By advertising we refer to the promotion of an enterprise's products and services with the main aim of driving up sales products and services. 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. They play a key role in advertising sports events, goods and services. This can be harnessed by sports entrepreneurs to boost their sales and global visibility. Advertisements can be engaged in order to 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 have continued to promote online branding and mobile internet marketing of sports events, sports goods and services. Therefore, ICT has the capability of transforming sports business if well harnessed.

ICT plays significant role in the area of business management. ICT systems can enable sports entrepreneurs to store, process, analyze and share vast amounts of data. The information available enables sports business managers and by extension the employees to make fast business decisions. Technology has over the years caused an explosion in business and commerce. Many sports enterprises can be revolutionized and remodeled to best practices due to the introduction of ICT in its management. Some of the areas in which technology is crucial to sports business include point of sales systems, the use of ICT in management, accounting systems, and other aspects of day to day running of sports business activities.

ICT can also be utilized for business record keeping purposes. The need for a records management in sports business enterprises cannot be overstressed in the digital age. This has to do with the creation, storage, accessibility and security of digital information. Daily sales and purchases records can be kept with the aid of ICT tools. The ultimate aim of both record management to support, protect and enable the sports business in a cost-effective manner. It is also important it has superior data storage capacity, faster data retrieval, quicker data sorting and analysis. The application of ICT the management of records in sports enterprises therefore, will go a long way in making such records accessible and usable.

Monetary transaction is another area ICT can be utilized in sports entrepreneurship. ICT has made possible various monetary transaction activities like electronic banking. This is simply the use electronic and telecommunications network for banking transactions (making payments for goods and services). Sports enterprises can have Point of Sale (POS) services, online transfers, and the use of credit and debit cards in their business outfits. This encourages non cash payments for products and services.

Storage and data backup is another area that ICT can be utilized in sports entrepreneurship. This can be carried out by use of cloud computing. Cloud storage is a service where data is remotely maintained, managed, and backed up over a network. This is also called storage virtualization. The service is available to users over a network, which is usually the internet. It allows the user to store files online so that the user can access them from any location via the internet. Storage virtualization could be a private storage, like those hosted by a company, or a public storage, like those hosted outside of a company.

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 [33]. 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. [34] 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 [6]. 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 [6]. [35] reported that the application of ICT to sports serves a role in creating whole new opportunities for entrepreneurs and provides sports events and tools such as Computer Assisted Design (CAD) which can play a very important role in sports equipment.

4. 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 and 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 [36]. 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.

4.1 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. Computers that can be used in business include desk tops, laptops, notepads, servers and even smart phones. Their uses in business are endless. Different kinds of programs and operating information, known as software, are used by computers to do specific tasks. Productivity tools such as Microsoft Word, a word processing package, and Microsoft Excel, a financial spreadsheet system are used software used by business entrepreneurs. Businessmen/women choose software depending on what they intend to do.

Computers are now a vital tool for communication. Communication is the soul of any business enterprise especially in sports. It is the life wire and key driver of sustainable sports development around the world. Computers have enabled concepts such as remote working and flexible working schedules. It has also enabled businessmen and women to communicate with their customers. This is achieved through e-mail, Skype, zoom, short message system, social media platforms, etc. It has made it easier for customers to communicate with business enterprises in a timely and efficient manner. The biggest change to the sports industry has been the advent of social media. With platforms such as Twitter, Facebook, Blogging, Instagram, YouTube etc. There are millions of users of sports brands that sports entrepreneurs can use to promote their sports products and services, [30]. The use of ICT in sports has bridged the gap of physical boundary as sports fans can view sports activities from any part of the world.

Computers are also used for marketing of products and services. This is possible when the business outfit has internet connectivity [37]. 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 book keeper. It has the ability to track expenses, profits, and reconcile debts. It can also send invoices and create expense claims.

4.2 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 broadcasted 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, [24].

4.3 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 [38]. Printers are also needed for printing of contracts, legal documents, and other business materials. Some printers have multiple functions including scanning, photocopying, and faxing [38].

4.4 Data storage devices

External Hard Drives are used to store certain types of information and help you stay organized. It is an important tools 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.

4.5 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 involve 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 [39]. This is as opposed to local storage and computing (storing data or running a prgogramme from the local computer hard drive). Therefore, for it to be considered *cloud computing*, one need to access data or programmes over the internet. The end 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.

4.6 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 for 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. [40] 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.

4.7 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. Communications 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.

4.8 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, monitoring, etc. Automation software is available for such purposes.

4.9 Network server solution

Network server solution is important if the sports entrepreneur will need any type of network to support the data base, email applications, and other files in the business. The entrepreneur has the option of choosing 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.

4.10 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 [38]. It will also reduce the need for extra cables running in and around the business enterprise.

5. 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 such as 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 most developing countries. There is lack of ICT technical expertise needed in managing sports businesses and this is one of the serious barriers in developing countries
- **Lack of Locally 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. However, there is lack of incentive for young Nigerian entrepreneurs who have the passion to venture into such entrepreneurial opportunity. Hence, they 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.

6. The way forward in the use of ICT in sports entrepreneurship in Nigeria

The success of integrating 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. In order to ensure the integration and sustainability of ICT in sports industry to boost entrepreneurship in Nigeria, the following measures should be adhered to:

- 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 level. 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.
- Creating an enabling environment by the government to encourage investments in local content production especially in the area of sports goods and services using ICT facilities.
- 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
- Creating awareness through sensitization programmes on the potentials of integrating ICTs in sports industry in Nigeria to boost sports entrepreneurship
- 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
- Tackling the issue of poor power supply in Nigeria to encourage easy business operation is very critical.

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Author details

Oliver Igwebuike Abbah^{1*} and Uzoamaka Ogwo²

1 Department of Human Kinetics and Health Education, University of Nigeria, Nsukka, Nigeria

2 National Centre for Energy Research and Development, University of Nigeria, Nsukka, Nigeria

*Address all correspondence to: oliver.abbah@unn.edu.ng

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