



SENATE BUILDING

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

THE INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) POLICY

Foreword

Information and Communication Technology (ICT) started as a driving force and important service unit of the university, first as computer center in the 80s to provide computer support services to the university. As the wind of computerization/digitalization blew globally, acquisition of computer infrastructure and skilled manpower were given priority to scale up the teaching and learning towards digitalization. Training services were organized for staff to update their digital skill. **The policy direction was to improve the University's service delivery through computerization/digitalization.**

The advent of revolution in ICT globally in 90s, led to establishment of academic programmes in computer/information science, engineering/technology, viz; Mathematics/Computer Science, Physics/Computer Science and Electrical/Computer Engineering. In 2000, this revolution came to a crescendo and top-priority budgetary allocation was made to upscale the University from a consumer of computer services to a provider, as an Internet Service Provider to our immediate community, **hence a policy shift from consumption to improve service delivery only, to a provider of such to its community in need as well.**

Today, the University's programmes are driven by ICT, as every programme has ICT content and the University prides itself as the first university in Nigeria to establish a Faculty/School of Information and Communication Technology and the first to start Cyber Security Science programme as far back as 2009/2010. It is on this note that a 21st Century ICT Policy with current advances hereby presented will give current direction, that will keep the University on track as a forerunner in ICT in Nigeria.

Prof. Abdullahi Bala
Vice Chancellor

Preface

This Information and Communication Technology (ICT) Policy document is a compendium of visionary thoughts of the leadership, management and ICT stakeholders of the University chronicled from the genesis of ICT education as Computer Science, to a highly diverse subject matter ranging from information science through computer science to computer engineering and information technology. This is intended to give a direction to ICT growth of the University currently on a very positive trajectory.

The document has the global framework for ICT policy development and keyed into the outlook of the Draft National Policy on ICT of 2012 while maintaining its identity. It has been segmented into i.) methodology behind the policy *inter alia* - situation analysis, objectives and strategies and ii.) the policy direction with respect to ICT acquisition, sustainability and development, operation and services, management, e-government and administration, security and safety, development from software to hardware, finance and investment, e-commerce and partnership for globalization. It is noteworthy that the document also presents the sectoral operations of ICT from administration to academic.

Most importantly, it provides a management strategy for a seamless day to day ICT operations in the University to be centrally coordinated from Information and Technology Services (ITS) and a central ICT Management Committee/Complex bringing together all administrative and academic ICT units, departments and directorates, without prejudice to their respective Boards.

It is hoped that this ICT Policy will give a 21st Century policy direction to our ICT operations that will stand the test of time and place, particularly in the New Normal. It is recommended that this policy should be reviewed five yearly, in view of the super-dynamic nature of ICT.

Thank You.

Prof. Suleiman O. E. SADIKU
Chairman – ICT Policy Draft Review Committee

Vision And Mission

1.1 VISION

To be recognized as Nigeria's leading university in ICT development and utilization for excellence in capacity building and service delivery, towards a world-class and knowledge-based university.

1.2 MISSION

To build a robust ICT that will serve as the driving force of training, research and developmental engagements, towards harnessing our natural resources for the betterment of mankind, through integration of ICT into our programmes, projects and services.

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1.0 Introduction

1.1 Preamble

The University shall use the Information and Communication Technology (ICT) to improve the services it provides to staff, students and stakeholders in the business of the University. The computerization of various academic and administrative processes and functions of the University shall be guided by current advances in 21st Century ICT development as chronicled in this document – “The ICT Policy”.

1.2 Objectives

The objectives of the policy are;

- i) provide legal and administrative framework for functional ICT penetration,
- ii) provide guidelines for robust ICT operation and creation of a healthy competitive market,
- iii) establish standards for quality ICT services for a world class digital University.
- iv) stimulate or incentivize ICT investment through promotion of enabling environment that encourages continuous development of ICT infrastructure and optimizes its usage.
- v) promote platforms for the University’s participation in ICT developmental and advancement activities.
- vi) promote establishment of ICT training programmes and capacity building for ICT professionals.
- vii) Produce students with sufficient knowledge in ICT that will be capable of working and participating in the new economies and societies driven by ICT.
- viii) Leverage on ICT to facilitate learning for the benefit of students, teaching and non-teaching staff for effective and efficient curricula and service delivery.
- ix) Encourage in-house development and production of Software, hardware and other ICT components and
- x) Offer ICT services to individuals, public and private organizations.

2.0 Sustainable Development of ICT

ICT has become a recurring decimal and common denominator in the scheme of things from digital education to digital economy in the 21st Century. There is migration from analogue to digital society, every sector has to be ICT driven and this has been so captured in the mission statement of the University, where ICT is the driving force of programmes and projects of the University in training, research and community engagement.

2.1 Economic Sustainability

The paradigm shift to a digital society comes with a huge cost as ICT is expensive, requiring constant capital injection. In view of its enormous benefits that outweigh its cost, there is the need for its sustainability and development plan to keep abreast with its fast-changing pace.

ICT is for all in this University. Everyone should be ICT-compliant and ensure its sustainable development by;

- i) all stakeholders shall contribute to its funding based on Needs Assessment.
- ii) Training, research and development activities of the University shall prioritize ICT requirements in their budgets.
- iii) Commercialization of ICT products and services shall be promoted for a strong revenue generation. A central Commercial ICT Management Committee be established to coordinate e-commerce activities of the University.

2.2 Technical Sustainability

ICT is a high technology requirement field in both hardware and software. Globally, this is changing at a great pace. Ironically, there is a inequality in the digital know-how creating a digital divide between the developed, developing and least developed societies. It is on this note that partnership and collaboration in responsible consumption and production will bring the ICT within the reach of everyone towards ICT literacy with appropriate technical support in;

- i) ICT resources, both hardware and software are needed in adequate supply in order to cope with the huge demand. In addition to in-house provision through budgetary allocation, the University shall source for relevant partnership/collaboration/assistance to provide adequate ICT facilities including infrastructure.
- ii) Manpower training that will connect the working tools in (i) to production. Internal and external manpower training and development shall be promoted to keep pace with ICT revolution.

- iii) Energy requirements, particularly power supply is a bane of any development in developing countries. Adequate energy supply through suitable energy-mix at least cost shall be sourced from time to time.

2.3 Environmental Sustainability.

Socio-culturally, there is already a good buy-in from the society in general and the universities in particular. Everyone is willingly migrating to e-society. This University is a forerunner in this knowledge race and has adopted it in an environmentally sustainable manner by;

- i) Keying into ICT initiatives, policies, programmes and projects of government through its agencies.
- ii) encouraging the transformation of teaching and learning from analogue to digital.
- iii) Promoting research and development in ICT.
- iv) Conducting Needs Assessment, Environmental Assessment and Audit of ICT.

3.0 Methodology

3.1 Situation Analysis

ICT has become a global tool of engagement in virtually all facets of human endeavour, to transform the world into knowledge-based economy. Nigeria as a country is not left out, as the most populous country in Africa, needs a vibrant ICT for a knowledge-based and globally competitive society. This knowledge is driven by her citadels of learning, universities at the apex. Federal University of Technology, Minna, as the first university in Nigeria with a School/Faculty of ICT in 2008, is naturally a forerunner.

3.2 Strategies

To achieve the aforementioned objectives, the following strategies were put in place *inter alia*,

- i) improvement of appropriate investment in ICT,
- ii) improvement of academic and research programmes and projects in ICT,
- iii) integration of ICT in all programmes of the university, through homegrown contents, adoption and adaptation of internationally accepted contents into our curriculum.
- iv) development and deployment of e-learning platforms, Learning Management System for training, adoption and adaptation of internationally accepted LMS for training.
- v) improvement of sub-degree and professional programmes at the designated and accredited Center of the University.
- vi) regular training of staff on Application of ICT in Training, Research and Administration through seminars and workshops.
- vii) Community engagement on computer literacy through basic computer education, for individuals, corporate organizations and institutions.
- viii) promote establishment of campus robust network, with versatile architecture for a strong intranet within the reach of everyone on campus.
- ix) partnerships/cooperation with institutions (private or public) that will facilitate the attainment of set objectives.
- x) promotion of programmes/projects of government and corporate/private organizations that will accelerate ICT penetration.

4.0 Administrative and Legal Framework

4.1 Administration

ICT administration shall comprise of a Management Committee/Complex whose membership shall be Directors/Heads of ICT Units/Departments/Directorates, to be chaired by an appointee of the Vice Chancellor and the Secretary to be provided by the Registrar, both officers should be ICT compliant. For now, these are i) ITS ii) Computer Science, iii) Cyber Security Science iv) Computer Engineering iv) Telecommunication Engineering v) Centre for Open, Distance e-Learning, vi) Information and Media Science vii) Library and Information Science viii) Information Technology ix) Information Unit x) Search FM and xi) University Library. It shall monitor and evaluate the implementation of the ICT policy and report regularly to the University Management. This is without prejudice to the existing Boards/Committees of "autonomous" ICT Units/Directorates, viz; ITS, CODEL, Search FM with their organograms.

4.2 Legal Framework

The ICT Polcy is a document of the University Senate, as the instrument of a smooth management of the University ICT, as a driving force of the University's operations. The legal framework is derived from that of the National ICT Policy of 2001, NCC Act of 2003 and that of 2006, all adapted within the University Miscellaneous Act of 1983 and as ammended in 2004 that set our mandate for teaching, research and community engagement in science and technology programmes.

In addition to the foregoing, without prejudice, provisions in other documents of the University's statutes, rules and regulations relating to ICT and allied matters apply.

5.0 ICT Infrastructure/Facilities

The University currently has a good Optic Fibre Cable (OFC) network, requiring expansion from time to time.

5.1 ICT Backbone/Network

The University network operate on a three-layered network architecture, consisting of core, distribution and access layers. The core shall be the backbone that shall run on the best available technology.

The University Network shall comprise of Local Area Network (LAN) and Wide Area Network. The network shall also run on intranet and internet. The Intranet shall have node servers at designated areas (schools, directorates or centers), all connected to a central server at ITS, as a global best practice. The University network shall be linked to the existing national networks.

5.2 Servers and Repositories

The ICT Network shall comprise of a network of servers at designated locations to form local cloud, with redundancies/backups. The Network shall also be connected to online cloud. These clouds shall house designated repositories for university approved activities.

5.3 ICT Resources Acquisition

5.3.1 Hardware

Acquisition of all ICT hardware resources of the university shall be coordinated by ITS. This will guarantee Due Process, standard/quality and adequate record keeping/inventorization.

Though, sourcing for ICT resources is deregulated in order to multiply effectiveness, its acquisition should be channeled through ITS.

In view of the fact that ICT is the driving force of all programmes of the University, budget of every programme shall have ICT-hardware component.

5.3.2 Software

Software shall be acquired by the University, staff and students. Only licensed software shall be authorized for use on University's networks and acquired devices. Software can also be designed and developed for use in house.

ICT is the driving force of all programmes of the University, ICT-software component shall be in the budget of every programme.

Every acquisition shall follow laid down procedures and Due Process.

5.3.3 Ownership of ICT Resources

All records and inventory created by any personnel or student(s) either from operation of his/her primary schedules or special assignments shall be warehoused in the University's repository and shall remain the document/property of the University.

6.0 ICT Management

6.1 Management Information System

The MIS Unit shall superintend over information and data management by ensuring that;

- i) The ITS reserve the right to store records of staff and students as it relates to their function, progress, or as required by the University.
- ii) Each staff and student shall provide their personal information required by the University at entry and update information as may be requested at any time.
- iii) The Staff and students shall have the right to access data or information held concerning them, subject to approval from the University Management.
- iv) Access to an individual's personal information shall not be given to persons other than the individual concerned or other authorized personnel(s) except where there is a statutory requirement to do so.
- v) The accuracy and correctness of Data and Information about Staff and students are guaranteed at all times by carrying out periodic updates as provided by various units.
- vi) Records of Staff and students are properly maintained and protected.
- vii) Measures are taken for all information and software to be removed from redundant hardware before it is discarded or decommissioned.

6.2 Network Management

6.2.1 Responsibilities of the University

Theses shall include *inter alia*;

- i) Define and periodically review the technology for smart access control for different categories of users.
- ii) Maintain a smart access control to ICT infrastructure.
- iii) The rooms or spaces housing equipment shall be adequately secured with the doors, windows and the digital keys or access codes to these rooms shall reside only with the ITS Director or appointed representative.
- iv) Assets register shall be maintained by the ITS Directorate and all units of the University, to keep track and take inventory of all hardware and software in the University.
- v) All entrances to secured areas shall be appropriately labelled thus: "Only Authorized Persons are allowed".

6.2.2 Responsibilities of ITS Directorate

The Directorate of ITS shall:

- i) Ensure that ICT operators comply with generally accepted standards for safety in the provision of services.
- ii) Ensure the integrity of data and information stored on ICT infrastructure.
- iii) Foster information sharing among departments and units within the University.
- iv) Ensure the protection of the university community in cyberspace.
- v) Ensure that the appropriate security controls and mechanisms are put in place based on periodic risk assessment.
- vi) Maintain an updated ICT risk register in line with the University Security Framework.
- vii) Maintain an updated and tested Business Continuity and Disaster Recovery Plan for all critical University digital infrastructure and information assets.
- viii) Implement periodic systems and infrastructure audit.
- ix) Document baseline configurations for hardware.
- x) Implement network filtering to protect the network against threats.
- xi) Provide mechanism for controlling and auditing of ICT administrative privileges.
- xii) Implement monitoring and real-time analysis of ICT network devices, event security logs with a centralized mechanism.
- xiii) Maintain a handover record for ICT infrastructure and information during end of staff employment contracts aligned to the University Policy.
- xiv) Secure access to all the University ICT infrastructure and enforces acceptable usage of the same by the deployment of security standards, technologies and best practices.

6.3 Bandwidth Management

Cost of bandwidth is a major cost of ICT operation. While adequate bandwidth is a necessity for an effective and efficient ICT operation, its exorbitant price is a bane of ICT development.

The University shall embark on strategic funding model of internal and external sources involving all stakeholders – staff, students and other users inclusive.

The University shall partner with others in a consortium for institutional group purchasing at least cost.

Where the University uses an Internet Service Provider (ISP), ITS shall superintend over choice of ISP after a thorough background check, comparative and best-buy analyses.

ITS shall put in place routine and non-routine bandwidth management, including constant monitoring and evaluation, distribution and allocation of bandwidth based on needs assessment for effective and efficiency, to forestall abuse and misuse.

6.4 Facilities Management

6.4.1 Responsibilities of the University

- i) University shall acquire only licensed Software and quality hardware
- ii) Software and Computer-readable datasets made available by the university, must be used in accordance with regulations attached to the use of such information.
- iii) The University shall not tolerate unlicensed or pirated software on her ICT infrastructure in order to respect ownership of Intellectual Property rights and avoid litigation
- iv) The University shall activate and use encryption services with anti-virus protection in all cases where a device requires such.
- v) The University shall ensure supply of facilities on the basis of Procurement, Installation and maintenance (PRISM) with Guaranty and Warranty coverage.

6.4.2 Responsibilities of ITS

- i) Secure access to all the University ICT infrastructure and enforces acceptable usage of the same by the deployment of security standards, technologies and best practices.
- ii) Protect the rights and privacy of university's ICT infrastructure.
- iii) Build confidence in the use of ICT facilities.
- iv) All software, including open source and free wares must be approved by ITS Directorate prior to download and installation on University's ICT infrastructure.
- v) Ensure HSE protocols are observed and that e-wastes emanating from usage are carefully handled using standard practice.

6.4.3 Network Usage

Access to the University network facilities (wireless and wired) shall be controlled through the following measures:

- i) Provision of unique identity for each staff and student for accessing the internet.
- ii) All traffic shall pass through firewall or other available security technologies deemed fit for the task.

6.4.4 Derogatory Use of IT Facilities

Users shall not use the University's ICT mechanism/ facilities to engage in act that are inimical to the operations and regulations of the University.

Such misuse and abuse shall attract appropriate sanctions.

6.4.5 Use of ICT Mechanism for Communication

The users shall make use of ICT mechanism to transmit or receive communication and briefs to/from departments and units. This could be followed up with hard copies if the need arises.

6.4.6 e-Waste Management

The management of e-wastes shall be carried out using global best practice of three Rs of Reduce, Reuse and Recycle.

Waste disposal using global best practice of returning to the source through e-waste vendors or safe disposal by ITS shall be an option.

A centrally coordinated purchasing and supply arrangement under ITS supervised by Bursary with proper inventorization will guarantee accurate stock assessment and eventual e-wastes load.

Systems out of useful lifespan but within salvage values shall be auctioned to staff and students, or donated on Corporate Social Responsibility (CSR) basis.

Every computing facility comes in and goes out through this channel.

7.0 ICT Safety and Security

7.1 Access Control

7.1.1 Responsibilities of the University

The University shall:

- i) Define and periodically review the technology or smart access control for different categories.
- ii) Maintain a smart access control to ICT infrastructure.
- iii) The rooms or spaces housing equipment shall be adequately secured as the doors, windows and the keys or access codes to these rooms shall reside only with the ITS unit directorate or appointed representative.
- iv) Ensure that asset register are maintained by all Units/ Departments/ Directorates to keep track and take inventory of all hardware and software therein.
- v) All entrances to secured areas shall be appropriately labelled thus: "Only Authorized Persons are allowed".
- vi) Coordinate and lead the rollout of periodic cross-cutting security awareness and training.
- vii) To optimize students' level of academic productivity, the University reserves the right to restrict their access to certain/specific websites for a certain period of time as it may be deemed necessary.

7.1.2 Responsibilities of ITS

- i) ITS shall create online presence for all units and departments, while units/departments shall be responsible for content generation under the University domain www.futminna.edu.ng
- ii) A central register shall also be maintained by the ITS to keep inventory of the computer in the University in conjunction with bursary.
- iii) ITS shall ensure that all authorized users are not allowed to view or visit sites with offensive and inappropriate materials (e.g. pornographic sites, sites used to spread hate and racial or religious intolerance, etc.).
- iv) ITS shall ensure that all users shall not download or upload offensive materials on the University's network.
- v) ITS shall carry out routine checks on all access controls and takes appropriate action in the event of any violation.

7.1.3 Users 'Responsibilities

- i) Ensure compliance to the security and safety guidelines.
- ii) Report any security incident or threat to ITS directorate.
- iii) In line with the University's Core Values, all authorized users are not allowed to view or visit sites with offensive and inappropriate materials (e.g. pornographic sites, sites used to spread hate and racial or religious intolerance, etc.).
- iv) All users shall not download or upload offensive materials on the University's network.
- v) To optimize students' level of academic productivity, the University reserves the right to restrict their access to certain/specific websites for a certain period of time as it may be deemed necessary.
- vi) Users shall not introduce any malicious malware on to university network or install any foreign application or hardware without the consent of the ITS directorate.
- vii) Users shall not without authorization, directly or indirectly represent the University in the business of ICT and its related activities.

7.1.4 Users' Access Right

- i) All users (staff, students and University's guests) shall be granted access right to use University ICT facilities.
- ii) Global best practice on useful lifespan of ICT facilities shall apply, including expiration dates.
- iii) Note: Defaulting users shall have their access privileges disabled and penalized appropriately.

7.1.5 Bring Your Own Device (BYOD)

The University shall allow the usage of personal devices on the university infrastructure as long as such complies with the University policies and offers a similar level of protection as specified herein. Such devices shall:

- i) Be provided with an acceptable level of protection as defined by the ITS unit.
- ii) Be subjectable to ITS investigation/ audit in case of any malicious activity, cybercrime or fraud that affects the University.
- iii) Registered with the ITS unit.

7.2 Data Center/ Server Room Security

The ITS Unit shall ensure that Data Center/Server Room facilities are:

- i) Located in secure strong locations away from human or vehicle interference.
- ii) Fitted with both manual and electronic access control with CCTV monitoring system.
- iii) Protected against physical intrusion and exposure to water, dust and fire.
- iv) Protected against power fluctuations.
- v) Supported by alternate power supply.

7.3 Computer Lab Facility Security

Heads of Departments shall ensure that Computer Laboratory Facilities are:

- i) Compliant to ITS approved baseline setup and configurations.
- ii) Routinely checked for unauthorized connections.
- iii) Accessed only by authorized students or staff.
- iv) Locked down when not in use to prevent physical theft of any component.
- v) Protected against exposure to water leakages, fire and or dust.
- vi) Located in strongly burglar-proofed rooms.
- vii) Well-labelled according to approved university nomenclature.
- viii) Periodically serviced and maintained.
- ix) Report any fault or breakdown facilities to ITS Unit officially.

7.4 Health and Environment

Health and Safety of Environment (HSE) has become an issue with the revolutionary trend in ICT. Telecommunication masts at Base Transceiver Stations (BTS) have constituted physical and health hazards to the environment. Radiation from ICT gadgets and installations have arguably posed threat to users' health.

The University shall ensure safe location/installation of such equipment and users of gadgets will be given orientation based on Risk Assessment (RA) and Hazard Analysis and Critical Control Point (HACCP) protocols provided by ITS.

The safety office shall coordinate the observation of the protocols of NCC, NITDA, ITU and including those of International Union on Non-ionizing Radiation.

8.0 ICT Sectoral/Sectional Guidelines

8.1 Academic Directorate/Units

8.1.1 School of Information and Communication Technology (SICT)

The University prides itself as the first university in Nigeria to establish a Faculty/School of ICT in 2008, with the following departments, *ab-initio*,

- i) Department of Computer Science
- ii) Department of Cyber-security science
- iii) Department of Mass Communication Technology
- iv) Department of Library and Information Technology
- v) Department of Computer Engineering
- vi) Department of Communications Engineering

bringing together all like term programmes in computing and ICT, both hard and soft, under one roof for efficiency and effectiveness.

NB: The school is currently composed of

- i) Department of Computer Science
- ii) Department of Cyber-security science
- iii) Department of Information Technology
- iv) Department of Information Media Science

The school has the following mandates;

- i) training of high-level manpower in ICT, desirable for a digital and knowledge-based society.
- ii) conduct research into current advances in ICT for the University to be globally competitive in ICT.
- iii) collaborate with ITS to develop and advance University's capacity building programmes, projects and services.
- iv) engage in ICT community services in collaboration with ITS.

8.1.2 Centre for Open Distance e-Learning

The center is saddled with offering training on-line, in line with the national massification policy of education to improve access to education for multitude of non-residential candidates, to promote;

- i) education without border.
- ii) work and study ecosystem.
- iii) virtual education.

Currently, programmes not requiring physical contact are creating on-line alternatives.

8.2 Non-Academic - Administrative Directorate/Units

8.2.1 The Information and Technology Services.

ITS is a directorate with three (3) key subunits namely:

i) Training Unit

The training arm of the unit has been actively engaged in several training exercises within and outside the university campus. Aside from the in-house beneficiaries that include the university staff and students, the unit also extends ICT training beyond the university community as corporate social responsibility (CSR).

ii) Network Unit

The Network subdivision manages the ICT hardware infrastructure for the university. Aside from routines check to ensure availability of internet services in both campuses, the unit also carry-out some key upgrades and extensions of services to dead zones.

iii) and Management Information System (MIS)

MIS subdivision has designed, developed and deployed some applications (software) as part of efforts to entrench the use of technology and encourage digital information processing and records in the university, The applications (software) are in tandem with the routine schedules of staff.

8.2.3 Registry (Documentation, Mailing and Communication)

There is analogue to digital migration in documentation, communication and mailing in the 21st century, particularly in the new normal. These are going paperless to save time, cost and energy, and more environmentally friendly.

- i) Documentation, mailing and communications shall run on University's ICT Network as the platform for digital migration.
- ii) The administrative Directorates/Department/Units of the University shall key into this migration to keep pace with globalization. It shall adopt and adapt best practices in the University administration driven by ICT.
- iii) It shall review and update its operation from time to time with current advances in communication and mailing globally.

- iv) The University shall use the ICT technologies to improve the services it provides to staff, students and stakeholders in running the business of the University.
- v) The computerization of various administrative processes and functions shall be put in place in order to build integrated information management repository.
- vi) Administrative computing shall be from using in-house-developed applications. The ITS directorate shall design and develop such applications for administrative computerization.
- vii) ICT shall be the driving force all activities of registry in order to auto-run recording keeping and information management.

8.2.4 Student Support Services

The office of Student Support Services, in collaboration with the Student Affairs Division and ITS shall coordinate all e-services in support of students' academic sojourn.

ICT Student Support Services is about creating effective and efficient e-learning environment via;

- i) having internet infrastructure for e-learning.
- ii) creating access to computing facilities.
- iii) digital and virtual libraries with current and database subscriptions.
- iv) facilitating acquisition of e-gadgets that promote e-learning
- v) promoting the deployment of home-grown applications for e-learning,
- vi) adopting and adapting global applications.
- vii) training both local/offline and online
- viii) stimulating healthy e-learning competition amongst students
- ix) linking students to e-learning opportunities including grants and scholarships.
- x) encouraging students to go into e-entrepreneurship and e-business as a work-study programme, in collaboration with the Entrepreneurship Development Centre (EDC).

8.2.3 Bursary

- i) The Bursary shall digitalize its operations from records to financial transactions.
- ii) It shall key into the digital economy of government, adopting current advances in e-banking and finance.
- iii) It shall adopt e-Commerce technology for its purchasing and supply.
- iv) It shall adopt and adapt global best practice in financial management from time to time.

8.2.5 Broadcasting

The University operates its information dissemination via its print and electronic media, viz;

- i) The Information Unit
- ii) and Search FM

The Search FM runs a digital audio-application for live streaming in addition to radio broadcasting. Operating a Television is being conceived to take campus broadcasting to enviable height.

The services of these shall be deployed to promote the ideals of the University.

9.0 ICT and Gender

The university promotes gender equality in its ICT Services. There is equitable access to ICT services.

It promotes women and youths in ICT and bridges horizontal inequalities.

It manages vertical inequalities based on ICT Needs Assessment with equity.

10.0 Training

The University as a specialized University of Technology that drives its programmes services on ICT shall embark on the followings;

10.1 Teaching and Learning

- i) Establishment of academic and research programmes and projects in ICT,
- ii) Integration of ICT in all programmes of the university, through homegrown contents
- iii) Adoption and adaptation of internationally accepted contents into our curriculum development and deployment of e-learning platforms, Learning Management System for training,
- iv) Entrenching sub-degree programmes designated and accredited Center/ directorates of the University, e.g. CPES and ITS
- v) Regular training on Application of ICT in Training, Research and Administration through seminars, workshops and certifications.
- vi) Community engagement on computer literacy through basic computer education.

10.2 Students' Training

- i) Attention shall be paid to students training needs in compliance with university procedures and global best practices.
- ii) Shall be absorbed and trained in ICT trending technologies available in the university with priority to internal students.
- iii) Orientation on the use of online registration portal for old and new students shall be consistently driven by the ITS Directorate.
- iv) Special training and services in ICT shall be available at approved rates.

10.3 Professional Certification

ICT certification has become imperative in view of challenging labour market demand of ICT professionals. Several training centers, most by private operators exist in many places, and several are online. This has led to quality compromise and created the need for ICT professional certification.

In conjunction with relevant professional bodies, professional training leading to professional certification shall be conducted by relevant units/ departments/ directorates of the University, leading to professional certification. Delivering professional programmes at designated and accredited Center/directorates of the University, e.g. CPES and ITS, for Data Management and Analytics, CISCO, HUAWEL, ORACLE, etc.

11.0 Research and Development

11.1 Research Management

Management of Research through ICT would scale up research vibrancy. Most research funds/grants are placed online, such that only a robust ICT culture to drive research will make accessible such opportunities.

The Directorate of Research, Innovation and Development (DRID) shall ensure integration of ICT to drive research and development as critical sector of the university and promote borderless research networking. This is achievable by providing for ICT costs in research grant budgeting.

11.2 Innovation and Development Management

Innovation leads to development as it provides the critical thinking to advance knowledge to development.

DRID shall provide ICT support that will facilitate innovation by establishment of robust database on research and development, especially on current advances.

Intellectual Property Technology Transfer Office (IPTTO) shall have robust ICT content for ease of operation, identifying innovation, invention and breakthroughs for patenting.

12.0 Community Engagement

12.1 Digital Literacy

- i) Community engagement on computer literacy through basic computer education.
- ii) Take advantage of the services of national digital literacy initiatives of government, e.g. NCC initiatives of School Access Project, Community Communication Centers and NITDA Digital Centers/Villages in schools, etc.
- iii) Attract the benefits of corporate organizations and multinationals in their Corporate Social Responsibilities to provide ICT support in training and infrastructural development.

12.2 e-Governance and Administration

To fully integrate ICT to drive our mandate of training, research and community engagement, there is need to develop vibrant ICT sector to support all sectors of the university for efficiency, enhanced productivity and transparency.

The University aspires to improve its governance and administration through digitalization and automation of its operation from human resource to financial management by *inter alia*,

- i) The University management shall run a digital, least manual and least paper administration to fast track its activities, including current advances in digital/e-communications, viz; e-mailing, telecommunication.
- ii) The Registry shall keep digital records of both staff and students, and run least paper, least manual, current advances in digital/e-communications.
- iii) The Bursary shall keep current advances in digital/e-banking and finance/accounting culture, running on governmental financial e-platforms.
- iv) All other sectors of the university shall key into the University template for e-governance and administration.

13.0 ICT Entrepreneurship

ICT and Entrepreneurship are the two driving forces of the university mandates of training, research and community engagement. Therefore, the entrepreneurship content of every programme shall have ICT component.

The Entrepreneurship Development Center (EDC) in conjunction with ITS shall coordinate a veritable ICT entrepreneurship development, from planning to execution.

The Student Support Services will collaborate with Students Affairs Division to take full advantage of ICT entrepreneurship for a vibrant student empowerment through skill acquisition in ICT, in line with the University motto – “Technology for Empowerment”

13.2 ICT MSMEs

The Entrepreneurship Development Centre (EDC) in conjunction with FUTMIN Ventures shall promote ICT Medium, Small and Micro-Enterprises for the university community - both staff and students, in;

- i) telecommunication
- ii) information technology
- iii) postal services
- iv) broadcasting
- v) art and culture
- vi) gaming and recreation

The Student Support Services will collaborate with Students Affairs Division to take full advantage of ICT MSMEs for viable student Work-Study programme, training in development of business plans, access to development/business financing, etc., in line with the University philosophy of “Training Job Creators and Not Job Seekers”.

The University shall establish ICT business hub, for ICT business incubation, for the ICT MSMEs drawing from national and global opportunities. These should be coordinated by the ICT Commercial Management Committee on behalf of the University.

14.0 ICT Finances

14.1 Funding and Investment

ICT is expensive but its benefits outweigh its costs. A well planned and thought-out investment in ICT yields good return in multiple folds.

The University shall invest in ICT to drive its mandates, to achieve its national and internationalization vision of "Nigeria's leading" and "world-class" respectively.

In addition to grants and aids, the funding shall involve all stakeholders, namely; staff, students and the University community. A robust funding model on cost sharing amongst stakeholders shall be worked out based on ICT Needs Assessment and shall be reviewed from time to time, for efficiency and sustainability.

14.2 Consultancy Services

The University is poised to be a Service Provider in ICT to its community and beyond and draw expected return. Therefore, ICT trainers are expected to attract trainees, ICT researchers are expected to attract grants and solve problems, engage the community through dissemination of solutions to societal problems, and generate revenue for the University.

The University organ overseeing this is the FUTMIN Ventures in conjunction with relevant unit/department/directorate and ITS.

14.3 e-Commerce (Purchasing and Supply)

University's ICT facilities shall not be used for any commercial purpose except on pre-approved ground and would be subject to conditions to be determined by the University.

The University organ overseeing this is the FUTMIN Ventures in conjunction with relevant unit/department/directorate and ITS.

Presently, e-Commerce shall apply to;

I. Software and Hardware Development

The University shall engage in software and hardware development projects for educational, developmental and allied purposes. These projects through appropriate platforms shall be commercialized to generate income for the University where applicable.

II. Procurement, Installation and Upgrade

The University shall promote the acquisition of computing facilities and supply such on e-commerce basis, in the cause of advancement of digital economy. The principle of Procurement, Installation and Maintenance (PRISM) shall apply.

15.0 Collaboration/Partnership

15.1 National

For sustainable ICT policy, it shall have national outlook, thinking national with local action in the University, therefore it requires national collaboration/partnership.

Presently, the University has a good relationship with ICT state actors, viz; the Federal Ministry of Communication Technology and Digital Economy through its agencies;

- i) Nigerian Communications Commission (NCC) and
- ii) National Information Technology Development Agency (NITDA).

This should be active at all times and be abreast with current advances and development in ICT. The University shall key into national programme/project in ICT for efficient, productive and transparent service delivery.

15.2 International

ICT as the critical tool for globalization, the University shall seek ICT partnership with the best ICT international community for global best practices in training, research and community engagement, through;

- i) National Universities Commission Linkages
- ii) Association of West African Universities
- iii) Association of African Universities
- iv) and Association of Commonwealth Universities

16.0 Acronyms

16.1 Definition of Acronyms

BTS	Base Transceiver Station
BOYD	Bring Your Own Device
CCCTV	Close Circuit Camera Television
CODeL	Centre for Open Distance e-Learning
CPES	Centre for Preliminary and Extra-mural Studies
DRID	Directorate for Research, Innovation and Development
EDC	Entrepreneurship Development Centre
FM	Frequency Modulation
FUT	Federal University of Technology
FUTMIN	Federal University of Technology Minna
HACCP	Hazard Analysis and Critical Control Point
HSE	Health, Safety and Environment
ICT	Information and Communication Technology
ICDL	International Computer Driver's License
IPTTO	Intellectual Property Technology Transfer Office
ISP	Internet Service Provider
ITS	Information Technology Service
LAN	Local Area Network
LMS	Learning Management System
MIS	Management Information System
MSMEs	Micro, Small and Medium Enterprises
NCC	Nigeria Communications Commission
NITDA	National Information Technology Development Agency
OFC	Optic Fibre Cable
PRISM	Procurement, Installation and Maintenance
RA	Risk Assessment
SICT	School of Information and Communication Technology
SIWES	Students' Industrial Work Experience Scheme

Acknowledgements

The Committee wishes to acknowledge the effort of the committee that drafted the first ICT Policy Document hereby reviewed. It also remains grateful to relevant stakeholders consulted in order to produce this final draft policy, particularly those that responded to the call for memoranda. Their views have made priceless contribution to this document. Sources of information are hereby acknowledged. Most importantly, we acknowledge the patience of the University Management, giving the Committee enough time to do a good job.

Thank you all.

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