



2015 - 2019

Information Technology Services Strategic Plan

... a roadmap to service excellence

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EXECUTIVE SUMMARY

... a roadmap to service excellence

Since the Establishment of the Information Technology Services Office (previously known as the Computer Center), IT services were offered and developed on ad hoc bases. With the recent developments at Bethlehem University, the vast advancement in the field of information technology, it is obvious that plans and strategies related to IT must be created and put in action. This three-year Information Technology Strategic Plan aims at better aligning the function, services, and development of the ITS Office with the mission, vision, and strategic goals of Bethlehem University.

The process of developing this plan was conducted in a collaborative matter that involved various members of the University community. A committee was established to develop this plan. Members from this committee included faculty members, director of CETL, media expert, and IT experts. The committee will continue to meet quarterly during the next three years to monitor and evaluate the implementation of the strategic plan.

The planning process started with a SWOT analyses to evaluate and identify the current Information Technology Services situation at Bethlehem University. The SWOT exercise identified areas of weaknesses related to IT services offered, infrastructure outdated, and staff/faculty training. The proposed strategic plan aimed at resolving and overcoming the identified weaknesses, in addition to introducing strategies and processes to insure a consistent, up-to-date, and innovative IT services and solutions offered to all members of the University community in the future.

New mission and vision for the Information Technology Services Office are presented in this strategic plan as the first step. Strategic goals and objectives are introduced with precise initiatives to achieve them. The initiatives were divided based on their respective goals and distributed over the three years based on their urgency and beneficiaries. Five strategic goals were developed to

1. Enhance the teaching and learning process
2. Enhance the administrative and decision making process
3. Enhance the Information Technology infrastructure
4. Enhance the support and services offered by ITS Office
5. Enhance the planning and management process of Information Technology

It is important to realize that the ITS Strategic Plan is a living document. Constant plan review and update will be conducted periodically to reflect any development in the IT field, emerging needs, or changes to University strategic priorities and goals.

VISION

The vision of the ITS Office is to actively support the mission, vision, and strategic goals of Bethlehem University through innovative Information Technology solutions and service excellence.

MISSION

The ITS Office strives to enhance teaching, learning, administrative, and research processes by introducing creative, secure, reliable, and personalized IT solutions and support to all members of the Bethlehem University Community.

The ITS Office will achieve its mission by:

- 1- Empowering the academic staff with the skills, knowledge, resources, and cutting-edge technology tools to create an interactive and effective learning environment.
- 2- Providing all the required resources and tools to enhance the administrative and decision making process at Bethlehem University.
- 3- Offering a robust IT services through an up-to-date, secure, reliable, and intuitive IT infrastructure.
- 4- Ensuring an exceptional user satisfaction of IT services and support.
- 5- Planning and managing Information Technology to make sure that the latest, cutting-edge technology and services are being offered at Bethlehem University.

OFFICE STRUCTURE

The Computer Center was the main body that provided IT related services infrastructure, and support to the University community. The Audio Visual Center and Digital Media center provided media services and support to faculty, and used to report to the Library Director. There were also a couple of IT staff who provided services to the departments they worked for.

To meet the changing and increasing demands of the University It was clear to all that there is a need to centralize and coordinate all IT services at Bethlehem University to ensure efficient and effective services to all community members. Last August, a new ITS Office structure was proposed and approved by the Executive Council, which included three main units:

- 1. Technology Infrastructure and Support Unit (TIS)**

The Technology Infrastructure & Support Unit is responsible for establishing, supporting and maintaining the University IT infrastructure which includes campus local area network, wide area network, campus wireless network, Internet connectivity, email services, shared services, security operations, and various servers. In addition, the unit will manage IT assets, and provide technical support and training services to faculty and staff members including support to personal computers, peripherals, printers, and software related issues.

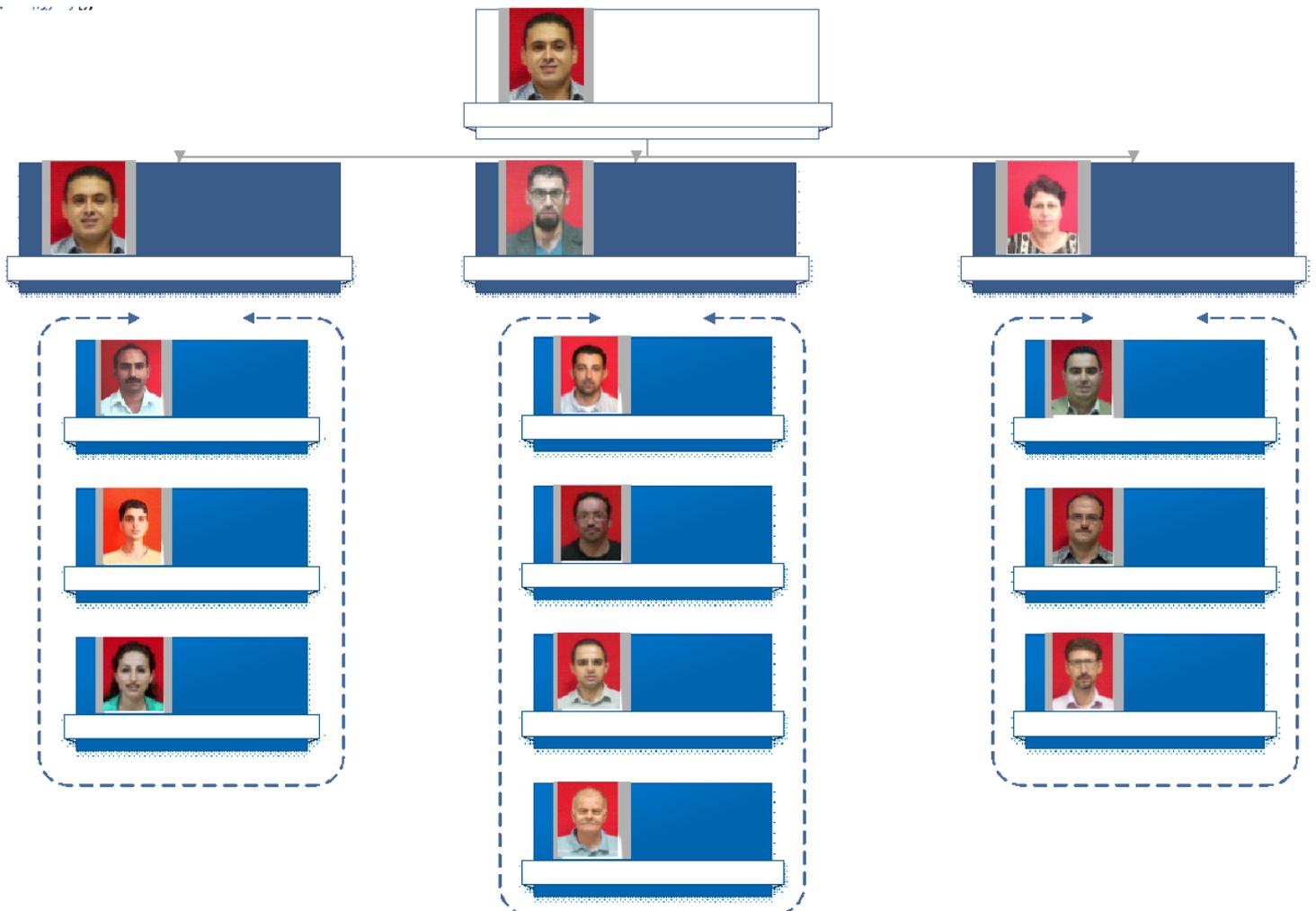
2. Enterprise Information Systems Unit (EIS)

The Enterprise Information Systems Unit is responsible for implementing and managing all Information Technology Systems used at Bethlehem University including the new integrated information system. The Unit works closely with other departments to integrate information technology in their department processes, to enhance their services to the University community.

3. Instructional Technology Support Unit (ITU)

The Audiovisual Unit and the Digital Media Center are combined into one Unit, the Instructional Technology Support Unit. The main goal of this unit is to promote, develop, and support the use of technology in BU's teaching and learning environment. The unit is responsible for multimedia development, supporting online teaching and learning activities, supporting and maintaining technology resources in classrooms, and managing media production equipment used by students and teachers. The Unit will also be responsible for providing workshops and seminars to faculty members and students on the use of information technology resources available on campus, as well as on media production.

The following diagram demonstrates the current ITS organizational chart.



S.W.O.T ANALYSIS

As mentioned earlier, the first step of developing this strategic plan was to conduct an analysis of the current situation identifying the strengths, weakness, opportunities, and threats. A couple of SWOT analysis sessions were conducted involving various staff, faculty and students. The following chart summarize the findings of this exercise:

	<i>Helpful to achieve our goals</i>	<i>Harmful to achieve our goals</i>
<i>Internal Factors Attribute to the Office</i>	Strengths <ul style="list-style-type: none"> • Qualified and cooperative staff • Good response speed • Ticketing system • Eclass platform • Classroom equipped with up-to-date multimedia devices • New WiFi access (still need some improvement) • Good documentation and inventory 	Weakness <ul style="list-style-type: none"> • Moodle platform limitation • Email space • Admin Access on PCs • Access restrictions to YouTube, Facebook ...etc for faculty members • Communications with staff on best practices and threats • No training sessions to staff/faculty • Connect own computers and mobile devices in classrooms • ITS staff lack of knowledge and expertise in latest and emerging technologies • Limited funding to IT resources and staff • Limited internet bandwidth • Computer Lab size limited to 30 PCs • Using multiple authentication servers such as AD, Novell Netware and Linux. • Lack of clear and published policies and procedures, coupled with not having a multi-year strategic plan for IT services. • Limited support to instructional technology • Using original and licensed software
<i>External Factors Attributes to the environment</i>	Opportunities <ul style="list-style-type: none"> • MOOC • Space for students for group work • Cloud Computing • Online Lectures (VC) • Digital Libraries • Plagiarism software 	Threats <ul style="list-style-type: none"> • Phishing emails • Hacking by students • Student vandalism in class, library and computer labs • Mobile apps and people using University name

More description on the findings of the SWOT analyses can be found in *Annex-A*.

STRATEGIC GOALS

1. Information Technology is used as a tool to enhance and empower a creative and effective learning, teaching, and research environment

1. Faculty members are using information technology effectively and efficiently to enhance their teaching activities.
2. Centralized media and educational technology production and development Unit to serve faculty and students.
3. Enhance and encourage the use of Learning Management Systems by teachers and students.
4. Improve classrooms and learning spaces to support active and collaborative learning
5. Support research activities with innovative and robust Information Technology tools and resources.

2. Utilize reliable and responsive enterprise information systems to enhance the academic, administrative and decision making processes at Bethlehem University

1. Ensure the effective and efficient use of the new integrated systems by faculty, staff, and students.
2. Ensure confidentiality, integrity and availability of university data, information, and services for faculty, staff, and students.
3. Provide robust and user-friendly reporting and analysis tools to be used by the administration and other academic offices.
4. Evaluate and, if feasible, implement a cross-departmental document management and retention system.

3. Build and enhance a secure, reliable, and robust access to information and technology

1. Develop and enhance the stability, security, and availability of internal wired and wireless network infrastructure.
2. Expand capacity for a reliable and secure email and file storage to meet the needs of faculty, staff, and students on and off campus.
3. Enhance interdepartmental and external communications using innovative and effective tools.
4. Develop and sustain a disaster recovery and business continuity plans.

4. Encourage and promote a unified customer-centric information technology services and support to University community

1. Enhance the current technology support module to provide reliable and responsive services to faculty and staff.
2. Develop and implement a quality assurance model for user support and offered services.
3. Assess the needs and offer various technology training programs to faculty and staff.

5. Information Technology is constantly evaluated, effectively planned, and managed to cope with the increasing demands and rapid changes in the field of technology.

1. Develop and implement a model to ensure an up-to-date and consistent technology provided to faculty and staff including software evaluation and computer equipment update plans.
2. Retain professional ITS staff and implement a systematic training and self-development programs to keep ITS staff up-to-date and aware of the latest trends in information technologies.
3. Development of a comprehensive set of IT policies and procedures.
4. Ensure the availability of funds to support the services, activities, and needs of the ITS office.

OPERATIONAL INITIATIVES

The following operational initiatives were developed based on the mission and vision of the ITS Office presented in this plan, SWOT analyses conducted, and latest trends in the field of Information Technology.

For each initiative, the following information will be provided:

- **Initiative Name**, a name that will be used during the implementation phase of the plan as well as in timeline and budgeting.
 - **Initiative Description**, a short description of the initiative and the actions and steps to be taken to accomplish it.
 - **Effectiveness measures**, list of ways in which the success of the Initiatives will be evaluated and judged.
 - **Assessment schedule**, the frequency and time duration in which the effectiveness of the initiative will be evaluated.
 - **Involved Office(s)**, the different offices involved in the implementation of the initiative. The main and lead responsible office is marked with *.
 - **Required Resources**, required resources to accomplish the planned initiative.
 - **Estimated Cost**, the estimated cost of completing the initiative.
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1) Information Technology is used as a tool to enhance and empower a creative and effective learning and teaching environment

Objective 1.1: Faculty members are effectively and efficiently using information technology to enhance their teaching activities

a)

Initiative Name	Faculty Training Programs on Using Technology for Teaching and Learning
Initiative Description	In cooperation with the Academic Office and CETL, a survey will be conducted for all faculty members on current usage of technology in classrooms, and topics or skills they need training. Based on the outcome of the survey, different training programs with training material will be developed and prepared in-house. Group and individual training sessions will be offered on regular basis through the CETL.
Effectiveness measures	<ul style="list-style-type: none"> • Number of training sessions conducted in a semester or in an academic year. • Number of trained faculty members
Assessment schedule	End of academic year
Involved Office(s) <i>* main responsible office</i>	ITS, CETL*, and Academic Office
Required Resources	Online survey tool, training space, computers, projectors ...etc.
Estimated Cost	none

b)

Initiative Name	Online Resource Platform for Faculty and Staff
Initiative Description	A new section on our existing LMS will be created for faculty members to host videos, multimedia products, knowledgebase, and other resources. The focus of this section will be to provide our faculty members with valuable resources on utilizing technology more efficiently in their classrooms and teaching activities. The added resources will be either developed in-house or obtained from reliable and professional providers. The new platform will also house discussion forums for faculty members to discuss various topics and resources offered on this section.
Effectiveness measures	<ul style="list-style-type: none"> • A functional and effective online platform for faculty members • Number of resources added • Number of faculty members accessing and using the platform
Assessment schedule	End of each academic year
Involved Office(s) <i>* main responsible office</i>	ITS*, CETL, and Academic Office
Required Resources	Server, and Educational video production tools

Estimated Cost	\$15,000
c)	
Initiative Name	Peer Support Group of Faculty and Staff Members
Initiative Description	<p>A new support group “Information Technology User Support Group” will be created, and invitations will be send out to faculty and staff members to join this group.</p> <p>The purpose of this group will be to:</p> <ol style="list-style-type: none"> 1- Enhance communication between faculty and staff members. 2- Provide an opportunity for faculty members and staff to learn about what the other person is doing in terms of using technology in their daily work. Some faculty members are using technology in their classes creatively and innovatively. Sharing such experience with others will provide them with new ideas as well as motivate them to think in new ways to use technology. 3- Seek help and share resources with each other. 4- Evaluate and discuss emerging technologies and how can they be used in teaching and learning. <p>The outcome of the group meetings can be published and shared with other BU community members.</p>
Effectiveness measures	<ul style="list-style-type: none"> ● Number of group members ● Number of group meetings per academic year
Assessment schedule	End of each Academic Year
Involved Office(s) <i>* main responsible office</i>	ITS*, CETL, and Academic Office
Required Resources	None
Estimated Cost	None
d)	
Initiative Name	Utilizing Emerging Technologies in Teaching and Learning
Initiative Description	<ol style="list-style-type: none"> 1) Develop a process to research, evaluate, pilot, and introduce new and innovative tools and ways of using technology for teaching and learning. 2) Continuously research and test new emerging technologies and its application in the field of education. 3) Pilot new tools to be used by teachers and students
Effectiveness measures	<ul style="list-style-type: none"> ● Number of new tools or technology evaluated and/or piloted ● Number of faculty members using the new tool/technology
Assessment schedule	End of each Academic Year
Involved Office(s)	ITS* and CETL

<i>* main responsible office</i>	
Required Resources	Depending on the new technology to be tested and piloted
Estimated Cost	\$15,000
e)	
Initiative Name	Enhanced Instructional Material Delivery to Faculty Members and Students
Initiative Description	<ol style="list-style-type: none"> 1) Evaluate current resources and means of delivering instructional and multimedia materials to teachers and students. Identify the strengths and weaknesses of each one. 2) Research and evaluate best practices and new means of delivery of such resources. 3) Implement the new and improved method to deliver instructional and multimedia products to teachers and students. 4) Communicate the new method to the University community, and offer training sessions on using it as needed.
Effectiveness measures	<ul style="list-style-type: none"> ● New functional method of delivering instructional material ● Number of instructional/multimedia material offered using the new method ● Number of instructional/multimedia material accessed by faculty and students
Assessment schedule	At the end of each academic year
Involved Office(s) <i>* main responsible office</i>	ITS* and CETL
Required Resources	New streaming server with backup solution
Estimated Cost	\$25,000
Objective 1.2: Centralized media and educational technology production and development Unit to serve faculty and students	
a)	
Initiative Name	Centralized Media and Educational Technology Production and Support Unit
Initiative Description	<p>The ITS Office will establish a centralized media and educational technology production and support unit within the Instructional Technology Unit. All available resources and tools scattered across different University departments will be combined into one unit. The purpose of this action is to eliminate the redundancy of services offered by different departments, which will minimize cost and utilize the available equipment more efficiently. The unit will provide services as well as training programs to students and faculty.</p> <ol style="list-style-type: none"> 1) Generate a list of current multimedia production equipment available at Bethlehem University 2) Identify the items that can be moved to the new centralized location, and the ones that cannot. 3) Procure additional equipment as needed

	<ol style="list-style-type: none"> 4) Develop clear policies, procedures, and set of services for using the service and equipment of ITSU. 5) Evaluate current ITSU employee skills, and create staff development plan to meet future needs. 6) The unit can also be used to provide service to the community as a way to generate income.
Effectiveness measures	<ul style="list-style-type: none"> • Centralized location that hosts most, if not all, of the multimedia production tools. • Clear set of services, policies, and procedures produced and published. • Number of faculty members and students using the services and equipment at ITSU. • Number of instructional and multimedia production made • ITSU staff are equipped with needed skills to serve Bethlehem University Community.
Assessment schedule	End of Academic Year
Involved Office(s) <i>* main responsible office</i>	ITS*, CETL, ICP
Required Resources	New staff, upgrade outdated media production equipment, and purchase new equipment
Estimated Cost	\$25,000

Objective 1.3: Enhance and encourage the use of Learning Management Systems by teachers and students

a)

Initiative Name	Enhance the Use of Learning Management System
Initiative Description	Survey faculty members and students on using the current LMS system to identify its strengths and weakness as seen by the user. The survey will also identify the training needs of people surveyed. Develop online training material and program for using our LMS, in addition to conducting several training sessions on effectively using the system. The training program will introduce new tools and activities to faculty members that are available but not efficiently used. Sessions will be offered face-to-face and online.
Effectiveness measures	<ol style="list-style-type: none"> 1) A survey is conducted to all students, and the results are analyzed and published 2) A survey is conducted to all faculty members. and the results are analyzed and published 3) A list of training needs is compiled 4) Number of training material developed and published 5) Number of training sessions conducted to faculty members and students
Assessment schedule	End of academic year
Involved Office(s) <i>* main responsible office</i>	ITS, CETL*, and IRU

Required Resources	Online survey tool, and training material (developed in house)
Estimated Cost	None
Objective 1.4: Improve classrooms and learning spaces to support active and collaborative learning	
a)	
Initiative Name	Introduction of Apple TVs/Air Server in Classrooms
Initiative Description	<p>With the drastic growth of mobile device usage among students and faculty members at BU and worldwide, they introduce exciting new possibilities when it comes to teaching and learning.</p> <p>To enable and promote the use of mobile devices in classrooms, there is a need to provide the required infrastructure and tools to enable and support active and collaborative learning in our classrooms.</p> <p>The introduction of Apple TVs or AirServer will enable our teachers and students to connect their mobile devices to existing multimedia equipment in our classrooms.</p>
Effectiveness measures	<ol style="list-style-type: none"> 1) Number of Apple TVs or AirServer PCs functioning in classrooms 2) Number of teachers using the tool
Assessment schedule	End of each academic year
Involved Office(s) <i>* main responsible office</i>	ITS*
Required Resources	Apple TVs and/or AirServer licenses
Estimated Cost	\$15,000
b)	
Initiative Name	Upgrade Classroom Media Equipment and Connectivity
Initiative Description	<p>Some teachers requested the possibility to connect their own laptops to use and demonstrate special software that is installed on their computers. Currently, teachers are forced to move the class PCs from inside the podium to reach the various connections (LCD projector and audio mixer). The current layout of cabling is not convenient and might cause damage to the equipment and/or installed cables.</p> <p>Podiums in some of the classrooms will be modified to provide an easier way of connecting laptops and mobile devices to existing multimedia equipment. New panel will be introduced at the top of the podium with different sockets such as VGA, audio, and network.</p>
Effectiveness measures	<ol style="list-style-type: none"> 1) Number of classrooms equipped with accessible multimedia connection panel.
Assessment schedule	End of each academic year
Involved Office(s) <i>* main responsible office</i>	ITS*
Required Resources	LCD projectors, Projector Electronic Screens, and Multimedia output ports and cables

Estimated Cost	\$50,000
c)	
Initiative Name	Laptops and/or Mobile Devices Lending Program
Initiative Description	The purpose of this initiative is to provide the opportunity for our faculty and students, who do not own a laptop or mobile tablet, to borrow one and use it for teaching and learning activities. The program will start with a small number of devices and gradually increase if there is a high demand. iPads from the current pilot project funded by the Finish Government and implemented by CETL can be used, thus eliminating the need to purchase new equipment. Detailed policy, procedures, and borrowing agreement will be developed and introduced to BU Community.
Effectiveness measures	1) Number of iPads and/or laptops available for teachers and students 2) Number of devices borrowed and used each year
Assessment schedule	End of each academic year
Involved Office(s) <i>* main responsible office</i>	ITS*
Required Resources	20 Laptop or iPads, Storage/charging cabinets for iPads or laptops
Estimated Cost	\$25,000
Objective 1.5: Support research activities with innovative and robust Information Technology tools and resources	
a)	
Initiative Name	Online repository for Research
Initiative Description	Develop an online digital repository platform to host original research work produced by faculty members and students. The new platform will provide a user-friendly way to collect, store, organize, and index research work and conference papers. Faculty, students and community members will have access to all material stored in this repository.
Effectiveness measures	1) Platform created 2) Number of users accessing the new resource 3) Number of publications published on the platform
Assessment schedule	Academic year
Involved Office(s) <i>* main responsible office</i>	ITS*, Dean of Research
Required Resources	Server to host the platform
Estimated Cost	\$6,000

2) The ITS office will provide a reliable and responsive enterprise information systems to enhance the academic, administrative and decision making processes at the University

Objective 2.1: Ensure the effective and efficient use of the various integrated systems by administration, faculty and staff

a)

Initiative Name	Enhance Operational Effectiveness and Decision Making Process
Initiative Description	To improve operational effectiveness of administration and various offices, the ITS office will develop a process to: <ol style="list-style-type: none"> 1) Conduct full review of how the new integrated system is being utilized. 2) Identify processes that can be improved using new features of the integrated system. 3) Making sure that data and information is available to various offices when and where needed.
Effectiveness measures	<ol style="list-style-type: none"> 1) A full review is conducted, and areas of improvement are identified. 2) New processes are created and implemented
Assessment schedule	Every Semester
Involved Office(s) <i>* main responsible office</i>	ITS*, IRU
Required Resources	None
Estimated Cost	None

Objective 2.2: Ensure confidentiality, integrity and availability of university data, information, and services to faculty, staff, and students

a)

Initiative Name	Enhance Data Confidentiality, Integrity and Availability
Initiative Description	To ensure the integrity, availability, and confidentiality of information, a Data Security Policy and procedures must be developed and put in place. To achieve this objective: <ol style="list-style-type: none"> 1) Analyze the current data security policies and practices at Bethlehem University. 2) Identify the needs of various departments in terms of data access and availability. 3) Develop new policy and procedures based on the findings and best practices. 4) Publish the new policy and procedures to make sure that all concerned employees are aware and implementing it.

Effectiveness measures	1) Data security policies and procedures are created and implemented.
Assessment schedule	One time (refer to timeline)
Involved Office(s) <i>* main responsible office</i>	ITS* with various departments.
Required Resources	None
Estimated Cost	None

Objective 2.3: Provide robust and user friendly reporting and analysis tools to be used by the administration and other academic offices

a)

Initiative Name	New Robust and User Friendly Reporting Tool
Initiative Description	<ol style="list-style-type: none"> 1) Assess the needs of the various offices in terms of reports and analyses tools. 2) Review reporting tools available in the new integrated system being implemented. 3) Develop new reporting and analyses tools as needed.
Effectiveness measures	<ol style="list-style-type: none"> 1) Reporting tools available and accessible by various offices. 2) Number of reports used and generated
Assessment schedule	One time (refer to timeline)
Involved Office(s) <i>* main responsible office</i>	ITS*, IRU, and other departments
Required Resources	Developer to create the tools and report
Estimated Cost	\$20,000

Objective 2.4: Evaluate and, if feasible, implement a cross-departmental document management and retention system

a)

Initiative Name	New Document Management System
Initiative Description	<p>The ITS Office will initiate the process of creating a Document Management System to be used by various departments. The new DMS will eliminate the need for physical space to store paper documents. It will also allow easier and more secure retrieval of such documents. It will also save the University a considerable amount of money in terms of paper, folders, and space.</p> <ol style="list-style-type: none"> 1) Conduct needs assessment and develop all requirements for this project. 2) Review various possible options, ready software or in-house developed, to find the best suitable and feasible solution. 3) Create a clear plan for developing and implementing the document management system. 4) Develop or purchase the new system.

	5) The plan will be to phase in the new system into various departments gradually.
Effectiveness measures	<ol style="list-style-type: none"> 1) A clear system analyses and plan developed for a document management system. 2) Software developed or procured 3) New system installed and being used at three departments.
Assessment schedule	One time (refer to timeline)
Involved Office(s) <i>* main responsible office</i>	ITS*
Required Resources	Developer to purchase a new Document Management System
Estimated Cost	\$40,000

3) Build and enhance a secure, reliable, and robust access to information and technology

Objective 3.1: Develop and enhance the stability, security, and availability of internal wired and wireless network infrastructure

a)

Initiative Name	Local Network and Infrastructure Upgrade
Initiative Description	<p>The purpose of this initiative is to ensure that the ITS Office is taking all needed steps to improve the protection, security, and performance of our infrastructure, data, and network.</p> <ol style="list-style-type: none"> 1) Conduct in depth analysis of our current infrastructure and practices to identify any weaknesses or areas of improvement. 2) Improve the security of our infrastructure and network through the introduction of a new UTM firewall system. The procurement of the system is already in progress. This will provide added layer of security against attacks and/or viruses from outside the University. 3) Upgrade the network switch at the server room to Core switches that will improve network performance considerably. 4) Replace old switched (10/100) with newer 100/1000 switches. 5) Upgrade core network cables in all buildings to Cat7. 6) Enhance and upgrade our campus wide wireless network 7) Develop working procedures for accessing the network as servers. Including who has access to what and when. 8) Develop a new system to document the local area network
Effectiveness measures	<ol style="list-style-type: none"> 1) A report is generated which identifies ways of improving current security setup and practice 2) The new UTM firewall is properly configured and integrated in our network 3) Set of policies and procedures ready and published 4) All network switches on campus upgraded to 100/1000 5) All core network cables on campus upgraded to CAT7 6) New Network Documentation system
Assessment schedule	One time (refer to timeline)
Involved Office(s) <i>* main responsible office</i>	ITS*
Required Resources	UTM Firewall, 4 Core switches for server room, 10 core switches for buildings, network cables with installations.
Estimated Cost	\$100,000

Objective 3.2: Expand the capacity of a reliable and secure email and file storage to meet the demands and needs of faculty, staff, and students on and off campus

a)

Initiative Name	Enhanced Email and Storage Services
Initiative Description	<p>Improve email and file storage services to provide University employees and students with additional space and flexibility.</p> <ol style="list-style-type: none"> 1) Review our current services provided to the various members of Bethlehem University Community. 2) Create a list of proposed improved services for each group. 3) Research and evaluate cloud computing as a possible solution to some of the current limitations on our services. 4) Identify, procure, and install new or upgraded hardware and software to accommodate the new requirements. 5) Populate the upgraded services to faculty, staff, and students.
Effectiveness measures	<ol style="list-style-type: none"> 1) List of services for faculty, staff, and students with details such as access permissions, disk space, and email quota. 2) Upgraded set of services offered to all users.
Assessment schedule	End of each academic year
Involved Office(s) <i>* main responsible office</i>	ITS*
Required Resources	Storage Server and backup solutions.
Estimated Cost	\$50,000
Objective 3.3: Enhance interdepartmental and external communications using innovative and effective tools	
a)	
Initiative Name	Enhance Communication Tools and Services
Initiative Description	<ol style="list-style-type: none"> 1) Review our current internal and external communication tools including the University main website and portal. 2) Provide an improved platform to share and communicate information about each office/department and their services. 3) Provide meeting spaces equipped with cameras, microphones, and Skype connectivity. Possible locations, EC room, new Library rooms, and Bethlehem Hall meeting room.
Effectiveness measures	<ol style="list-style-type: none"> 1) A new or improved platform of sharing information is available. 2) Number of offices using the new platform. 3) Number of rooms equipped with conferencing capabilities.
Assessment schedule	One time (refer to timeline)
Involved Office(s) <i>* main responsible office</i>	ITS*
Required Resources	Conference cams, audio systems, and laptops.
Estimated Cost	\$10,000

Objective 3.4: Develop and sustain a disaster recovery and business continuity plans

a)

Initiative Name	IT Disaster Recovery Plan
Initiative Description	<p>University operation is increasingly relying on technology. Most of our administrative and educational function is using technology in some way or another. Therefore, any long disruption or interruption to IT services will deeply affect University services.</p> <p>It is essential to develop a Disaster Recovery plan, which is a document with clear procedures on how to recover and protect Information Technology infrastructure and services in the event of a disaster. A disaster can be as large as an earthquake or a small fire or electricity short-circuit which might cause damage to our IT infrastructure and server room.</p> <p>Developing such a plan require evaluating what University services depends on IT, our current IT infrastructure, our backup procedures, and our IT staff knowledge and readiness.</p>
Effectiveness measures	1) A Disaster Recovery Plan is created and kept updated.
Assessment schedule	One time (refer to timeline)
Involved Office(s) <i>* main responsible office</i>	ITS*
Required Resources	None
Estimated Cost	None

4) Encourage and promote a unified customer-centric information technology services and support to the University community**Objective 4.1: Enhance the current technology support model to provide reliable and responsive services to faculty and staff**

a)

Initiative Name	Enhance IT Support Services
Initiative Description	Enhance the existing IT support services to provide our users with a service that is customer focused, personalized, and intuitive
Effectiveness measures	<ol style="list-style-type: none"> 1) Improve response time to tickets and support requests. 2) IT Service Catalogue developed and published online.
Assessment schedule	End of each academic year
Involved Office(s) <i>* main responsible office</i>	ITS*
Required Resources	Trainers on various topics

Estimated Cost	\$5,000
Objective 4.2: Develop and implement a quality assurance model for user support and offered services	
a)	
Initiative Name	Quality Assurance Module for ITS Support and Services
Initiative Description	<ol style="list-style-type: none"> 1) Develop a QA plan by defining our standards and quality functions in terms of services to our users, providing the needed resources to meet our standards, and then develop policies and procedures that controls the implementation of our QA. 2) Implement and monitor the new QA plan. 3) Conduct customer satisfaction survey for recipients of ITS support services to evaluate the satisfaction of the user and to seek advice on how to improve our services.
Effectiveness measures	<ol style="list-style-type: none"> 1) QA plan implemented 2) 85% customer satisfaction on their support request.
Assessment schedule	One time (refer to timeline)
Involved Office(s) <i>* main responsible office</i>	ITS*
Required Resources	None
Estimated Cost	None
Objective 4.3: Asses the needs and offer various technology training programs to faculty and staff	
a)	
Initiative Name	IT Training Program for University Employees
Initiative Description	<p>The ITS Office will develop and introduce a technology training program offered for all University employees to provide them with needed IT skills and knowledge to conduct their work in a more efficient and effective manner.</p> <ol style="list-style-type: none"> 1) Conduct a survey to all IT users on what IT skills they see as necessary and need to develop. 2) Based on the survey, training programs will be developed or bought with training materials and resources. 3) Publish an IT training calendar to outline training topics and the time they will be offered. Online registration process will also be made available for those who would like to join any of the trainings. 4) Develop online multimedia training resources to be used by faculty, staff, and students.
Effectiveness measures	<ol style="list-style-type: none"> 1) Survey conducted and results analyzed 2) Number of training programs developed 3) Number of training programs conducted in a year

	4) Number of employees trained 5) Number of multimedia training resources published online
Assessment schedule	End of each academic year
Involved Office(s) <i>* main responsible office</i>	ITS*, CETL
Required Resources	None
Estimated Cost	None

5) Information Technology is constantly evaluated, effectively planned and managed to cope with the increasing demands and rapid changes in the field of technology

Objective 5.1: Develop and implement a model to ensure an up-to-date and consistent technology provided to faculty, staff, and students including software evaluation and computer equipment update plans

a)

Initiative Name	Technology Life Cycle Policy
Initiative Description	<p>The use of modern and up-to-date technology (hardware and software) can greatly affect the job performance of faculty and staff. Using outdated technology has higher operational and support cost, thus creating a policy to govern the replacement of old technologies is essential.</p> <p>A Technology Life Cycle Policy will be developed and published to ensure that all faculty and staff have the needed IT resources to perform their job in an efficient and effective way. In addition, such policy will help the ITS Office to plan its yearly budget.</p> <p>The policy will also introduce a process to evaluate, test, and implement new software to be used by various users and offices.</p>
Effectiveness measures	<ol style="list-style-type: none"> 1) Technology Life Cycle Policy Published and periodically updated. 2) Develop a plan to purchase licenses for operating systems and productivity tools such as MS Office. 3) Software evaluation, testing, and implementation procedure and process.
Assessment schedule	One time (refer to timeline)
Involved Office(s) <i>* main responsible office</i>	ITS*
Required Resources	None
Estimated Cost	Based on the plan and cost of software licenses

Objective 5.2: Retain professional ITS staff, and implement a systematic training and self-development plans to keep ITS staff up-to-date and aware of latest and emerging technologies

a)

Initiative Name	ITS Staff Development Program
Initiative Description	<p>Continuous skill development within the ITS staff is an essential factor in the success of our work at the ITS Office. IT skills development is important to enable our staff to work more efficiently, and to be more innovative in resolving issues and introducing new tools and solutions to the University community. In addition, trained staff will feel more satisfied with their jobs, which in return will reduce employee turnover.</p>

	IT skills of our staff will be constantly evaluated and training needs will be identified according to the latest technology trends. Training programs and self-development plans will be developed, conducted, and the impact of these training programs will be monitored and evaluated.
Effectiveness measures	4) Number of ITS staff trained 5) Number of training programs conducted
Assessment schedule	End of each academic year
Involved Office(s) <i>* main responsible office</i>	ITS*
Required Resources	Training programs or trainers
Estimated Cost	\$30,000

Objective 5.3: Development of a comprehensive set of IT policies and procedures

a)

Initiative Name	IT Policies and Procedures
Initiative Description	It is very important to have a comprehensive and complete set of IT policies and procedures published and accessible by all IT service recipients at Bethlehem University. Not having such set is currently causing confusion among users in terms of understanding what services is offered to them, how can it be used, and who is in charge of it. To overcome this current situation, the following steps will be taken: <ol style="list-style-type: none"> 1) Review existing IT policies and procedures 2) Updated and develop new policies to accommodate the emerging needs of the University as well as the latest developments in technology. 3) Obtain approval from the Executive Council on the new policies. 4) Publish the new policies on the ITS website.
Effectiveness measures	1) Comprehensive set of policies and procedures are developed and published online.
Assessment schedule	One time (refer to timeline)
Involved Office(s) <i>* main responsible office</i>	ITS*
Required Resources	None
Estimated Cost	None

Objective 5.4: Ensure the availability of funds to support the services, activities, and needs of the ITS office

a)

Initiative Name	Secure Fund for IT Services
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<p>Initiative Description</p>	<p>The cost of maintaining effective and functional IT services is increasing every day. There is a need to develop a sustainable source of fund to cover the cost of IT operation. The following actions will be taken:</p> <ol style="list-style-type: none"> 1) Conduct a bottom-up budgeting for all ITS services and operation. The purpose of this step is to identify and eliminate any inefficient practices, as well as areas where additional funds might be needed. 2) Work closely with the Advancement Office to create project proposals to fund plans of the ITS office. In addition, a list of possible funders for such projects will be created. 3) Develop income generating projects and ideas
<p>Effectiveness measures</p>	<ol style="list-style-type: none"> 1) New ITS Office budget plan 2) List of possible projects according to this plan 3) List of possible funders of IT projects 4) Number of completed project proposals developed and submitted to possible funders
<p>Assessment schedule</p>	<p>End of each academic year</p>
<p>Involved Office(s) * <i>main responsible office</i></p>	<p>ITS*, Advancement Office</p>
<p>Required Resources</p>	<p>None</p>
<p>Estimated Cost</p>	<p>None</p>

TIMELINE

No	Name	Start	Finish
1.1.a	Faculty Training Program on Using Technology for Teaching and Learning	04-2015	01-2016
1.1.b	Online Resource Platform for Faculty and Staff	10-2015	10-2016
1.1.c	Peer Support Group of Faculty and Staff Members	10-2015	12-2015
1.1.d	Utilizing Emerging Technologies in Teaching and Learning	06-2015	08-2016
1.1.e	Enhanced Instructional Material Delivery to Faculty Members and Students	06-2016	01-2019
1.2.a	Centralized Media and Educational Technology Production and Support Unit	04-2015	09-2015
1.3.a	Enhance the Use of Learning Management System	08-2015	04-2016
1.4.a	Introduction of Apple TVs/Air Server in Classrooms	09-2015	01-2019
1.4.a	Upgrade Classroom Media Equipment and Connectivity	09-2015	01-2019
1.4.b	Laptops and/or Mobile Devices Lending Program	06-2016	09-2016
1.4.c	Online repository for Research	06-2016	09-2016
2.1.a	Enhance Operational Effectiveness and Decision Making Process	02-2016	12-2016
2.2.a	Enhance Data Confidentiality, Integrity and Availability	02-2016	06-2016
2.3.a	New Robust and User Friendly Reporting Tool	02-2016	12-2016
2.4.a	New Document Management System	12-2017	12-2019
3.1.a	Local Network and Infrastructure Upgrade	03-2015	12-2016
3.2.a	Enhanced Email and Storage Services	11-2015	09-2016
3.3.a	Enhance Communication Tools and Services	08-2016	06-2019
3.4.a	IT Disaster Recovery Plan	03-2015	09-2015
4.1.a	Enhance IT Support Services	01-2016	12-2016
4.2.a	Quality Assurance Module for ITS Support and Services	01-2016	12-2016
4.3.a	IT Training Program for University Employees	01-2016	09-2016
5.1.a	Technology Life Cycle Policy	01-2019	09-2019
5.2.a	ITS Staff Development Program	10-2015	09-2016
5.3.a	IT Policies and Procedures	09-2017	12-2019
5.4.a	Secure Fund for IT Services	11-2015	01-2017

ANNEX-A: SWOT ANALYSIS

Strengths:

1. Most of the participants acknowledged the fact that the majority of the ITS staff are cooperative, dedicated, and possess the skills and knowledge to perform their job.
2. The participants agreed that in most cases, response to their support requests were dealt with in a timely fashion. Some staff expressed that there were delays sometimes, but they also expressed their understanding of the pressure and amount of work the ITS staff are dealing with.
3. Everybody agreed that the use of a ticketing system for IT support is a good way of dealing with support requests. They agreed that it is a great way of organizing orders, and a way of monitoring and evaluating the performance of the ITS staff.
4. Participating faculty members expressed general satisfaction of the current LMS used at Bethlehem University (Moodle).
5. Faculty members agreed on the fact that all classrooms are equipped with adequate IT equipment. They praised the fact that all classrooms are now equipped with a computer, LCD projector, and a sound system. They emphasized the fact that using such equipment enhanced their teaching abilities and student learning.
6. The participants agreed that the introduction of a campus wide WiFi is an improvement in our IT services for both students and teachers. Some of the participants indicated that the WiFi network still needs improvement to cover all areas of our campus.
7. Having an updated inventory system and a good documentation of running services, servers, and "How-To" saves IT staff a lot of time and effort in resolving issues. This also reflects positively on staff, faculty and students in terms of waiting time.

Weaknesses:

1. Some faculty members indicated that the Moodle system used as our eclass platform is limited in some ways. They expressed their interest to use other systems such as Blackboard.
 2. All participants agreed on the fact that the disk space available for them to use for their emails and files are very limited. They expressed the need for larger space especially with the increasing use of videos, audio files, and photos in their work.
 3. Some faculty and staff members resented the fact that that they are not Admins on their computers, thus are not able to install software themselves. They have to submit a ticket and ask an ITS staff to install the software, which sometimes delay their work.
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4. Not having access to YouTube, Facebook, and other social media outlets was seen as a weakness by some faculty and staff members. They indicated that the use of such tools and sites is very important and helpful to perform their jobs.
 5. Lack of active and continuing communication between the ITS Office and the various department was an item of concern among various participants. They emphasized on the need to keep employees aware of the latest IT security threats of phishing emails, attacks, and viruses.
 6. A good number of participants expressed their dissatisfaction of not having training sessions by the ITS staff to upgrade employees skills on using technology tools to enhance their work performance.
 7. Some faculty members did not like the fact that they cannot connect their own laptops or mobile devices in classrooms. They indicated that sometimes it is easier for them to connect their device to the LCD projector especially if they have their own files and software installed on the devices.
 8. The group deliberated the fact that there is a constant need for ITS staff to upgrade their skills and knowledge with the latest trends in technology. They see ITS staff as the main source of information on IT, so they expect them to be fully aware of latest technology. In addition they wanted the ITS staff to implement the latest technology sooner, rather than waiting for long time to do so. One example was the introduction of Windows 7 and Office 2010, which in their view was introduced very late.
 9. Limited funding to IT resources and staff was seen as a source of weakness or concern. Some participants thought that a clear funding plan must be available to cover the cost of upgrading infrastructure and computers. Funds also needs to be available for IT staff to develop themselves and to upgrade their skills to latest technologies.
 10. Limited internet bandwidth is a concern for most of employees. Slow internet bandwidth, and limitation to access some websites hinder faculty form using technology in class and in their offices.
 11. Computer Lab size limited to 30 PCs causes some issues especially with the increasing number of students enrolled in a course.
 12. Using multiple authentication servers such as AD, Novell Netware and local computers confuses employees and requires more time and effort from IT staff to manage.
 13. While the majority praised the service provided by the Digital Media Centre and AV, they thought that more advanced services and training is needed and must be provided by the mentioned centers.
 14. Using cracked and pirated software was seen by some of the participants as unethical and a big security concern. Cracked software might contain viruses or give hackers a way into our computers. Using unlicensed software requires additional effort by ITS staff to make sure that the software is operational and is not identified by the software venders as not genuine.
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Opportunities

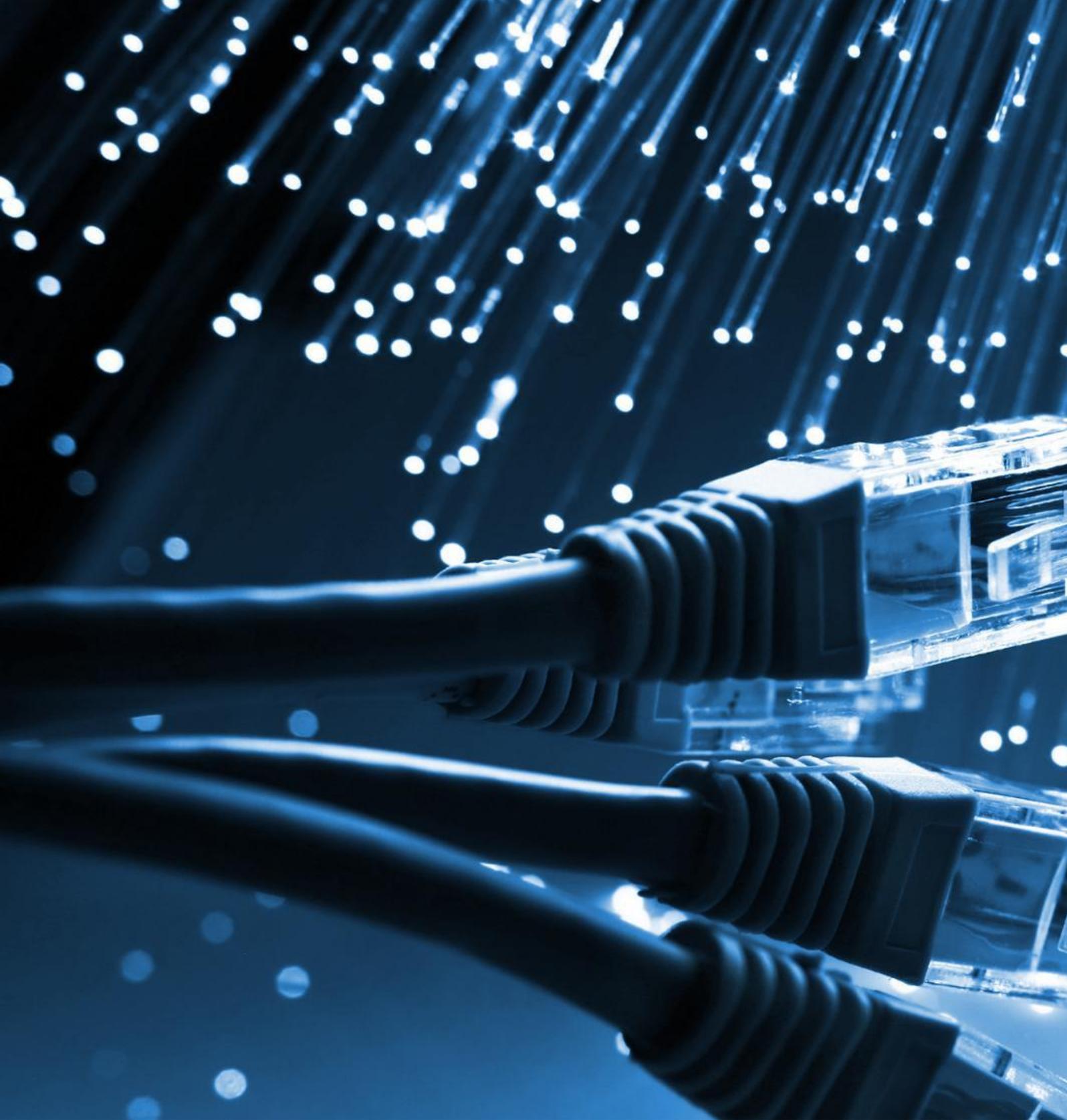
While internal strengths and weaknesses were relatively easy for students and employees to identify, the groups had some difficulties envisioning external opportunities and threats.

1. Some faculty members identified the use of MOOC as an opportunity to improve our teaching and learning at the University, as well as for self-development and promotion. A need to explore and use MOOC at Bethlehem University was seen as something that needs to be addressed soon.
2. To improve student learning and group work, the participants saw a good opportunity in providing special space for students with IT facilities.
3. Some participants suggest the use of cloud computing to overcome the limitations on our offered services. Some suggested using Google Apps others Microsoft solutions.
4. Online Lectures (VC) is seen as an opportunity for faculty and staff members to develop themselves. In addition, they are seen as way to enhance our teaching and learning activities.
5. The availability of digital libraries worldwide is seen as a good resource for faculty and students alike. Initiatives must be taken to exploring such libraries and find better ways to use them in our daily work.
6. To minimize plagiarism and to improve the quality of our graduates, anti-plagiarism software is seen as good tool to be explored and used in the future.

Threats

Several threats were identified which might affect IT services as well as other departments.

1. The outbreak of phishing emails received by University employees and students is seen as a threat to individuals as well as to the operation of the University. Such emails can lead to a compromised email account for an employee or can even lead to hacking into University systems.
 2. Internal hacking attempts by students are seen as a major threat for IT services as well as for the entire operation of the University. Gaining access to information such as exams, grades, and employees' personal information as a major issue and all efforts should be made to eliminate such threat.
 3. Vandalism in classrooms, library, and computer labs wastes a considerable amount of working time for ITS staff and teachers. Many teaching sessions are lost due to vandalized equipment or system connections.
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Information Technology Services Strategic Plan . . . a roadmap to service excellence

Information Technology Services Office
Bethlehem University
Bethlehem, Palestine
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