East West University

Project Proposal

Course Title: Green Computing

Course Code: CSE407

Section no:02

Group No:02

Submitted to:

Dr. Ahmed Wasif Reza

Associate Professor

Department of Computer Science & Engineering

EAST WEST UNIVERSITY

Submitted By:

Name	Id
Farhan Tanvir	2020-1-60-132
Md. Arfan Ahmed	2020-1-60-139
Zarin Tasnim Nuzhat	2020-1-60-211
Md. Shah Nawaj	2020-1-60-213
Sadia Hossain	2020-1-60-272

Proposed Title: Sustainable and Profitable IT Infrastructure of Bangladesh Using Green IT.

Background:

In recent years, there has been increasing concern about the environmental impact of IT infrastructure, which consumes significant amounts of energy and contributes to greenhouse gas emissions. At the same time, organizations are under pressure to reduce costs and improve profitability. Green IT practices solve these challenges by providing a framework for building sustainable and profitable IT infrastructure.

This project proposal aims to investigate the use of green IT practices for building sustainable and profitable IT infrastructure. Specifically, this project will explore the current state of IT infrastructure and green IT practices in organizations, identify the most effective green IT practices for building sustainable and profitable IT infrastructure, develop a framework for implementing green IT practices in organizations, evaluate the impact of green IT practices on the sustainability and profitability of IT infrastructure, and provide recommendations for organizations on how to build sustainable and profitable IT infrastructure using green IT practices.

By conducting this research, we hope to contribute to the growing knowledge of green IT practices and their impact on organizations. We also aim to provide practical recommendations for organizations seeking to build sustainable and profitable IT infrastructure, which can help them reduce costs, improve their environmental performance, and gain a competitive advantage in the market.

Related Works:

Journal papers	**Methods**	**Advantages**
1. From Traditional to a smart campus: a framework sketch for King Abdulaziz University female campus	This study aims to recognize the basic criteria of smart campus dimensions and sketch a smart campus construction to construct high-quality campus administrations with IoT technology, which makes each stage normalized and standardized.	The purpose of the sketch was to progress education services for students and faculty members and adjust to the Kingdom's 2030 vision. The study highlights the significance of technology in changing various perspectives of our lives and emphasizes the have to be compelled to consolidate it into education services.
2. Information Technology Infrastructure Library(ITIL)	The ITIL Service Support discipline focuses on providing access to services to support business functions, while the Service Delivery discipline focuses on proactive and forward-looking services from ICT providers.	The general implementation of CSI with clearly defined goals and procedures, designating roles and responsibilities, measuring and reporting data to improve processes and services, and recognizing problems with IT services are all necessary for the implementation of ITIL in a business. The firm needs some time to settle down and mature enough to manage

		operations and fulfill service-level obligations.
3. Managing information technology infrastructure: A new flexibility framework	This study proposes a research methodology to assess IT infrastructure flexibility, involving a literature review, interviews with industry experts, and field surveys.	IT infrastructure flexibility is the ability of existing IT infrastructure to adapt to change to facilitate information sharing, system development, and continuity of IT operations.
4. Towards Building a Sustainable System of Data Center Cooling and Power Management Utilizing Renewable Energy	The research aims to use renewable energy as the primary source and increase sustainability through a hybrid system, improving DCIE and CUE metrics.	The research proposed a sustainable data center cooling and power management system using renewable energy, but may not be feasible for larger data centers.
5. Information Technology and Corporate Profitability: A Focus on Operating Efficiency	Minimizing input costs to increase productivity has been a strategy used since the 1970s, with companies investing in computers and other innovations to boost efficiency and reduce costs.	Firms' purpose is to minimize costs to increase profitability and achieve higher operating income, measured by earnings from core operations less cost of goods sold and expenses.

Research Questions/Problem Statements:

- ★ Is the plane being made using green computing?
- ★ Will the planned IT infrastructure help and ease mankind by reducing energy consumption?
- ★ Is this IT infrastructure profitable and sustainable and to what extent?

Objectives:

- To investigate the current state of IT infrastructure and green IT practices for building sustainable and profitable IT infrastructure.
- To provide recommendations for organizations on how to build sustainable and profitable IT infrastructure using green IT practices.
- To evaluate the impact of green IT practices on the sustainability and profitability of IT.

Planned Methodology

According to our planned methodology, we want to design the infrastructure of various IT offices in such a way that the structure is more sustainable and profitable. Besides, reducing energy consumption is our real goal. Monitor connection and virtualization are also our main frameworks.

Data Analysis Plans

If we want to plan to collect or analyze data in a primary method, then we will have to follow-

- Checking existing data and removing errors
- Making predictions on sample data collected
- Clustering analysis to group organizations based on their level of investments.
- Regional basis data analysis to find where organizations are more likely to invest in green IT.

Expected Results:

If this plan can be executed, many people will be able to do their work perfectly at the same time in less space. In addition, virtualization also requires fewer data servers or physical data storage devices. It can also be said that our expectation is to make IT offices smarter in the long term.

References:

- ☐ https://tcms.org.ge/Journals/ASETMJ/Supplement%20issue/2/PDF/asetmj16_SupIss_2_7.pdf
- ☐ http://bvicam.in/INDIACom/news/INDIACom%202010%20Proceedings/papers/Group3/INDIACom10_11_Paper%20(4).pdf
- ☐ https://www.researchgate.net/publication/235316120_Managing_information_technology_infrastructure_A_new_flexibility_framework#fullTextFileContent
- ☐ https://www.researchgate.net/publication/364608372_Towards_Building_a_Sustainable_System_of_Data_Center_Cooling_and_Power_Management_Utilizing_Renewable_Energy
- ☐ (PDF) Information Technology and Corporate Profitability: A Focus on Operating Efficiency (researchgate.net)