Case Study

Deadline: day 6/11/2022 @ 23:59

**[Total Mark for Case Study is 14]**

***Introduction to IT and IS***

***IT231***

Student Details:

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**Instructions:**

* You must submit two separate copies **(one Word file and one PDF file)** using the Assignment Template on Blackboard via the allocated folder. These files **must not be in compressed format**.
* It is your responsibility to check and make sure that you have uploaded both the correct files.
* Zero mark will be given if you try to bypass the SafeAssign (e.g., misspell words, remove spaces between words, hide characters, use different character sets, convert text into image or languages other than English or any kind of manipulation).
* Email submission will not be accepted.
* You are advised to make your work clear and well-presented. This includes filling your information on the cover page.
* You must use this template, failing which will result in zero mark.
* You MUST show all your work, and text must not be converted into an image, unless specified otherwise by the question.
* Late submission will result in ZERO mark.
* The work should be your own, copying from students or other resources will result in ZERO mark.
* Use **Times New Roman** font for all your answers.

**Case Study Instructions**

**Case Study Objective:**

This case study allows you to practice your knowledge and develop skills for working in teams.

* **Total Marks = 14**

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| --- | --- |
| Case Study Report | Presentation |
| 10 marks | 4 marks |

* Group Size = 2-3 Members.
* One group member (group leader/coordinator) should **submit all files:** **Case study Report** and **Presentation Slides** on the blackboard. Marks will be given based on your submission and the quality of the content.
* The students’ names in each group must be sent to the course instructor by the end of **week 6 (October 6, 2022)**.

**Case study Report**

* Each **Case study** Report will be evaluated according to the marking criteria in each question section.

**Presentation**

* Students (Group) must present their **Case study** (F2F or Virtual) per **week12**. (Considered as last week before the final review)
* Presentation schedule with date and allocated timing will be shared with the students via Blackboard before the end of Week 11.

**Implementing an ERP system in a Water Corporation**

A water corporation experienced some issues related to implementing ERP systems. The following link takes you to the full report about it.

[Article Link](https://seuedu-my.sharepoint.com/:b:/g/personal/m_kutbi_seu_edu_sa/EYNu0hxsW2dMgYlTM4nkY2EBkf0YI706J3d5gGoK4iphDQ?e=YFfylL)

Requirements:

1. You need to read the report carefully and answer the case study questions using your own words.
2. Copy and paste are prohibited, and you can paraphrase the information you need.

# Question One

***4 Marks***

*Learning Outcome(s): CLO5: Interpret the management challenges faced by information systems being implemented in organizations today, and how they affect business and society.*

Explain the critical issues that face a water corporation when implementing ERP systems solutions.

There are some challenges and problems accompanying the application of the ERP system that managers and owners of institutions must know, to work on reducing them or limiting their impact on companies' activity. Among the most prominent problems of implementing the ERP system: that may affect the company:

Focusing on preparing packages, links, wording, labels, and business rules, it was discovered that time was not enough for implementation, testing and training, but it was considered that the risks were acceptable.

If an implementation schedule contains all the instructions and the detailed arrangement of the tasks. With the training of many employees over the course of six weeks, a huge number of data was completed and transferred to SAP.

The problems and challenges that the water company encounters with the ERP system:

With the commitment to the schedule and the plan, it was completed early to completely change the system to SAP version 3, but gradually it appeared that there were obvious problems and shortcomings:

First - Transferring large amounts of the WORKS project structure (payments) via SAP-PS in an insufficiently practical manner as part of the data was lost and not transmitted properly such as future cash flows. There was also a lack of contact information. If it is realized that one network for each node is a non-viable idea. Therefore, the contract classifications, including all external activities, had to be changed to the general cost, which led to the reversal of many operations, the loss of many search benefits, and the cancellation of project analyst training.

This is because practical instructions were not properly worked out for contract changes and performance guarantee funds, despite these problems, all commitments and payments were made in real time, and the system was in place.

Transportation problems have become an obstacle, so action must be taken, as the archives had to be returned day after day, and there were temporary modifications. Such as creating a WBS to modify several activities to suit a specific thing, creating networks based on a single network, and rewriting several standard reports, to meet customer requirements.

Progress has been made but there are requirements for cash outlays. About a short period with huge expenditures was impossible without rigorous effort within the network, therefore a decision was made to use a database that does not need an internet connection to download planning and processing data and give cash flow information and fetch it back into SAP-PS for the implementation of the project.

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Among the other most important issues facing water companies:

- Wrong entries in the system may affect the water quality. The water industry is a very complex process, so any change in ERP that is not well developed that takes into account this complexity can be a very difficult and costly process.

Lack of knowledge of time and effort in the process of transmission of data and systems. This led to the instability of the ERP system, so they faced many problems in dealing with the system, using it, and adapting to the new system.

- After the implementation of ERP, there are problems in modifying the system, in terms of planning and work process mode, the basic data of the system may not be accurate, for example (planning period, safety stock, and batch size).

- It must be ensured that the data is entered correctly because any error from the staff leads to a series of problems or the loss of the accuracy of the original data.

- Not understanding the extent of the project's risks and the nature of the variables and the lack of a specialized team in the company to face potential problems that may occur via the Internet.

One of the problems faced by executives in companies is that the ERP system needs a permanent connection to the Internet, which led to high annual expenses. Examples of expenses include employee training, system maintenance, and improvement, hardware maintenance, etc.

In the end, many problems are still to be faced and resolved. The value of ERP implementation will mostly be reflected in the Internet then, companies should not be able to stagnate, and should take corresponding measures against the above problems to enhance the ultimate success of the ERP management system.

# Question Two

***3 Marks***

Learning Outcome(s):

*CLO5:* *Interpret the management challenges faced by information systems being implemented in organizations today, and how they affect business and society.*

What is the proposed solution for the implementation issues of ERP systems in water corporations?

One of the main reasons for success depends on the correct implementation of this. If ERP is not implemented correctly, it can lead to terrifying and great risks. Therefore, it must be ensured that there is an integrated leadership, a successful implementation plan, permanent budget monitoring, and strategies to avoid poor performance and problems while keeping pace with development. Continuous planning of the plan through regular consideration of requirements and the ability to manage changes.

Some helpful strategies for resolving these issues:

* To avoid poor performance and keep pace with changes, an implementation strategy such as: step-by-step or Big Bang can be applied.
* Executing all planning and scheduling operations without using an internet connection through various means.
* Iterative developmental method (Bailey):

It is used to develop information systems at the enterprise level, and it also allows effective communication with system developers and their customers, to develop the system towards a specific goal. It is distinguished in knowing the views and the most appropriate ways with accurate knowledge of the needs, in addition to working to strengthen communications between experts.

* Simultaneous engineering method:

Used in ERP system development with the simultaneous involvement of several functions with shared responsibilities for development. It is a time-based innovation. Used to shorten ERP delivery time.

* Future plans:

The Water Corporation is working on forming a consulting team from SAP to find effective solutions or recommendations for action plans to know the needs of the project, prepare reports and reach final results.

* Determine requirements:

After holding several meetings with the manager of each department in the company, the detailed requirements for all departments were written and trying to understand the way each department works and identify the problems and needs, a meeting was held with the general manager and all employees to link the needs and implement the problems. Where a Requirements Document (RFP) or Request for Proposal has been written, it collects all requirements for submission to system vendors to determine the appropriate offers and software. Be sure to document the requirements to ensure that a clear picture is conveyed to the implementing agency.

* Prioritizing operations:

Unfortunately, many companies in our region do not follow Standard Procedures in their internal operations and their policies do not govern those procedures. Drawing the processes from the beginning and documenting them in writing helps you make the right choice of the optimal ERP system for your company that meets its requirements. Explicit needs cannot become apparent until the business processes are well defined, and those processes cannot be defined until they map out an understandable direction for their future strategy.

* Obtaining support from higher management:

Most of the projects that are not supported by its executive management are doomed to failure! So, make sure that the senior management is aware of the project’s developments, supports you in maintaining the commitment of the company’s employees, and is ready to intervene in any obstacle you face.

* Staff training and change management:

The installation of the ERP system is a major transformation for the company, and since the person is the enemy of what he does not know, you will find opposition from most of the employees in the company. “Extra work” (as they put it), so be sure to address this aspect and never cut back on the training process and repeat the training if you have to repeat it.

* Divide the project into phases:

Before starting to purchase or apply the system, slow down to apply the program to the company’s activities in a phased manner, for example, start in the financial and commercial sector, then give a sufficient period to test the system and its outputs and ensure the skill of the workers on it, and then start applying the system in the maintenance and manufacturing department, and so I work on rule 20 80, which is to spend 80% of your time planning and 20% executing. Most of the companies that promote their programs are interested in completing the deal and peace, so make sure you understand the business requirements before starting the project, this step will make solving future problems easier.

* Material management:

In preparing the production line for grade materials, additives, and waste, then preparing the production line, including, but not limited to: (machine spare parts, maintenance schedule, and quality control of machines).

* Pre-start the system:

Make sure to create an experimental environment that simulates the real data of the company’s information, so that users feel comfortable dealing with the system and try out the scenarios they practice daily, and discover errors before moving to the actual operation stage (Go Live).

* Check the system before closing the project:

Ensure the flow of system inputs and the ease of dealing with them, and ensure the quality of its outputs in terms of reports and publications.

* Systems replacement:

Review old systems and discover the error in choosing a high-cost repair process, and confirm that replacement is the best solution.

# Question Three

***3 Marks***

*Learning Outcome(s): CLO1:* *Explain the significance of information technology and its applications in professional life.*

List the key advantages gained by the water corporation from introducing the ERP system solution.

* Follow up and manage bills:

The ERP system helps you keep track of all invoices issued and link them to accounts payable so that those accounts are paid on time, and also enables you to easily track payments.

* Arithmetic Error Handling:

Entering data manually increases the chance of making mistakes that are difficult to detect quickly, and this leads to many problems in the company's accounts. ERP eliminates these problems.

* The ability to read the electronic signature:

In the electronic invoicing system, we find that the invoice is only approved after it is signed electronically, and the ERP system is characterized by its ability to read this signature and also know the identification code of the invoice, and therefore it helps you to ensure the validity of the invoices.

* Increase production efficiency:

It eliminates administrative obstacles that affect productivity negatively and reduces the administrative burden within the company so that employees become more capable of production and management. This was through a central database and standardization of the company's data flow.

* Ease of linking between different departments:

Gathering many operations in one place, thus increasing the interdependence between systems and making it easier for employees to perform their work and follow up on what is going on in the departments.

* data integration:

One of the main advantages of ERP is that it provides a single, accurate source of data for the entire enterprise. It also acts as an integration tool that facilitates access by integrating enterprise applications into a central data repository.

* Data migration:

It's the single biggest challenge for most companies. Whether your data is paper or digital, it will take time and money to transfer and clean that data to remove old or duplicate items and match them to the new format. Data migration is an essential step in implementing ERP, which typically involves moving data from several legacy systems to an ERP database.

* raise the level of security:

ERP systems provide a high level of security within the company; It works through a secure closed environment that preserves customer data, and the data transmission process within the system is also encrypted.

* Ability to reduce costs:

Lower operating costs and dramatically improve customer service While ERP systems can result in lower IT costs for the individual, especially for training, the up-front costs are almost always higher.

* Global System Efficiency:

The ERP system can be applied whatever the size of the organization and its operations and improves the visibility of projects across the company as it significantly improves the decision-making process

* Integration improvement:

(ERP) acts as an integration tool that facilitates access by integrating enterprise applications into a central data repository, as a result providing separate access for related parties.

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reference:

NetSuite.com, J.G. (2010) What is ERP (enterprise resource planning)?, Oracle NetSuite. company. Available at: <https://www.netsuite.com/portal/resource/articles/erp/what-is-erp.shtml> (Accessed: November 6, 2022).

Bendoly, E. (2011) Handbook of Research in Enterprise Systems. New Delhi, Under publication: SAGE.