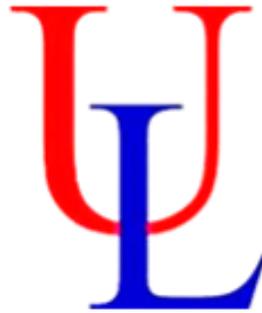# University of Liberia

INFORMATION
&
COMMUNICATIONS TECHNOLOGY

STRATEGIC PLAN 2019-2024

FOCUS: PEOPLE, PROCESSES & TECHNOLOGY

Office of Information Technology (OIT)
University of Liberia

Web: OIT.UL.Edu.Lr
Email: OITSupport@UL.Edu.Lr
Phone Numbers:

Administrative and Staff Support	0880413904
Faculty Support	0880413904
Student Support (SchoolLink)	0880206491
Student Support (SchoolLink)	0775824506
Student Support (General IT Support)	0775824506
Student Support (Computer Labs Support)	0775823990

Our Focus: *People, Processes* and *Technology*

Letter from the Chief Information Officer

Dear Colleagues:

Since its creation, the University of Liberia has forged a distinct path to academic excellence. And, as was intended and envisioned by its founders, the University has over the years been able to draw people from all parts of the country, especially young people, and educate them in the arts, sciences and politics.

Ostensibly, the 21st Century has brought a lot of changes, many, if not all, of which have been driven by Information and Communications Technologies or ICTs. ICTs have had significant impact of every sector of our society including government, business, academia and other areas. Yet unfortunately, the University of Liberia, the nation's largest institute of higher learning has struggled over the years to incorporate and integrate ICTs as robustly as other universities around the world. Put succinctly, the University has lagged behind in its efforts to align ICT with its mission and strategic goals, in leveraging ICT to create strategic advantage, and in leveraging ICT to create an environment that empowers administration and faculty to enhance students' learning experience, improve business operations, and deliver quality services.

ICTs have become one of the most central tools in today's higher education environment. From the first time prospective students and families access a university's website to the many ways our faculty use technology to enhance their academic plans, ICTs now pervade every aspect of academia and the world at large. ICTs are also crucial in enabling the seamless operation of daily university functions, and its availability, adaptability and mobility can help to propel an institution to the top of its class.

In view of the above, the University, through its leadership decided there is a need for an Office of Information Technology (OIT) that will align ICTs with its strategic plan and mission. This unit of the University is expected to play a crucial role in the University's transformation in the coming years.

The Office of Information Technology (OIT) was established to provide the highest-quality support and services to its "constituents"- administration, faculty, staff, students, researchers, alumni, et al- and partner with the university's stakeholders, to position the University as a model institution for the collaboration between higher education and technology.

For me, it is a privilege and opportunity to serve as the first Chief Information Officer (CIO) and head of the OIT, of the nation's largest and oldest state-owned university. Serving in this capacity requires a lot of things including but not limited to, building a dynamic, innovative and vibrant team that will help drive the digital transformation that the University is about to experience, and developing a strategic ICT plan that will guide this digital transformation.

In this light, it is my pleasure to present the Information and Communications Technology Strategic Plan for 2019-2024 to the University community. This Plan provides a blueprint for achieving the vision of leveraging reliable and emerging technologies and information resources to support the mission of the University. The Plan draws upon the University's Strategic Plan 2019-2014, ICT priorities across campus, key ICT trends in higher education and industry, and a strategic analysis of current ICT operations. It is a product of University-wide discussions about the role of ICTs in the evolving landscape of higher education and in addressing institutional challenges and opportunities.

The ICT Strategic Plan 2019-2024 identifies seven (7) goals, their respective objectives, and key strategies. It focuses on strategies pivotal for creating a competitive advantage for the University through the effective use of existing and emerging technologies. The plan also strives to balance "commodity" ICT services that are vital for smooth day to-day operations and leveraging new, innovative technological solutions. Furthermore, the Plan provides strategic and tactical ideas based on a high-level framework. It does not address the resource needs; it is understood that new resources and the re-allocation of some existing resources will be required to execute strategies and accomplish projects identified in it.

This ICT strategic plan that my staff and I have created illustrates the direction we feel the OIT is going, and it highlights the crucial culture change that is expected to come within the unit. For the past several months, the OIT has engaged in a dramatic shift from a general perception which viewed it as a mere "fix it" or ICT crisis response department, to one that resembles a fully functional university ICT unit, focused on innovation, creativity, customer care and the provision professional and quality services . This dramatic shift has also brought a new culture that is turning the OIT into a unit that is ready to support the University in accomplishing its mission.

The ICT Strategic Plan 2019-2024 is a living document, which will be regularly visited, assessed and adapted as IT trends and the university's needs evolve and change. We feel that this plan embodies the OIT's new culture and the direction which the University plans to take as is enshrined in its Strategic Plan 2019-2024.

Finally, I extend my gratitude to all stakeholders within the University community for guiding the process and providing valuable input about the needs of the University. Thanks to the faculty, students, staff, and administrators who provided ideas for the ICT Strategic Plan 2019-2024. Together, I am confident that we will successfully achieve our "Top 20 in 7"goal.

Dr. Darren Wilkins
Chief Information Officer-UL

Executive Summary

The purpose of the Information Communications Technology Strategic Plan 2019-2024 is to leverage ICTs to advance the mission of the University of Liberia, to help achieve the goals identified in its Strategic Plan, and to shape the future direction of ICT to create competitive advantage for the University. The ICT Strategic Plan is the culmination of an in-depth process that involved strategic thinking, a comprehensive SWOT analysis, research on ICT and higher education trends, and discussions about technology needs with the University community. The Plan was envisioned and created with guidance from major stakeholders across the University Community and beyond. It provides direction and sets ICT priorities at the University of Liberia for the next five years. In addition, the Plan comprises of seven overarching goals, their objectives and key strategies to achieve those goals. This strategic plan is a living document, which will be regularly visited, assessed and adapted as ICT trends and the university's needs evolve and change.

Mission

The Mission of the OIT is to align Information Technology with the University's Strategic Plan, in particular, its academic mission, administrative and business operations.

Vision

Our vision is to build and maintain an innovative, reliable, dynamic, secure and efficient IT environment that enables, maintains, promotes and supports teaching, learning, research, business and administrative operations at the University of Liberia, leveraging innovative and emerging technologies

Our Core Values

Customer-focused and Service-driven*- Our customers remain our top priority, therefore, we are committed to ensuring that their ICT needs are met in a timely and efficient manner. We are also committed to providing quality services to our customers to enable and support a better learning environment.*

Integrity*: We are guided by virtues of honesty, transparency, and fairness in our actions.*

Innovation*: We are committed to exploring innovative and emerging technologies and implementing creative solutions to provide greater value to the university community.*

Reliability: *We are committed to providing reliable information resources and secure information technology infrastructure to the university community through excellent support in a timely and friendly manner.*

Adaptability: *We adapt to the changing needs of the University to ensure continuous improvement.*

Collaboration: *We encourage and harness collaboration among people, units, and institutions for serving the common good.*

Our Focus

People, Technology/Tools and Processes

Summary of the Goals and Objectives of the Strategic Plan

The Strategic Plan consists of five overarching goals, their respective objectives, and key strategies for achieving the objectives.

1. **Build an efficient, effective, innovative, dynamic, customer-focused and service-driven ICT department that will support the University's mission**

    1.1. Restructure the OIT from a one-unit section to a multi-unit department

    1.2. Develop a new Organogram that reflects the changes and responsibilities of the department.

    1.3. Assess, adjust and re-assign resources within the department if/when necessary

    1.4. Develop legal and regulatory instruments (IT Policy, Acceptable Use Policy, Email Policy, Security policy, etc), to guide the department and the university community

    1.5. Develop a robust recruitment and retention mechanism that will ensure to support the department's goals.

    1.6. Setup a training program that will build the capacity of staff within the department for efficiency, increased skills and the ability to aggressively support and rapidly respond to changing times and the changing demands of the university community

2. **Improve business processes and operational efficiencies of the University through effective implementation of ICT.**

    2.1. Perform a robust assessment of infrastructure, systems, business processes and tools and make necessary adjustments where necessary.

    2.2. Assess the human capacity through interviews, questionnaires, surveys, etc, and setup capacity building initiatives wherever they are necessary.

    2.3. Support, upgrade, and enhance current business processes, tools, and administrative systems.

    2.4. Evaluate and implement new technologies to improve operational efficiency.

2.5. Ensure excellent service to enable the effective use of technology, resources, and systems by the University community.

3. **Provide innovative and effective technologies, resources and services to advance the academic mission of the University.**

   3.1. Setup an Academic Computing Unit to support instruction, learning and research
   3.2. Provide technology systems and services to enhance student learning and to foster curricular innovation.
   3.3. Provide technology infrastructure and support for research, scholarship, and creative activities.
   3.4. Provide Technology Enhanced Classrooms
   3.5. Ensure computer labs are fully connected, functional and equipped with the necessary instructional, research and learning tools
   3.6. Provide a repository for educational software, especially, Free and Open Source Software (FOSS), to enhance instruction, learning and research.
   3.7. Develop a platform for Online Learning
   3.8. Provide access to online academic journals and other academic resources
   3.9. Create a database of instructional videos to aid student learning.

4. **Provide an innovative technology environment that gives ALL students secure and reliable access to teaching, learning and research within the University community.**

   4.1. Build an assistive learning lab that is equipped assistive technologies for students that are physically challenged
   4.2. Develop a repository of instructional videos to enhance distance learning
   4.3. Develop an online learning program to give remote access to courses provided by the University community

5. **Build a reliable, secure, and efficient information technology infrastructure and maximize staff potential to foster innovation and excellence**

   5.1. Maintain and enhance the IT infrastructure to support the operations of the University.

   5.2. Provide a secure computing environment that ensures data privacy and integrity and mitigates cyber-security threats.

   5.3. Ensure a strong IT workforce capable of achieving the information technology goals

6. **Provide technologies to enhance communications with the University community and the world.**

   6.1. Leverage web, social media, and mobile technologies to provide effective and consistent content delivery.

   6.2. Support effective means of internal and external communications for all University constituent groups.

7. **Establish innovative programs for the sustainability of the OIT leveraging our reliable, secure, and efficient ICT infrastructure as well as its expertise.**

   7.1. To identify innovative ways to attract additional revenue for the operations and sustainability of all OIT programs.

   7.2. Align funding and explore new funding sources essential for IT operations and new strategic initiatives

Goals, Objectives, and Key Strategies

<u>Goal 1</u>: Build an efficient, effective, innovative, dynamic, customer-focused and service-driven ICT department that will support the University's mission

Objective 1.1: Restructure the OIT from a one-unit section to a multi-unit department

Key Strategies

- ➢ Dissolve the old IT Structure
- ➢ Review personnel files of existing staff
- ➢ Restructure the OIT where necessary
- ➢ Develop a new organizational structure

Objective 1.2: *Develop a mechanism that reflects the changes jobs and responsibilities of the staff in the OIT.*

Key Strategies

- ➢ Review and revise terms of reference of the staff where necessary;
- ➢ Review staff resumes or curricula vitae;
- ➢ Reassign staff where their skills are needed;
- ➢ Develop new organogram;

Objective 1.3: *Assess, adjust and re-assign resources within the department if/when necessary.*

Key Strategies

- ➢ Perform a general assessment of all assets in the department;
- ➢ Incorporate lab techs into OIT;
- ➢ Review all processes and procedures;
- ➢ Reassign assets and resources where and when necessary;

Objective 1.4: *Develop legal and regulatory instruments (IT Policy, Acceptable Use Policy, Email Policy, Security policy, etc), to guide the department and the university community.*

Key Strategies

- ➢ Perform an assessment of all ICT operations;
- ➢ Review existing policies and standards;

- ➢ Develop new ICT policies, procedures, and standards in collaboration with the Legal Affairs department and the approval of the President;
- ➢ Develop OIT Strategic and operational plan;

Objective 1.5: *Develop a robust recruitment and retention mechanism that will support the department's goals.*

Key Strategies

- ➢ Set up an internship program that allows innovative, dynamic and enthusiastic students contribute to the department
- ➢ Advertise paid and unpaid job opportunities in OIT, both on campus and off campus.
- ➢ Use a coaching or mentorship program to help develop staff capacity
- ➢ Recognize employees through various means and provide other forms of incentives to ensure job satisfaction

Objective 1.6: *Setup a training program that will build the capacity of staff within the department for efficiency, increased skills and the ability to aggressively support and rapidly respond to changing times and the changing demands of the university community.*

Key Strategies

- ➢ Develop and implement training plans;
- ➢ Work with ALL stakeholders to successfully implement training plans;
- ➢ Work with Testing Center to introduce ICT Certification testing;
- ➢ Work with Teaching and Learning Center to provide training;
- ➢ Identify local and international training opportunities for staff;

Goal 2: Improve business processes and operational efficiencies of the University through effective implementation of ICT.

Objective 2.1: *Perform a robust assessment of infrastructure, systems, business processes and tools and make necessary adjustments where necessary.*

Key Strategies

➢ Assess current business process and technologies;

➢ Identify and implement new and innovative business processes and technologies as needed, including the use of Enterprise Resource Planning systems/software;

➢ Improve business efficiency by streamlining workflow and automating business processes;

➢ Ensure that access to data and analytical tools are available to facilitate compliance decision making;

➢ Improve technical support for all administrative processes and business systems;

Objective 2.2: Build capacity of staff responsible for business operations within the University community.

Key Strategies

➢ Assess existing human capacity through interviews, questionnaires, surveys, etc,;

➢ Identify strategic areas that require operational efficiency;

➢ Design training programs targeted at improving staff skills in business operations;

➢ Identify and recommend both local and international training for staff;

➢ Provide a training plan that does not interfere with daily operations;

➢ Provide regular training for staff to improve business operations;

Objective 2.3: Support, upgrade, and enhance current business processes, tools, and administrative systems.

Key Strategies

➢ Maintain a skilled helpdesk that provides both technical and customer services;

➢ Identify software and hardware that require upgrade;

➢ Setup a computer hardware and software repair team;

➢ Perform regular system maintenance that includes updates and necessary upgrades;

➢ Set up a security mechanism that provides antivirus definitions, disaster management systems, etc.;

Objective 2.4: *Evaluate and implement new technologies to improve operational efficiency.*

Key Strategies

➢ Research new ICT solutions that meet organizational needs including cost, usability, security, compliance, and scalability;

➢ Identify and implement new business technologies and systems, including enterprise resource planning (ERP) options, which can improve the administrative functions of the University;

➢ Investigate and implement technological solutions to help assessment and analytical initiatives;

➢ Research and deploy solutions for managing, searching, and archiving digital assets such as text, photographs and videos;

Objective 2.5: *Ensure excellent service to enable the effective use of technology, resources, and systems by the University community.*

Key Strategies

➢ Develop and enhance training using various modalities for students, faculty, and staff;

➢ Work with departments to provide training on enterprise technologies;

➢ Identify and implement ways to further strengthen helpdesk operation;

➢ Enhance communications to keep the University community informed of changes in the ICT environment;

Goal 3: Provide innovative and effective technologies, resources and services to advance the academic mission of the University.

Objective 3.1: *Setup an Academic Computing Unit to support instruction, learning and research.*

Key Strategies

- Identify qualified individuals to serve as instructional technology specialists;
- Provide training and seminar for instructional technology specialists in the deployment maintenance and uses of educational technology;
- Allow staff to attend local and international technology conferences, seminars and other programs to keep up with the trends in educational technologies;

Objective 3.2: Provide technology systems and services to enhance student learning and to foster curricular innovation.

Key Strategies

- Create individual and campus-wide opportunities for faculty, staff, and students to explore, evaluate, and implement new technologies to improve teaching, learning, and innovation.
- Ensure all technology resources are up-to-date especially computer labs;
- Research Free and Open Source (FOSS) educational technologies to allow faculty, staff and students have more option to software;
- Setup and support a robust Learning Management System (LMS) and instructional technology to support ubiquitous learning, learning analytics, and adaptive learning;
- Expand ePortfolio technologies to enhance the creation and preservation of personal learning experiences;

Objective 3.3: Provide technology-enhanced classrooms to support instruction and learning.

Key Strategies

- Setup and support dependable ICT-enabled classrooms, computer labs, and virtual learning spaces;
- Setup and support one-computer classroom systems to enable instructors make instruction and learning more interactive;
- Setup and support mobile computer labs to facilitate the instructional and learning processes;

Objective 3.4: *Ensure computer labs are fully connected, functional and equipped with the necessary instructional, research and learning tools.*

Key Strategies

- ➢ Work with POD to ensure infrastructural readiness (Electrical outlets, floors, lighting etc);
- ➢ Designate a team leader responsible for all computer labs;
- ➢ Research and deploy academic software including FOSS;
- ➢ Connect all computer labs the University's fiber optic network;
- ➢ Perform regular updates and upgrades of computer labs;

Objective 3.5: *Provide a repository for educational software, especially, Free and Open Source Software (FOSS), to enhance instruction, learning and research.*

Key Strategies

- ➢ Assess and amalgamate all software licenses of the University;
- ➢ Develop a database to store information on all software used at the University;
- ➢ Explore and research Free and Open Source (FOSS) to allow faculty, staff and students have more option to software and to increase the University software repository;
- ➢ Connect with the Open Source community and other universities around the world that are engaged in the development and uses of FOSS;
- ➢ Set up FOSS community within the University;
- ➢ Provide training for FOSS;

Objective 3.6: *Develop an online learning program to give remote access to courses provided by the University community.*

Key Strategies

- ➢ Ensure that there's a need for online courses;

- ➢ Work with the VP-AA, VPFAA, VP-GS and the VP-ID to ensure that the University is ready to provide courses online;
- ➢ Assess and ensure that the entire network of the University of Liberia including LAN, WLAN, and WAN are capable of supporting an online program;
- ➢ Work with the VPAA and VP-GS to set up online learning program and design online courses and curriculum;
- ➢ Identify a free or cost-effective learning management system;
- ➢ Do a pilot test of the selected learning management system;
- ➢ Setup a "train-the-trainer" program for OIT staff;
- ➢ Setup and support a robust Learning Management System (LMS) to offer UL courses online using cloud computing technology;
- ➢ Populate LMS with the University's programs and courses;
- ➢ Ensure LMS is integrated with other systems within the University community including SchoolLink;
- ➢ Work with Teaching and Learning Center to provide training for current and potential online instructors;
- ➢ Setup training for students;
- ➢ Advertise online courses on the University website and through University Relations;
- ➢ Design a robust plan for providing support for the provision of online courses;
- ➢ Perform regular updates and security checks to maintain integrity and reliability of the system;

Objective 3.8: *Provide access to online academic journals and other academic resources.*

Key Strategies

- ➢ Work with the Vice President for Academic Affairs to identify academic journals;
- ➢ Work with the Director of Library System to identify and deploy academic journals;
- ➢ Reach out to open community to identify and make available access to open academic journals;
- ➢ Subscribe to online journals as selected by the VP for Academic Affairs;

Objective 3.9: *Create a database of instructional videos to aid student learning.*

Key Strategies

- ➢ Obtain a state-of-the-art camera and video system
- ➢ Set up a repository system that includes a server, data backup systems and cloud solutions
- ➢ Obtain permission from the University of Liberia administration and faculty to record classes
- ➢ Obtain educational videos from the internet for use within the university community

<u>Goal 4</u>: Provide an innovative technology environment that gives ALL students secure and reliable access to instruction, learning and research within the University community.

Objective 4.1: *Develop robust, reliable, and secure campus network.*

Key Strategies

- ➢ Assess entire network for reliability, security availability
- ➢ Ensure all networking equipment are up-to-date
- ➢ Purchase additional networking equipment to connect a wired and wireless network
- ➢ Place access point around the campuses and in strategic areas on all UL campuses;
- ➢ Work with USAID-Digital Liberia to build the campus network
- ➢ Work with LIBTELCO for internet connectivity through fiber optic connection
- ➢ Work with CSQuared to build a fiber backbone for the UL Campuses
- ➢ Create active directory for authentication purposes
- ➢ Set up a security mechanism to protect UL's data;
- ➢ Set up a repository of software both open source and proprietary
- ➢ Build a data center manage the UL's network

Objective 4.1: *Explore, acquire and maintain a portfolio of cloud computing services to provide ubiquitous, 24/7/365, reliable and secure access to educational resources for all students.*

Key Strategies

➢ Make cloud services a standard alternative for educational and business solutions;

➢ Explore the various cloud solutions to identify the ones that meet the University's goals;

➢ Ensure that budgetary allotment is made for cloud services;

➢ Setup local backup solutions for data stored in the cloud;

➢ Setup cloud computing training for staff;

Objective 4.3: *Provide assistive technologies to accommodate physically-challenged students.*

Key Strategies

➢ Assess the current technology environment;

➢ Identify assistive technologies for educational institutions;

➢ Build assistive technology labs with all necessary equipment and resources;

➢ Work with other institutions to share resources and knowledge in assistive technologies;

➢ Provide training for staff in the deployment and uses of assistive technologies;

➢ Identify an assistive technology specialist to maintain assistive technologies environment;

Goal 5: **Build a reliable, secure, and efficient information technology infrastructure and maximize staff potential to foster innovation and excellence**

Objective 5.1: *Maintain and enhance the IT infrastructure to support the operations of the University.*

Key Strategies

➢ Provide a robust, resilient, and reliable wired and wireless data network infrastructure.

➢ Build and maintain a data center (hardware and software) to ensure reliability, availability and scalability to meet future needs.

➢ Provide a robust and reliable voice communications infrastructure.

➤ Develop a strategy for integration of personally owned devices to provide secure and effective access to enterprise data and services.

➤ Develop a cloud computing strategy based on benefits, return on investment, security, and data privacy risks.

➤ Identify and implement improvements that reduce power consumption within the IT environment.

Objective 5.2: *Provide a secure computing environment that ensures data privacy and integrity and mitigates cyber-security threats.*

Key Strategies

➤ Create a comprehensive IT security position to help address the challenges with information security, network security, disaster recovery, and compliance issues.

➤ Develop an information security framework based on accepted best practices and standards that will be the basis of managing and mitigating cyber-security threats.

➤ Implement and maintain hardware and software essential for institutional information security.

➤ Educate the campus community about information security issues through various training modalities and opportunities.

➤ Enhance, operationalize, and periodically test the IT disaster recovery plan.

Objective 5.3: *Ensure a strong IT workforce capable of achieving the information technology goals of the University.*

Key Strategies

➤ Provide technical and leadership professional development opportunities for IT employees.

➤ Provide flexibility in scheduling and projects to allow staff time to work with innovative technologies.

➤ Recruit, develop, and retain a strong permanent staff and student staff.

➢ Establish cases for new employee positions focused on the strategic needs of the University and the IT Strategic Plan.

Goal 6: **Provide technologies to enhance communications with the University community and the world.**

Objective 6.1: Leverage email, the web, social media, and mobile technologies to provide effective and consistent content delivery.

Key Strategies

➢ Develop an email policy for the University
➢ Deploy institutional email system for the University
➢ Provide training in collaboration with Teaching and Learning Centers for ALL University staff on the uses of email and other collaboration platforms
➢ Deploy a web content management system (CMS) to improve web usability, accessibility, and content delivery.
➢ Create a strategy to enhance University's web and social media presence.
➢ Improve the social media presence of departments to engage with users more effectively.
➢ Implement a mobile application to provide content and functionality uniquely suited to mobile devices.
➢ Provide more training on the usage of communications and collaboration technologies.

Objective 6.2: Support effective means of internal and external communications for all University constituent groups.

Key Strategies

➢ Develop a comprehensive plan for digital signage across the campus.

- Setup and Optimize the effectiveness of a University calendar, event, and notification systems.
- Research and provide technical solutions to enhance communications with alumni, the community, and other educational and research institutions (both local and international0 and donors.

Goal 7: Establish innovative programs for the sustainability of the OIT leveraging our reliable, secure, and efficient ICT infrastructure as well as its expertise.

Objective 7.1: To identify innovative ways to attract additional revenue for the operations and sustainability of all OIT programs.

Key Strategies

- Set up training programs that can help build the ICT capacity of Government, the Business Sector, and other sectors.
- Develop systems, software that can benefit Government, the Business Sector, and other sectors
- Provide consultancy for businesses, government, NGOs, etc
- Provide alternative Wi-Fi access for students on a commercial basis
- Provide other services including printing, document imaging, web design, document publishing etc for faculty, staff and students.

Objective 7.2: Align funding and explore new funding sources essential for IT operations and new strategic initiatives.

Key Strategies

- Demonstrate and communicate, through a transparent and inclusive governance process, how IT directly impacts the core institutional missions of teaching, research, scholarship, and service to the community.
- Develop metrics and quantitative measures to establish the effectiveness of IT projects.

- Develop a long-range capital plan for IT including funding for lifecycle replacement of hardware and systems including classroom technology.
- Identify opportunities to administer centralized software licenses for cost-savings and operational efficiency.
- Explore opportunities for external funding for IT related project