

SKILL SET REQUIREMENT FOR EFFICIENT ICT OFFICERS IN COURTS

A paper delivered at a workshop for Judicial Officers titled *“Information and Communication Technology as a catalyst for Better Justice Delivery ”* held in National Judicial Institute Abuja, **22 – 24 May, 2017**

By **FOLORUNSO AGBEJA**

Head, Information Technology Unit, Supreme Court of Nigeria

Introduction

Judiciary as one of the Three Arms of government plays a fundamental role in national development by efficiently resolving disputes and enforcing rule of law. It creates a stable environment that is indispensable to economic development and social cohesion. A fair judicial system helps the people to live free and without fear as they know that if they have any legal issues then their pleas will be listened in the court without any partiality and the judgment will be a just one.

To ensure fairness to all there is need for speed and efficiency in the processing documents and exhibits which are judiciously required in order to arrive at an impartial conclusion. However due to the manual, outdated and extremely slow court processes currently in place in most judicial entities across the country it had been an herculean task getting justice to millions of citizen of the country seeking Justice on one issue or the other.

Recent Judicial Reforms embarked upon by leadership of Nigeria Judiciary had seen the advent of introducing Technology in order to assist the court primarily in dealing with thousands of backlog of cases in the courts all over the country and also to have a digital copies of documents and evidences used for court proceedings.

The need for engagement of competent ICT Staff

In the words of Justice Dahiru Musdapher, the former Chief Justice of Nigeria (CJN)

“The judiciary cannot operate with old models when everything around it, like the economy, education has radically transformed in the light of current technological realities. The 21st Century Nigerian judges and support officers needed capacity building, not just in the area of law and procedure, but also in Information Technology tools to enable them to function properly in a rapidly evolving technological age”

After having extolled the virtues of adoption and deployment of ICT in Judiciary, it is important that mention is made of some critical factors for its success. ICT Infrastructure acquisition is not an end in itself, it is a tool. The process of acquiring this rather highly sophisticated tool is quite important but more essential is the need to have highly skilled and experienced professionals engaged by judicial bodies as this will impact on whether the acquisition of IT meets the goals set and intended benefits.

Of all the problems that plague the ICT sector in the judiciary, one of the most significant of these problems is staffing. In the traditional establishment for the Judiciary, there was as it was to be expected, no provision for ICT staff, as the sector only emerged quite recently.

When the judiciary started on ICT projects it still had no provision for ICT staff. Eventually when provision was made for ICT positions in the judiciary it became an all-comer affairs with little or no regard for professionalism. In fact most of the early so called ICT officials were typists who have mastered the use of Electronic Typewriters and found a common comparison to of computer knowledge to only computer keyboard!

The result is that the judiciary has an ICT infrastructure and services without the number of staff required to maintain and run the same. The result is a very unsatisfactory state of affairs. For instance staff have been appointed as System Administrators who have no qualification or skills whatsoever necessary for that office. This situation is intolerable because the end users do not have the support that they ought to have.

Managing ICT infrastructure and Personnel

Before discussing the skill set requirement for ICT officers, there is a need to know the areas where their skills will be deployed for proper goal harmonization.

Basic ICT Infrastructural Requirement in Nigeria Judiciary

- ICT Server Room / Data Centre
- High Quality Local Area Network
- Wide Coverage Wireless Network
- Broad Band Internet
- High Quality Website
- Efficient Court Mailing System
- Court Display System

Key application areas of ICT in Justice System in Nigeria

- Electronic Case Filing
- Case Management System
- Electronic Document Management
- Virtual Library
- Electronic File Tracking
- Weekly Cause List Display
- Audio Visual / Digital Recording of Court Proceeding
- Judgement Information System
- Video Conferencing - particularly with Criminal Suspect in remote locations
- Justices and Chambers Support
- Application Installations, Hardware and Firmware Upgrades, OS Updates

A thorough understanding of the infrastructure and the application area analyzed above will enlighten every ICT professional aspiring to join Judiciary Workforce so that there can be a meaningful deployment of their skills to relevant areas of their expertise.

Skill Set requirement for ICT Personnel

In view of the Infrastructure and key application areas earlier explained, the table below describes few generic ICT positions relevant to judicial functions, basic educational qualifications and the skill set requirements. The list below is by no means exhaustive.

Job Designation	Job Description	Qualifications / Skill Sets
<ul style="list-style-type: none"> • Data Centre / Server Room Administrators 	<ul style="list-style-type: none"> • Manage physical access to data center facilities and racks. • Manage external support agreements and liaise with vendors. • Provide and maintain data cabling and associated documentation within the data center. • Design, monitor and control heat dissipation through the strategic placement of key infrastructure. • Responsible for the proper upkeep of fire suppression systems. • Provide fire center safety training for staff and visitors. • Monitor power draw, ensure the proper upkeep of UPS and generators. • Design rack layouts and maintain relevant documentation. • Provide access and support to operational infrastructure staff. • Actively contribute to processes associated with the data center. • Manage on-call rosters and/or shift work resources as require 	<p>A bachelor's degree or Equivalent in Computer Engineering, Electrical Electronics</p> <p>Certifications</p> <ul style="list-style-type: none"> • Cisco CCNA Certification. • Cisco CCNP Certification. • Microsoft MCSE Certification. • Microsoft Certified Solutions Associate (MCSA).

Job Designation	Job Description	Qualifications / Skill Sets
<ul style="list-style-type: none"> • Network Administrator 	<p>Secures network by developing network access, monitoring, control, and evaluation; maintaining documentation. Providing Technical references and support. Upgrades network by conferring with vendors; developing, testing, evaluating, and installing enhancements.</p> <p>Networking Basics: Network administrators must have a complete and thorough understanding of the basic principles of networking such as NICs; networking hardware of all kinds; and, of course, wired and wireless media knowledge to match.</p> <p>Networking Protocols: An ideal network administrator understands common networking protocols, especially IPv4 and increasingly, IPv6 as well.</p> <p>Operating Systems: A complete understanding of operating systems such as Windows (XP, Vista, and Windows 7) and MAC OS are essential for desktop/laptop systems.</p> <p>Key Network Services: In addition to networking protocols, network administrators must understand key network services including name and directory services, file and print services, distributed applications, email, HTTP, DNS, DHCP, FTP, IMAP, HTTP, plus others as required.</p>	<p>A bachelor's degree or Equivalent in Computer Engineering, Electrical Electronics</p> <p>Skill Requirement</p> <p>Cisco CCNA Certification.</p> <p>Cisco CCNP Certification.</p> <p>Microsoft MCSE Certification.</p> <p>Microsoft Certified Solutions Associate (MCSA).</p>

Job Designation	Job Description	Qualifications / Skill Sets
<ul style="list-style-type: none"> • System Analysts 	<p>Consult with managers to determine the role of the IT system in an organization. Research emerging technologies to decide if installing them can increase the organization's efficiency and effectiveness. Prepare an analysis of costs and benefits so that management can decide if computer upgrades are financially worthwhile. Design and develop new systems by choosing and configuring hardware and software. Oversee installing and configuring the new system to customize it for the organization. Do tests to ensure that the systems work as expected. Train the system's end users and write instruction manuals, when required</p>	<p>A bachelor's degree or Equivalent in Computer Science, Software Engineering, Electrical Electronic</p> <p>Skill Requirement</p> <p>Background in Programming or Computer Science/Engineering.</p> <p>Build Business Logic of Software.</p> <p>C# and .NET Programming Experience.</p> <p>C++ Programming Experience.</p> <p>Java Programming Experience.</p> <p>Android Programming Experience., Multimedia Content Development, API's</p>
<ul style="list-style-type: none"> • Application Developers 	<p>Application developers use programming languages and source code to create software that meets organization requirements. Developers may work with multiple programming languages and operating systems. Developers work closely with computer analysts and engineers in using languages such as Java, C++ or ORACLE to develop the necessary specifications for software. Developers may also test, debug and improve generally faulty applications for clients.</p>	<p>A bachelor's degree or Equivalent in Computer Science, Software Engineering, Electrical Electronic</p> <p>Skill Requirement</p> <p>Background in Programming or Computer Science/Engineering.</p> <p>Build Business Logic of Software.</p> <p>C# and .NET Programming Experience.</p> <p>C++ Programming Experience.</p> <p>Java Programming Experience.</p> <p>Android Programming Experience., Multimedia</p>

Job Designation	Job Description	Qualifications / Skill Sets
		Content Development, API's and many others
<ul style="list-style-type: none"> Database Administrators: 	<p>A database administrator (DBA) is responsible for the performance, integrity and security of a database. They will also be involved in the planning and development of the database, as well as troubleshooting any issues on behalf of the user</p> <p>His Functions includes the following:</p> <ul style="list-style-type: none"> Install server software Configure database servers Monitor and maintain database health and security Design backup processes for server and associated data Create accounts for all users and assign security levels Establish a disaster recovery protocol Provide end-to-end technical support and problem resolution Schedule and perform regular server maintenance Create database management procedures Evaluate data analysis models and procedures 	<p>A bachelor's degree or Equivalent in Computer Science, Electrical Electronics</p> <p>Skill Requirement</p> <ul style="list-style-type: none"> Knowledge of database design. Knowledge about the RDBMS itself, e.g. ORACLE, Microsoft SQL Server or MySQL. Knowledge of structured query language (SQL), e.g. SQL/PSM or Transact-SQL. Knowledge of Internet and Web technologies to enable databases to participate in Web-based applications. Examples of this type of technology include XML, CGI, Java, Ruby on Rails, TCP/IP, Web servers, firewalls, SSL, and so on. Oracle Database Administrator Certified

Job Designation	Job Description	Qualifications / Skill Sets
		Professional <ul style="list-style-type: none"> • MCSA SQL Server 2012[11] • MCSE Data Platform Solutions Expert
<ul style="list-style-type: none"> • Web Developer: 	<p>The role is responsible for designing, coding and modifying websites, from layout to function and according to a client's specifications. Strive to create visually appealing sites that feature user-friendly design and clear navigation. Experience in planning and delivering software platforms used across multiple products and organizational units.</p>	<p>A bachelor's degree or Equivalent in Computer Science, Electrical Electronics</p> <p>Certifications</p> <ul style="list-style-type: none"> • JavaScript, JQuery, HTML, HTML5, CSS, CSS3, Web Programming Skills, E-Commerce, Teamwork, Verbal Communication, cross-browser compatibility, Web User Interface Design (UI), Security Principles, Object-Oriented Design, Web Services (REST/SOAP), Multimedia Content Development, API's
<ul style="list-style-type: none"> • Hardware Support Engineers 	<p>Computer hardware engineers are responsible for the hardware configuration of a computer. They update systems by improving the components, layout and design of a computer for increased efficiency. IT technical support officers monitor and maintain the computer systems and networks of an organization. They may install and</p>	<p>Education -</p> <p>Possess a computer science degree or equivalent and one or two certifications from entities like Microsoft or Cisco</p> <p>Knowledge - Know your way around desktop hardware, software applications,</p>

Job Designation	Job Description	Qualifications / Skill Sets
	<p>configure computer systems, diagnose hardware and software faults and solve technical and applications problems, either over the phone or in person.</p> <p>Depending on the size of the organization, a technical support officer's role may span one or more areas of expertise.</p> <p>Organizations increasingly rely on computer systems in all areas of their operations and decision-making processes. It's therefore crucial to ensure the correct running and maintenance of the IT systems.</p>	<p>operating systems and network connectivity.</p> <p>Problem solving - Resolve problems while maximizing efficient use of computing resources.</p> <p>Skill Requirements</p> <p>Familiar supporting and troubleshooting Microsoft Windows 10, Office 2010, 2013 & 2016, Office 365</p> <p>Familiar with Windows Server 2008, 2012r2, SQL Server</p> <p>Familiar supporting mobile devices, including iOS and Android</p> <p>General WAN/LAN/wireless networking, TCP/IP, DNS, DHCP.</p> <p>Familiar with DNSs</p> <p>Familiarity with VoIP phone systems.</p> <p>Familiar supporting remote users through VPN.</p> <p>Familiar with building and deploying phones, workstations/desktops, laptops and related hardware/software, and printers</p> <p>Experience within Active Directory (add, resetting</p>

Job Designation	Job Description	Qualifications / Skill Sets
		passwords, security etc.)

Judicial Process Reforms and Skilled ICT Workers

A well-functioning judicial system is required to keep up with the demands of modern democratic society. While ICT should facilitate the reform process, past experiences have shown that the overzealous use of technology has too-often resulted in less than impressive results. The court must initiate reforms that with a legal framework backing the use of ICT tools in order to aid court services.

It is highly desirable to have ICT driven electronic court but it is also important to note that that the use of technology in court must remain complimentary to a sound national judicial reform strategy. An abundant supply of highly skilled technical support with little demand for the reform process from within the judicial branch may spell disappointing results for all stakeholders.

Through the use of the skilled ICT Officers, courts can provide comprehensive services to their public by making them access enough processes and payment for Court Services via online services. The earlier manual operations which requires every lawyer to appear physically to file document after travelling through hundreds of miles can be solved easily through electronic filing system from the comfort of their houses over a very fast internet services

Conclusion

There is a need for high quality skilled ICT Personnel to effectively manage and utilize Information and Communication Technology tools in all aspects of judicial administration because of the increased complexity and rate of change of today's justice system. It is not a gain saying that most judges, lawyers, courts staff, staff of law offices and so on lack IT skills; this is as a result of the fact that most of them did not have the opportunity to be trained in ICT while in their various tertiary institutions.

It is therefore imperative for court management to take necessary steps in engaging qualified professionals with requisite experience in order to achieve the transformation of the Judiciary and enhance Justice Delivery. If our courts must witness the transformation experienced in the banking sector which had successfully transited from manual processes to electronic banking, we must follow the path of having highly trained experts to handle our processes

References

- Adelowo, Stephen Asonibare and Halimat, Tope Akaje (2015): E- Path To Effective Justice Delivery: The Nigerian Courts In Perspective
- Fredrick Egonda-Ntende: The Role of Information Technology in Modernising the Courts
- J.E. Owoeye, University of Lagos : Information Communication Technology (ICT) Use as a Predictor of Lawyers' Productivity
- Osabuohien, Evans S.C.: Ict and Nigerian Banks Reforms: Analysis of Anticipated Impacts in Selected Banks
- Rebecca Schild : The Role of ICT in Judicial Reform