

# An SAP Enterprise Resource Planning Implementation Using a Case study of Hospital Management System for Inclusion of Digital Transformation

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**Abstract.** Enterprise resource planning (ERP) system implementation necessitates substantial organizational and technological changes. These will have an impact on system stakeholders with various viewpoints and interests. It is crucial to analyze stakeholders in these situations and others like them to comprehend their attitudes and expectations toward the system. This experience report discusses problems with a medical institution's regular SAP ERP setup. This report includes insights and suggestions based on traditional system experience regarding a project to adopt SAP ERP at a healthcare facility. It ought to be a beneficial resource for all parties participating in the ERP installation process in the public healthcare sector. Many hospitals struggle to implement system analysis programs (SAP) and enterprise system programs (ERP) to assist in their business processes. The SAP ERP System is an integrated and consolidated way of easily flowing information within the organization's department. The authors identified hospitals' failure to implement a suitable SAP ERP system that works under their operations, leading to inefficiencies in their supply chain management process. This study addresses significant operational issues and productivity of the hospital management processes by administering 50 questionnaires and using Cronbach's alpha to analyze the responses. The Cronbach alpha is considered acceptable if the result is above 0.70. Our Cronbach result is 0.77. The benefits and difficulties of using SAP ERP provide a comprehensive review of the operations of Hospital and Healthcare Centre SAP ERP system digital transformations in supply chain management. Furthermore, the authors developed a framework to assist in choosing the proper tracking and transferring of information within the hospital technology that we named hospitec.

**Keywords:** Digital Transformation, Enterprise Resource Planning, Hospital Management System, Health Care System, SAP.

## 1 Introduction

Enterprise Resource Planning (ERP) is a system that enables the different aspects of a business to function synchronously as a single unit. The ERP system is managed using software tools to support the finance, accounting, project management, and human resource, to name a few, of any business enterprise [1]. After its introduction in the mid-90s, the ERP system has become integral to ensuring standardized operations across organizations [2]. The advent of SAP ERP has led to radical changes in the system and processes that has enabled different organization and industries in having a system implementation to aid organizations operations. Businesses have been searching for ways to improve productivity, cut costs, boost customer satisfaction, and create value for shareholders, but they must understand that the performance of their processes is the key to success in these areas. It proved out that considering an organization solely in terms of its functional structure was insufficient. Instead, it was also necessary to consider it as a network of connected workflows [3]. With the use of wireless sensor networks all operational procedures can be carried out over the networks as internet of things, internet of everything paradigm is now one of the new development of applications such as ERP SAP that are built around sensors networks [4-7]. On the other hand, since there is a need to modify and evolve the approach to these systems from the traditional

processes and business lifecycle to the current digital transformation of dynamic processes and organizations, ERP systems have been investigated for a long time and continue to be a topic of interest to the scientific community of technological advancement [8].

ERP systems are being adopted in many industries, such as aviation, transportation, logistics, education, construction, and the healthcare sector. Typically, healthcare institution not only carries out the primary responsibilities of providing healthcare but also brings other socio-economic benefits to the community in which it is situated. Consequently, healthcare establishments such as hospitals and clinics, engage in activities, processes and procedures to enable a smooth running of operations internally and externally which could include real-time data, customer relationships, human resource management, supply chain management, and patient satisfaction. ERP systems are therefore implemented to ensure the improvement of the above-stated processes while also eliminating the inherent impedances to the procedures [9]. Similarly, the continuous assessments that the ERP systems offer to enterprises include monitoring operations in real time, recognizing abnormal transactions, verifying rule compliance, and spotting processing faults [8].

The healthcare sector is vital socially and economically, contributing to a society's economic growth and development. As such, there is a need for constant monitoring and improvement of processes to ensure effectiveness and efficiency in attaining set objectives while providing maximum output and minimal waste. To achieve this, adopting a custom designed ERP system aligned with the institution's goal is essential. This requires the learning and development of new skill to ensure proper adaptation of the system to the operation of the institution [10]. This paper will, therefore, attempt to develop an ERP prototype which can be integrated into a typical hospital system. The eThekwini Hospital and Heart Centre have adapted a consolidated computerised ERP system called Rhapsody Integration Engine which helps to system manage and exchange applications, databases, and external systems. One of such adoption is the consolidated computerised system called the Rhapsody Integration Engine used by the eThekwini Hospital and Heart Centre. The remainder of the research article is structured as follows: an introduction, a literature review of similar work, the methodology, the results, and a conclusion.

#### A. Problem Statement

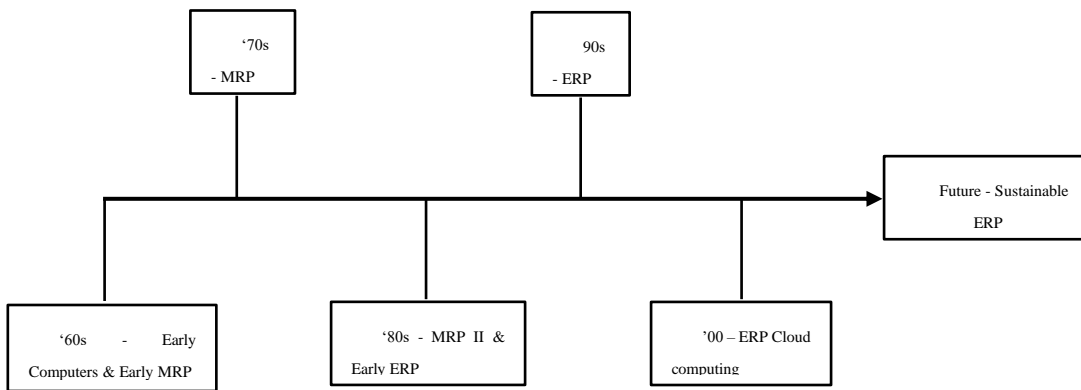
This study addresses significant operational issues and productivity of the hospital management processes; the remainder of the research article is structured as follows: an introduction, a literature review of similar work, the methodology, the results, and a conclusion.

## 2 Literature Review

### A. Enterprise Resource Planning (ERP) and its Evolution

Enterprise resource planning, for short, is a revolutionary approach to business systems that offers all-inclusive corporate functions using information technology. Information Systems (IS) in a corporation are significantly impacted by the existence and use of ERP systems. Due to the fact that most information systems curricula do not address ERP principles in depth, students lack awareness of these systems and their effects on the industry [3]. The enterprise resource planning system consists of software packages that allow organizations to seamlessly automate and integrate the different business functions and processes within the organization to ensure a holistic view by providing easy on-demand access to data and information from various databases [11]. Business functions such as human resource management, customer resource management, material resource planning, and logistics, among others, can be integrated into the ERP system, ensuring smooth organizational running. Module-based Enterprise resource planning is the brains of an ERP system. Each piece of software simplifies processes for a certain department within a business. Common ERP software modules include those for product planning, purchasing parts, inventory control, product distribution, tracking orders, financial and accounting functions, and human resource administration. ERP systems are used by employees at all organizational levels, including workers, supervisors, mid-level managers, and executives [12]. Furthermore, operational expenses have a significant impact on ERP customization, it was emphasized in the ERP implementation for Manufacturing Businesses that issues with demand variations, balancing demand-supply factors, and exercising control have an adverse effect. backbone. Furthermore, they have underlined that the wealthy Every stakeholder must be aware of their duties, be responsible throughout the process, and be realistic about the expected post-implementation reality in order to successfully implement any ERP project [12].

ERP systems have evolved over time and have applications in different fields and industries. As industrialization came to the fore and computers and computer applications were introduced, the need to ensure proper tracking of materials from purchase, processing, and finished goods became important. This led to the development of Materials Requirements Planning (MRP) applications in the '70s which assisted organizations in material procurements, demand and sales forecasts, and production scheduling [13]. With the increasing importance of the MRP systems, J.D. Edwards World Solution Company significantly improved the existing system, which offered closed circuit and forwarding scheduling and a shop floor reporting called the MRP-II [14].



**Figure 1.** - Evolution of ERP Systems

In figure 1 above, the evolution of ERP is briefly itemized with its further development before adoption into businesses and the ecosystem. Figure 1 shows the current trend in ERP systems referred to as Sustainable Enterprise Resource Planning (S-ERP) [11].

The increasing dependency on technology birthed primary ERP vendors such as Oracle, PeopleSoft, IBM, and SAP, among others, in the '80s [11], enabling organization decision-makers to gain competitive advantages over rival organizations. The operational aspects of organizational processes became incorporated into the ever-developing ERP systems in the early '90s [15]. As the uncertainty heightened at the turn of the new millennium, the organization engaged in cost-cutting practices leading to the introduction and development of cloud computing. Naturally, the ERP support hardware and infrastructure became cloud-based leading to a significant reduction in I.T. overhead for organizations [16].

With the global awareness of sustainability in focus, companies and organizations are constantly evolving their operations and processes by ensuring information sharing and knowledge flow through their organisation. Efforts are made to ensure proper monitoring and minimizing of organisation's waste such as carbon emission, plastic, chemical and other non-biodegradable wastes, to ensure a more sustainable, eco-friendly environment [17].

#### *B. Important features of Enterprise Resource Planning in Hospital management*

Hospitals, as with all organisations, are searching for new sources of competitive advantage and cost-cutting strategies. [18] mentioned that it is crucial to investigate hospital supply chain management and outline changes to raise service quality for effective medical care. Aktürk [19] outlined that organisations that coordinate business processes with ERP systems in digital platforms can change their weaknesses into strengths by identifying risks and deficiencies in business practices. Consequently, the aim of ERP is to help hospital

administrators and healthcare management to clearly understand supply expenditure, utilisation and areas of waste and fluctuation, while recognising areas of opportunity [20]. LaPointe [21] further added that the ERP systems bring different departments of healthcare facilities, such as the supply chain, human resources, and public resources, into a combined platform that facilitates productivity, transparency, and supply chain management process.

In a research conducted by [22] to measure the effectiveness of ERP at the Muhimbili National Hospital for its service delivery indicated that the JEEVA ERP system assisted the Hospital in reducing costs, errors, increasing the confidentiality of patient information, treatment procedures, and decision making as well as the waiting time. However, challenges such as weak connectivity, untrained I.T. staff, inflexibility, and lack of management support were observed. These challenges were resolved, and the JEEVA system contributed a lot to the Hospital's service delivery.

#### *C. Benefits of Enterprise Resource Planning*

Once the ERP system has been digitalised the strong relationship between the suppliers and the service provider (Hospital) becomes easily attainable resulting in proper and fast workflow in terms of purchases. The introduction of ERP digitalisation enables the Hospital to meet its objectives such as providing proper care and saving lives through real-time access to patients' information. All of this is achieved because the system ensures that resources are procured timeously and at the right quality required by end users.

With the introduction and advancement of digital technology in hospitals, greater efficiency in information flow within organisations has increased. Furthermore, the automation of processes is achieved with greater ease leading to healthcare accessibility and affordability. Moreover, Singh [23] described that digital transformation matters in the supply chain management process of organisations as it helps with planning, sourcing, and logistics teams to work effectively. It

also ensures growth, reduces risks that may happen, and reduces costs. The research conducted by Fitriani, et al. [24], the need to have an ERP system to regularly determine and monitor the amount of medical and non-medical waste produced by the Hospital was established. It was concluded that it is of great importance to have an integrated system at the Hospital that will be helpful in waste management to contribute to green hospitals. However, these computerised ERP systems can be problematic when not implemented well or familiarised with staff members, as this may cause confusion. Proper training and monitoring are required as most hospital staff are yet to adapt to this system entirely. According to Uddin [25], the increase in online ordering and online pharmacies has complicated the safety and security of the drug supply chain. He further suggested that blockchains should be in place to avoid or minimize the threats to the drug industry, considering the hazardous effect of counterfeit drugs on people's health. This online ordering system allows hospitals to order from the supplier's warehouse by providing the supplier with the purchase requisition. Online ordering can ensure that the supplies are delivered on time and of excellent quality and that the vendors are paid the required amount. Supplies ordered more frequently are grouped and ordered in a single transaction, thereby saving time on a repetitive transaction process. The ERP system automatically collects the needed quantity and records the transaction. Online ordering can be done through routing.

The ERP system helps all departments to work effectively; just like in the supply chain for hospitals, it gets easier to track medicine that is about to expire because of the records made to the system. It also acts as a reminder to avoid supply shortages. Automation has proven to be the most effective solution for data inconsistencies in hospital supply chain units, with minimal potential for error and duplication. Supply chain management is a crucial part of running the theatre of the Hospital. This section deals with the surgical operations of the Hospital. The resources used during the process require proper care and handling before use. Proper records shall be kept so that the Hospital gives the best service. It happens that organisation uses new stock instead of the old one that still good to use. Having ERP provides the Hospital with real-time data, which reduces the wastage of resources and helps retrieve information immediately [26].

Furthermore, it can help the hospital forecast and track what they need. Hospital management comprises essential inpatient, outpatient, and operations theatre management features. Hospital management helps manage assets, ward rooms, and doctor and nurse activities. Outpatient care does not require patients to be at the Hospital, and they can be attended to wherever they are. Inpatient care is treatment that requires a patient to be at the Hospital to receive medical attention. Operations theatre management is a unit where the lifesaving process takes place.

#### *D. Challenges of Enterprise Resource Planning*

The eThekwini Hospitals and Healthcare Centre spends a lot of money on medical supplies, hospital equipment and other healthcare services. Procurement and supply chain management software is used to track how much is spent and which vendors are used for supplies and other healthcare products. According to Hallikas, et al. [27], digital procurement has a significant positive relationship with supply chain performance. Furthermore, digital procurement capabilities positively link external data and supply chain management performance. Another challenge discussed by Beaulieu and Bentahar [28] is that the digitization of practices used in the healthcare sector makes it hard to bridge gaps and improve supply chain management performance. Organizations, including hospitals have now found a better way to keep their records in a consolidated way different from traditional manual bookkeeping with inherent flaws. These flaws may include losing or misusing patients' information or sabotaging the organization's information. A restriction of personnel's access to sensitive data and the implementation of an ERP system could help rectify these flaws. The procurement and supply chain management software enables the Hospital to make the best purchasing decision, reduce costs, get quality medical supplies, and patient satisfaction.

The failure of ERP systems in the Indonesian Hospital was due to improper information management and complexities associated with integrating hospital processes into the system [29]. Consequently, Gardas [30] opined that there is a need for experts' knowledge and top-level management commitment for the successful implementation of computerized systems in hospitals. Opinions of the senior management, end users, and other project management team need to be considered in developing a suitable ERP to be adopted. In addition, hospitals supply chain have been documented to have challenges such as low perceivability and command over procurement spend. Therefore, the most effective way to accomplish smoother start-to-finish tasks is through digitalization and robotization of the medical care store network.

#### *E. Supply chain features*

There is also a significant process called the supply chain, which is the principal department within the organization that contributes majorly to the organization's success and potentially to the organization's failure if not monitored extensively. The supply chain is an arm of an organisation that ensures the purchase and timeous delivery of goods and services. The supply chain, also called logistics, is responsible for the flow of materials from raw materials to manufacturing and delivery to end users using different modes of transport, such as rail, water, air, and even road transport. The supply chain is also influenced by digital transformation. In recent years, processes and systems of material procurement, manufacturing, delivery, and the returns of sound, have changed.

Some hospitals can have medicine storage of their own, as it caters to different needs; therefore, systems are needed to manage every activity in the storage. The information system can improve online processing, minimize system risks and help decision-making. There are ways to help hospital management order the needed supplies for the Hospital. As supplies and other medical resources are used daily, there is a need for proper management and distribution to patients in need, and the distribution department manages them. The proposed model in this research will be used to order the necessary supplies in an online ordering system. The focus for digital supply chain management is planning, sourcing, and delivering. Healthcare facilities are visited by many people every day, hoping to receive medical attention. With digital strategies, the process of attending to patients has been made easier, fast and less time consuming. However, reviewing thousands of records of patients manually is time consuming and very challenging. Furthermore, the concerns over health inequalities with regards to health care resources distribution to people are well documented in literature [31, 32].

According to the journal by Daniel (2021) the supply chain has five steps which are planning- whereby the material management using ERP system plans. Secondly organisations identify and select vendors that can supply materials in a streamlined and efficient way according to agreement. The manufacturing stage, testing, packing storage and distribution. The delivery stage pertains to logistics and focuses on getting finished goods to consumers the fourth step. Return stage includes all product return including defective product and products that will no longer be supported this stage includes elements from other stages including inventory and transportation management of which is the fifth step. Hospitals, like every other organization, need to have a good supply chain management system to effectively manage the flow of goods from the suppliers and vendors to the staffs and patients that need them. The timeous delivery of these supplies is crucial to the optimal functioning of the hospitals. The management of the supply chain in a typical hospital ensures that the employees, both medical and non-medical, receive adequate supplies to effectively discharge their duties and ultimately help patients.

To keep abreast of current trends, the supply chain management system process is digitized. Organizations, and no least hospitals, are seeking to gain competitive edge by the introduction of a functionally digitized system of supply chain management into their operational processes [33]. Computerized SCM software are adopted for several reasons among which is keeping track of the quantities of hospital supplies available while also anticipating how much supplies

meeting the customers' needs timeously. The need to collect and analyse the digital customer experience in health care is critical to establishing the level of satisfaction received

is required given the demand and consumption rate. This concept is aptly captured by Bigliardi, et al. [34] as logistics 4.0. Also equally important is the determination of the conditions of available supplies in stock. With the implementation of computerized system, the tendencies of supplies getting expired while in storage is significantly reduced. Furthermore, the digitization process of SCM allows the achievement of profitability by allowing the Hospital to have access to the information of its vendors in the system to ensure quality affordable drugs and materials. There are financial cost savings in the hospitals if there is a software system in the supply chain management to successfully acquire the right products that are short from the warehouse.

#### *F. Overview of digital transformation*

Digital transformation is coming with a lot of trends. Which includes telemedicine, where patients and doctors interact online. As time goes by, it is evident that online consultation will be a common practice. Patients receiving medical supplies in the comfort of their homes are gradually becoming a norm. Digital transformation doesn't only benefit hospitals but also patients. It helps the Hospital achieve automated data flow while ensuring an easier decision-making process. ERP provides the ability to keep track of all supplies that enter the Hospital when it is used. It also tracks lost or damaged supplies of medicine and medical resources and helps appropriate them.

In an interview publish by the National Library of Medicine, Alt and Zimmermann [35] submitted that digitisation affects processes within an hospital system such as pre- and post-surgical services. Massaro [36] added that digital transformation could assist in the resolution of problems in the medical practice while also noting that Blockchain technology can speed up digital transformation process by reducing certain elements such as a data management issues. Digital transformation of supply chain management process has proven to have a lot of benefits namely improvement in efficiency, better planning, enhanced flow of data, increase in revenue, better customer service, reduced expenses, and transparency. The supply chain management process used in hospitals requires digital transformation of operational and technical features. This can be seen as where technology, processes and people meet.

The need to adapt and adopt the emerging technologies available is critical to the survival of every organization. Adapting to the technological innovations is compulsory since, in the modern society, consumers see technology as a tool to make life easier. Consequently, organisations adapt by introducing software systems that will assist organisations in

by the consumer (patients). Current technological trends are not only result of the lifestyle choices of technology users, one of these changes is that jobs and services in health care are

now dominated by technology in all its forms [37]. Digital transformation drives the integration of different technologies, from traditional supply chain management to digital supply chain management process. It ensures creative and innovative ideas, promotes business intelligence, and helps integrate business processes.

Many hospitals or healthcare facilities have adopted it. It has helped hospitals to meet the always changing needs of patients. Digitization has also helped introduce new systems that help with demand and supply planning, improving data and also forecasts. The benefits of digital supply chain management outweigh those of traditional supply chain management. Benefits such as fast accessibility, safer and less costly health care, and real-time access to data are experienced with digitization of hospitals' SCM systems. Conversely, traditional supply chain management are inherent with unreliable data and delayed access to required data. Additionally, the flow of goods and tracking of goods is inadequate and there is lack of integration which leads to lack of consistency.

### 3 Methodology

The qualitative research approach is used in this study since it comprises surveys, analysis, and descriptions. This approach makes use of a case study and four hypotheses. For this study, a qualitative technique is appropriate. Figure 2 through Figure 5 illustrate the statistics that corroborate our conclusions. To improve our understanding of the operational techniques for the suggested solution in the hospital evolution, Table 1 displays the questionnaire created for the hospital management users and officials regarding SAP ERP

Implementation systems. Businesses must keep up with the newest technological advancements by utilizing SAP enterprise resources, which are included in the digitalization of operations with a single database and Datawarehouse system to minimize all procedures.

#### A. Research Methodology

We distributed questionnaires to hospital administration, employees, and patients from several hospitals to advance our study. Fifty individuals filled out the questionnaire. The research's inquiries centered on the following queries:

- i. Has the deployment of the SAP ERP system had a favorable effect on hospital management and patient operational services?
- ii. Does implementing SAP ERP provide more efficient ways to manage inpatient, outpatient, and emergency activities?
- iii. In terms of scheduling appointments with doctors, dispensing medication, and other procedures, is the SAP ERP implementation system more effective than the conventional approach?
- iv. Has the implementation of SAP ERP enhanced the quality of services (QoS) provided in real-time in the hospital management operations?

From table 1 above the five options that each respondent may choose from for each issue determined whether they agreed, disagreed, or were unsure about all the questions that were posed.

Table 1. Survey questions

Questions	Strongly Agree (5)	Agreed (4)	Moderate (3)	Disagreed (2)	Strongly Disagree (1)
i. Has the deployment of the SAP ERP system had a favourable effect on hospital management and patient operational services?					
ii. Does implementing SAP ERP provide more efficient ways to manage inpatient, outpatient, and emergency activities?					
iii. In terms of scheduling appointments with doctors, dispensing medication, and other procedures, is the SAP ERP implementation system more effective than the conventional approach?					
iv. Has the implementation of SAP ERP enhanced the quality of services (QoS) provided in real-time in the hospital management operations?					

**B. Results Obtained from The Implementation Hospital Management**

Following the distribution of the survey's questions, it was found that respondents' views on the implementation of the ERP system and the traditional ERP system varied. The survey indicates that some people still prefer the conventional approach in the Hospital Management System for the Inclusion of Digital Transformation. However, some employees in the operating divisions of the administration of Hospital Management System procedures are happy with the SAP ERP system that has been offered, even though Hospital Management System requires significant improvement owing to delays and processing times. Table 2 below, shows the

Table 2: Cronbach's Alpha Coefficient Outline Result

Cronbach Alpha and Related Statistics				
Items	Cronbach Alpha	Std. Alpha	G6 (smc)	Average R
All items	0.8248	0.8258	0.7913	0.813966667
Q1excluded	0.7884	0.7631	0.7342	0.7619
Q2 excluded	0.7543	0.7783	0.7766	0.769733333
Q3 excluded	0.7946	0.7995	0.6914	0.761833333
Q4 excluded	0.7747	0.7734	0.7105	0.752866667

The measuring scale's reliability test results in Tables 2 and 3 is 0.77. All the items for each construct have incredibly high reliability because Cronbach's alpha reliability score for each construct is more significant than 0.70. [39]. As a result, the questionnaire is an accurate measurement tool.

percentages of quarter results from Q1 to Q2 from 50 employees and patients who work at various operational levels of hospitals and practitioners.

**C. Cronbach Alpha Reliability**

As demonstrated in Tables 2 and 3, this study also conducted a validity test to ensure the internal consistency and dependability of the survey items. Therefore, according to Pallant, et al. [38], a scale's Cronbach's Alpha coefficient, which shows that the items are homogeneous and measure the same constant, should be 0.70 or above for a given element to be considered reliable.

Table 3. Construct Cronbach's Alpha

Cronbach's		
Construct	Alpha	No. of Item
Questions	0.77	5

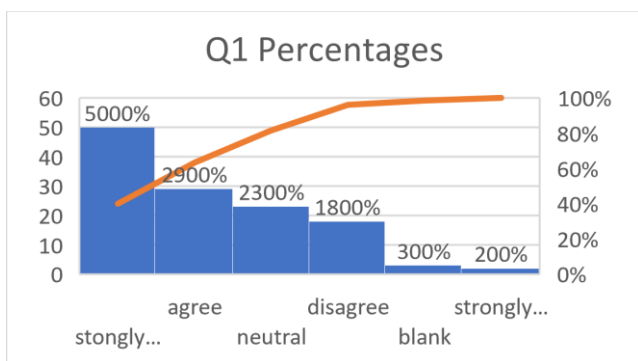


Figure 2. The effect on hospital management and patient operational services

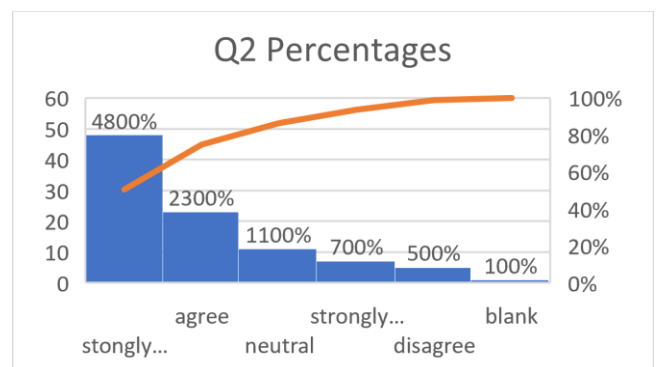


Figure 3. Effective ways to manage inpatient, outpatient activities.

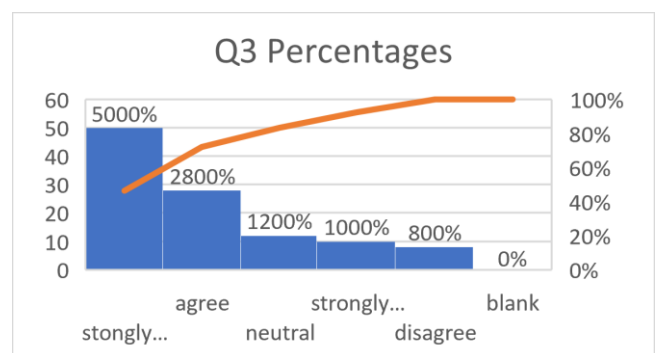
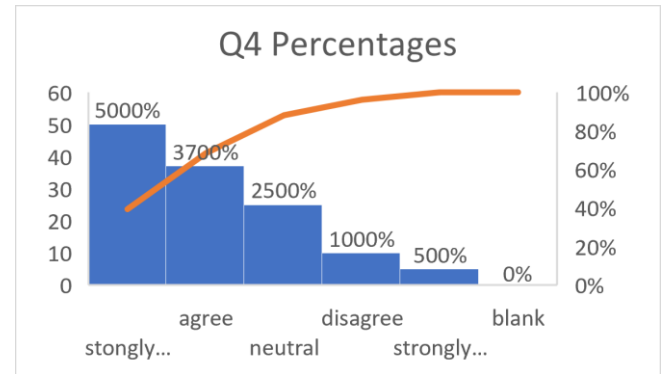


Figure 4. The SAP ERP implementation system relevance in the hospital



**Figure 5.** The Influence of SAP ERP on the Quality of Service

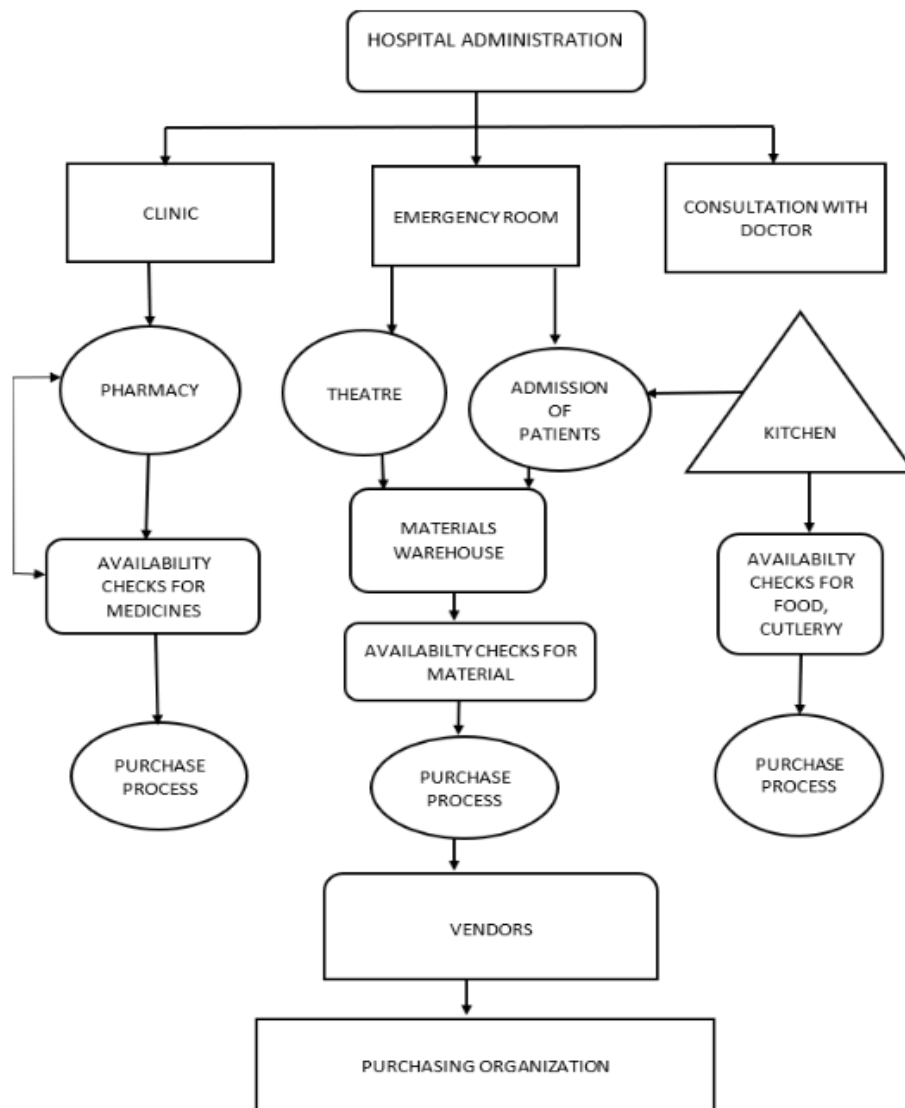
The histogram graphs with their varied numbers and percentages quartile displayed the data analyzed from the questionnaire distributed. In Figure 1 Q1's analysis, 50% strongly agree and 29% agree that SAP ERP implementation systems have had a significant impact on hospital management system, while in Figure 2 Q2's analysis, 48% strongly agree and 23% agree that SAP ERP is a major tool that improves hospital management products and services. Figure 3 shows that 50% of respondents in Q3 strongly believe that the SAP ERP deployment system is relevant to hospital operations, compared to 28% who do. Figure 4 reveals that 37% and 50% of respondents in Q4 strongly agree that

deploying SAP ERP will improve the system's capacity to deliver operations in real time.

#### 4 Hospitech SAP ERP Prototype

The seamless flow of information and communication to achieve smooth organisational processes are key factors to developing an effective SAP ERP system. The proposed model presented in Figure 1 indicates the expected flow and management of information in a typical health care institution to ensure effectiveness and efficiency.





**Figure 6.** Hospitec SAP ERP Prototype

#### A. Description for Hospital

As our solution, we have developed a framework to assist in choosing the proper tracking and transferring of information within the Hospital which is much easier to implement. Below are the descriptions for each hospital department.

##### 1) Administration

This is where the receptionist receives patients and transfers them to the clinic or emergency room or consult with the doctor. It is responsible for creating electronic files for patients coming in for the first time in the database of the Hospital. The receptionist sends the recorded information of a patient to either the clinic, emergency room, or doctor. This is also done to patients who are already on the system.

##### 2) Clinic

Nurses log on to the clinic system by putting in their unique usernames and passwords. Nurses access records of the patients from the system, examine the patient and record the findings or diagnosis. The proper medications are prescribed or administered to the patient. The pharmacy is approached if the clinic does not have the required medication for the patient.

##### 3) Emergency room

This is where patients with critical matters that need immediate medical attention, e.g., car accidents, gun wounds, poisoned. The patient may then be admitted or transferred to the theatre.

##### 4) Explanation of arrows

The arrows in green pointing down show that if the medicine, pills, and drugs (in the pharmacy), beds and material (for theatre), food supply, kitchen utensils checked for availability (for kitchen) are not available. The purchase process is done,

and the material shortage is ordered from the right vendors. The arrows in black indicate that goods are received from the vendor after the purchasing organisation has authorised the funds if goods are unavailable in the warehouses. The arrows in grey indicate that the required materials are available in the warehouses and therefore are sent to the department requesting for them. The arrow in orange indicates that the doctor approaches the pharmacy if he does not have the necessary medication.

## 5 Conclusion

The benefits of a properly implemented ERP system cannot be overemphasized [40-43]. It is important for it to be properly placed in an environment. As the world transforms, organizational systems shall be in line with the times. as stated, that the supply chain is crucial in delivering goods and services. Managing and controlling the resource distribution in a hospital is quite difficult. That is why we need an innovative and systematic tool is needs to be at a gear in implementation.

This study shows that an effective healthcare supply chain is one where all the systems are connected. and has enabled us to be exposed to hospital supply chain management. However further research still must be conducted and more review on how information systems are effective in the achievement of strategic process. A hospital can reach the gateway to enterprise-wide visibility and finish their journey toward digital transformation in healthcare by connecting a Supply chain management system with their ERP systems. It is the organization's objective to deliver at a fast pace. This will be achieved if all systems are connected. The healthcare digital transformation and supply chain with its people, entities, and resources that make up the healthcare supply chain produce the best and most useful data. You must be able to utilize this data correctly and integrate technology to improve the performance of supply chains in a hospital.

### Data Availability

All author information is available from the author.

### Conflicts of Interest

The authors declare no conflict of interest.

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