Business Technology Consulting

Name

Institution Affiliation

Course

Date

1. **Executive Summary**

The WHT hospital is facing business problems regarding high cost of maintaining systems, low productivity and duplication. WHT aims to reduce costs and increase productivity by about 19%, with a focus on becoming the best regional hospital for elective surgery. Key to achieving these goals is the development of the hospital architecture and use of an electronic patient record system (PAS) that maintains the patients. The current IT infrastructure includes a number of duplicated, obsolete, and mainframe-based systems that are expensive to maintain. WHT is considering outsourcing specialist applications and taking advantage of commercial off-the-shelf software and cloud solutions in the future. One key issue facing the WHT’s clinical management is reducing litigation related to patient safety and has an extensive database system that records the tasks performed by the specific healthcare providers and the respective dates. The hospital focus on 'front line' patient quality of medical service and safety first when grading their systems (A being primary or most important down to D being necessary but least critical). The new EPR system has been incorporated into 'as is' documentation, resulting in some duplication of capabilities. The Clinpro expert system, which offers expert systems management for clinical operations, care packages, and algorithmic database of clinical best practice, was developed by surgeons and systems specialists. This method will enable the WHT’s healthcare providers to easily access essential files and patients’ health records using their smart technological devices.

1. **Business Context and Strategic Analysis**

The WHT hospital needs the support a business consultancy firm in analyzing the problems facing the health facility, with an aim of developing and implementing the solutions (Kubr, 2002). There are several consultancy methods important for any organization that is facing challenges. These consultancy methods or models include the three-layer, the engagement, the solution and the phase models (Krüger and Teuteberg, 2018).

1. **The 3-Layer Model**

According to research, the three levels of interacting with clients include determining the clients’ desires and prospects, the work and its management, and the specific field and professional solution (Michell, 2009). In this type of model, the experts such as consultants or project managers work with the clients in three levels (the engagement, the phase and the solution). The 3-layer Consultancy Model is a structured system used in business to provide an effective avenue of addressing client needs by engaging, phasing and proposing solutions. The engagement level entails the start of an analysis process to understand the requests of the customer and ensure that the needed goals are met. The phase level consists of further researching and understanding what works for the client’s unique problem before even attempting to come up with a suitable solution (Krüger and Teuteberg, 2018).

1. **The Engagement Model**

The business experts using this type of consulting model aim at building and maintaining a positive and strong relationship with the clients. This model uses the collaborative relationship between the clients and the professionals in determining how to develop and implement the essential solutions to the problems at hand (Michell, 2009). The engagement consultancy model follows several steps to ensure the process or the interaction between the clients and the experts is legal.

The engagement consultancy model strives to provide tailored solutions to facilitate success in the client’s goals and objectives (Gable, 1996). The process begins with setting an appointment between the consultant and the client, allowing them to move forward in creating a strong relationship. The preliminary meeting is conducted whereby introduction of the parties, objectives, and skillsets is established. The technical meeting takes place soon afterwards with further insight into defining scope through content, approach, facts and knowledge-sharing (Michell, 2009). Upon successful completion of discussions during the technical meeting, a proposal is submitted by the consultant. However, often this proposal is an ongoing process throughout the competition of other consultants from various entities. The contract development follows with regard to legal roles, responsibilities and deliverables for both parties, including default management for any resolution options which may arise (Michell, 2009). Ultimately when all terms have been accepted, each party signs off on legally binding commitments for work produced and deliverables promised. The engagement consultancy model thus serves as a critical aspect towards reviving business operations back to their expected standards.

The engagement process forms the basis of a successful interaction between a client and a consultant (Gable, 1996). The process begins with a careful evaluation of the problem by both sides to ensure that all service expectations are in line. The consultant then proceeds to understand the primary objectives of the client and validate if these goals are achievable and cost effective (Gable, 1996). The consultants must also map out existing tasks; identify areas where additional specialist input is needed, as well as using their expertise to suggest more efficient and effective ways for the client's organization to reach its desired outputs (Gable, 1996). Moreover, engaging a well-fitting partner resource can help present output faster and measuring success is essential in order to further improve the engagements moving forward. The whole selection process should centre on understanding how best the consultant’s findings will meet the needs of both parties.

1. **The Solution Model**

This level emphasizes a solution-driven technique to address the client demands hence providing value and benefit. The solution consultancy methodology entails a range of activities that determine the level of expertise and success in meeting the identified needs of clients (Michell, 2009). The process begins with a data gathering stage, in which the problem statement is properly defined, followed by identification of specific client demands for developing solutions. The analysis stage involves conversion of needs into requirements as well as modeling and decomposing the problem into its elements (Krüger and Teuteberg, 2018). The solution definition phase sees synthesis of potential solutions from requirements and culminates with the recommendation phase; here, the consultant selects the best approach that meets expected requirements and benefits the client based on their problem statement agreement (Michell, 2009). Ultimately, recognizing and utilizing consultants' varying levels of expertise will expedite the process of finding an appropriate solution to any given problem.

1. **The Phase Model**

The phase consultancy methodology is a systematic approach to addressing the needs of clients. During this process, consultants go through several distinct steps in order to identify problems and create solutions. The specific phases include problem clarification, diagnosis, solution generation, testing, evaluation and implementation (Krüger and Teuteberg, 2018). The first step is problem clarification which focuses on gaining an understanding of the client’s current predicament. The consultant then attempts to diagnose the issue by gathering information from various sources. The third step of this model is solution generation, where potential solutions are generated based on the available evidence gathered in the previous steps (Michell, 2009). Next up is testing, during which simulations or experiments are conducted to see if these proposed solutions have a positive impact on the problem at hand. Following that, consultants move onto evaluation which is a crucial step for assessing effectiveness and determining success before finally progressing on to implementation of these new strategies (Michell, 2009). This exhaustive process often yields beneficial results that greatly improve overall productivity and performance for clients.

 The phase consultancy methodology is widely applied by project managers, allowing for the discrete measurement and reporting of progress for each phase (Krüger and Teuteberg, 2018). The benefits of such an approach include providing the client with a regular update on the progress of the project so that any necessary changes can be incorporated as early as possible. The reporting of the phases creates a moment for engagement between the client, expert and stakeholders to discuss improvement strategies and innovative ideas that could further enhance or accelerate the delivery method (Krüger and Teuteberg, 2018). The report is essential in informing the clients and the consulting experts about any arising issue hence managing the expectations of both parties. The heightened communication fosters a relationship of trust between all parties, permitting greater flexibility in terms of modifying service offerings (Krüger and Teuteberg, 2018). In summation, through analysis and communication made available via the reporting of phases, clients and those involved in delivering an engaging project are able to maximize its value.

1. **The Application of the Engagement Model to the WHT Case**

The engagement consultancy method will be effective in the previous WHT case because the clients (WHT’s management staff) can work jointly with the consultants in developing interventions to the various challenges the hospital is facing. For instance, the Bloxham Consulting team contacted and interviewed Dr. April Truscot regarding the goals that the WHT’s project is looking forward to minimizing costs and increasing productivity by 20%. In the agreement, the parties involved concluded that the development of the hospital’s infrastructure and the use of the electronic patient record system (PAS) as among the strategies of achieving our target goals. After presenting the proposal to WHT’s management team, the healthcare providers agreed to the idea by signing the contract and led to the implementation of the new EPR system by the Bloxham Consulting team. The naming of the new EPR system as PAS was important for the purpose of avoiding political precision and misunderstanding of other suggested abbreviations. The Bloxham Consulting team was determined to conduct further research on what other systems can be purchased or changed to reduce the costs and improve the productivity. According to research, the engagement process entails contacting the client, understanding the scope of their need or problem, developing a proposal from the problem, selecting the best intervention and signing a contract (Krüger and Teuteberg, 2018). Bloxham Consulting team collected data from the interview with Dr. April and developed a proposal opportunity from what was contributing to the rising costs or expenses that the WHT was incurring.

 The engagement methodology was also effective in the interview with IT Director who pointed out several key issues. After analyzing the issues, the consultants identified challenges such as the duplication of systems due to a shortage of trained personnel who can maintain the systems hence creating a need for hiring maintenance contractors. The IT Director also reiterated that legacy and mainframe-based systems that require an update contribute to additional costs of hiring a specialist to support the systems. The interview with clinical management team led to the conclusion of the following key issues. The WHT hospital experienced a bed management issue due to a shortage of beds. The health facility was having a daunting task in managing and lowering the litigation with patient safety. However, the extensive electronic database is efficient in recording the individuals who performed specific activities and the exact time. The health facility uses a lot of paper in the clinical processes hence increase the need to embrace electronic documentation. Therefore, several areas need automation apart from the EPR function.

**vi). Application of the Hybrid Model (THOR)**

Technology consulting is a highly complex field which requires an effective portfolio strategy in order to maximize profits and develop effective solutions for clients. WHT can take advantage of the hybrid technology consulting method, as detailed in Santos et al. (2022), in order to optimize its portfolio analysis and make sure that each project executed is on track with its desired outcome. Through the THOR technique, WHT can analyze both the economic and technical benefits of each project and accurately determine how those projects line up with WHT's overall goals (Santos et al., 2022). With accurate projections from THOR, WHT will be able to focus their resources on the most profitable projects that maximize impact for their company, resulting in higher returns for their clients and greater efficiency for their own operations.

**3.a** **Design of an IT Consulting Solution (Scoping the Strategic Problem)**

 Business technology consultants can use the following methods when defining the problems that their clients are facing: specifying the existing state of the problems, stating the problem gap and evidence, and providing assumptions that challenge the existence of the problems (Michell, 2009). These three problem definition methods will be effective in the critical analysis and the identification of the key issues associated with the problems at the WHT hospital. The issue metrics and drivers are essential in ascertaining the key issues in the problems. Therefore, it is important to recognize the problems, how the problem develops (the issue metrics) and the exploration of the problems (the drivers).

1. **Problem Recognition**

The specific existing problems at the WHT hospital include the high operation costs and the low productivity. Several supporting evidences include a shortage of trained personnel who can maintain the systems hence creating a need for hiring maintenance contractors. The legacy and mainframe-based systems that require an update contribute to additional costs of hiring a specialist to support the systems. The WHT hospital experienced a bed management issue due to a shortage of beds. The health facility had challenges in managing and reducing the litigation with patient safety. The health facility uses a lot of paper in the clinical processes hence increase the need to embrace electronic documentation. The Semicon “as is” analysis team experienced difficulties trying to reach majority of the healthcare providers hence the need to use hospital staff acronyms and general terms for the systems’ descriptions. The Semicon ‘as in’ team also found out that the WHT health facility requires its own WHT Trust which can benefit the users of the duplicated systems. This conclusion by the team was after finding out that Wigglesworth Hospital Trust was formulated from the merger of Miltonshire and Wigglesworth General Hospital and the Wigglesworth (which had collapsed financially). Therefore, the engagement consultancy model was effective in understanding the scope of the WHT’s needs, defining the constraints facing the hospital and developing opportunities for proposals from the challenges. The existence of the main problems at the health facility is as a result of the management team failing to engage the business technology consultants on time before the occurrence of the issues. The other assumption is that the interviews with both Dr. Truscot and IT Director confirm that the WHT’s management knows some of the best solutions to the organization’s problems but believe it is better to implement the interventions in future.

1. **Problem Development (Issue Metrics)**

WHT’s relevant stakeholders include the surgeons, systems experts, IT Director and elective surgery patients. The problem values and objectives for the WHT’s project include developing strategies of reducing business operating costs and increasing work productivity (Milne, 2020). One of the perspectives of the problem is that there exists a shortage of trained personnel to operate the systems hence contributing to the increasing costs of hiring a contractor to operate and manage the systems (Milne, 2020). Another perspective on the problem is that too much paper work can contribute to the loss of essential files and the patients’ health records which confirms the rising litigation cases regarding patient safety. The engagement consultancy model is essential for building the long-term and strong relationships between the WHT managers and the Bloxham Consulting team in developing and implementing the essential tools for solving the problem.

1. **Problem Exploration (Issue Drivers)**

The issue drivers refer to the possible causes of the problem at the WHT hospital. According to research, this part of problem identification consists of selecting an analysis level, breaking down the problem, identifying the constraints, potential causes or paths to solutions (Michell, 2009). In analyzing the business context of the WHT hospital, it is important to understand how the health facility was competing with other hospitals in terms of efficiency and patient care delivery services. WHT hospital had poor systems that contribute to the loss of important patient information hence confirming the rising number of litigation cases regarding patient safety. The health facility was still using a lot of paper work to record patient information hence creating the need to embrace the electronic recording system. WHT is losing on the expenses of hiring contractors and specialists who can run and manage the systems because the organization lacks trained personnel who can operate the systems. The health facility cannot compete in terms of serving patients with other hospitals such as the Wigglesworth Clinic and the Miltonshire and Wigglesworth General that have the Wigglesworth Hospital Trust. Such a trust resulting from mergers, can be beneficial to WHT because the users of the systems can learn essential skills on how to operate the duplicated systems hence reducing the operating costs of managing the systems. Communication between a majority of the healthcare providers and other stakeholders such as the Semicon ‘as is’ analyzing team is poor due to lack of internet connection services which affect the hospital’s business operations. Supporting evidence is the missing interviews that the Semicon ‘as is’ analyzing team experienced to lack of access to the WHT’s healthcare providers leading to the documentation of the notes from an external source (one of the consultant’s sister in-law who is a physician in The United States).

**3.b Design of an IT Consulting Solution (Business Analysis using BTC Techniques)**

WHT’s services and systems are graded depending on their importance and critical levels. For instance, the patient-focused processes and services that are high quality and should be available round the clock are graded A. The services and processes that are important for the daily support of WHT’s business operations but less critical than the main systems and services are graded as B. The other systems such as accounting and administration that are less critical for patient safety and quality but important to the running of the organization are graded as C. The services and systems that are essential but have the least impact on the quality and safety of patients are termed as D. According to research, some of the business technology consulting (BTC) techniques that are essential in analyzing the business services and processes of a company include the business service profiling, business context articulation and IT Service Profiling (Krüger and Teuteberg, 2018). These BTC techniques will be essential in analyzing WHT’s business data.

1. **The Technique of Business Service Profiling (BSP)**

This method is essential in the analysis of the norms, services and processes of a business (Michell, 2009). The business norms are essential in asserting the correct business regulations that will influence a company towards achieving their IT goals. In the context of the WHT hospital, the health facility aims to be the best in the region in terms of providing elective surgery. However, some of the norms that WHT has to embrace to achieve this mission include training the healthcare providers on how to operate and manage the systems. The hospital has to shift from the paper documentation to the electronic recording system to save information for future reference and also make use of the extensive database system to prevent the landing of patients ‘confidential information to unauthorized individuals (Stevenson et al., 2018).

This technique is also useful in the assessment of WHT’s business services by applying the Business Service Value Model (BSVM) to understand the services that are important to the daily support of the hospital’s operations and the quality and care of patients (Alshammari et al, 2020). The WHT’s services are divided into two namely; the support services and the services to clinical pathway. According to research, the BSVM uses business service strategic value (BSSV) of 1-5 to measure the worth or value of the business service to clients but the scale does not indicate the performance of the service (Michell, 2009). The WHT’s systems and services are graded into A to D on the basis of the level of importance to daily support to the business and clients’’ safety and quality. The table below represents the BSVM of WHT’s services and systems.

|  |  |  |
| --- | --- | --- |
| **WHT’s System Grade** | **Business Service Strategic Value (BSSV)** | **Examples of the Services** |
| A (primary services and systems) |  5 | **Services to Clinical Pathway*** Preparing patients for surgery
* Performing elective surgery
* Perform post-surgery procedures.
* Managing patient recovery

**Support Services to Clinical Pathway*** Checking blood tests
 |
| B (systems essential for the daily support of the hospital but less critical than the primary systems). |   4 | **Services to Clinical Pathway*** Scheduling elective patient.
* Scheduling supplies.
* Scheduling patient admission.
* Providing anaesthetic drugs.

**Support Services to Clinical Pathway*** Administering anaesthetics.
* Managing anaesthetics vital signs.
* Managing anaesthetic recovery
* Providing vital signs drugs
* Providing recovery drugs
 |
| C (less critical than B) |  3 | **Services to Clinical Pathway*** Admitting patients
* Scheduling staff
* Room scheduling
* Discharging patients
 |
| D (least critical but important) |  1 | **Support Services to Clinical Pathway*** Log Costs
* Updating local authority records
 |

The BSP technique is also useful in the analysis of business processes by focusing on a specific business service that will provide more information regarding the constraints in the different processes (Michell, 2009). The analysis of business processes also focuses on the different stakeholders and their respective roles. For instance, in the WHT case, the surgeons and systems experts have innovated the Clinpro expert system that provides expert system support during the clinical procedures, care bundles and algorithms repository of clinical best practice. The WHT has collaborated with experts from China to develop a smart phone application for checking blood test results that is connected to the new PAS system for online tracking of blood test results. The table below represents the WHT’s ‘as-is’ business process model.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Service** | **Process** | **Application** | **Capability** | **Stakeholder/s** | **Advantages** |
| Check blood | Take blood sample, transfer to lab, book in lab, run tests, update test documentation, check and release results. | Pharmacy Information System (PIS) | Can be connected to the PAS system for online tracking and reporting blood test results. | Systems experts from WHT and China. | Easy tracking of blood tests results. |
| Prepare patient for surgery | Review patient records, inspect patient, sign off next of kin form, discuss surgery approach, agree intervention, update records | Clinpro expert system | Expert system support for clinical procedures provides advice for clinical intervention using care bundles and algorithms.  | Surgeons and systems experts | Surgeons and anaesthetics can access all the NICE guidelines, procedures in care bundles’ and clinical algorithms in one package using their laptops or smart phones. |

1. **The Technique of Business Context Articulation (BCA)**

According to research, this technique focuses on analyzing the business strategy, business drivers and core competences of an organization (Krüger and Teuteberg, 2018). The business strategy of a company contributes to the long-term achievement of its business goals and also aims at enabling the firm to gain a competitive edge over other organizations in the same market niche. From the recorded interview with Dr. April Truscot, the WHT aims to be the best hospital for elective surgery in the region and to achieve this objective, the hospital has to develop its architecture and embrace the new PAS system. The Clinpro expert system is one of the ground-breaking innovations by the hospital that has made WHT competitive hence other health facilities are reviewing the application for use. The business drivers represent the internal and external business forces which influence an organization to accomplish the short-term and long-term goals (Malta and Sousa, 2016). In the case of WHT, the health facility has surgeons and systems experts who have collaborated to improve the work productivity of the organization by developing the Clinpro expert system. The Bloxham Consulting team has improved WHT’s work productivity by implementing the PAS patient administration system which has contributed to the duplication of systems and capabilities. According to research, the core competencies of an organization should be difficult for competitors to imitate and indicate the business performance as a result of the unique expertise that contribute to clients’ satisfaction (Michell, 2009). Despite the lack of competent personnel to operate the systems, WHT has managed to pay for the services of specialists and contractors to run and manage the systems for a continued delivery of patient services.

1. **The Technique of IT Service Profiling (ITSP)**

Research proves that ITSP is essential in the identification of the technology systems that a company uses and the relationship to the business services (Weng and Weng, 2010). In the case of WHT, the table below will be useful in understanding the importance of IT service profiling in identifying the IT applications and system functions, and their connection to the business services.

|  |
| --- |
| **IT Service Profiling** |
| **IT service name**: Anaesthetic record management | **Date**:4/12/2022 | **Version no**. N/A |
| **IT service description**: managing the recording of all decisions regarding anaesthetics |
| **IT service features and benefits**: record management systems for anaesthetic data and decisions. The systems require an upgrade to ensure that more users improve the records and minimizing patient safety errors.  |
| **IT Application name** | **IT systems requirements** | **IT service costs** |
| Anaesthetics system | The system uses the MS Exchange Server technology | 56 Total |

**3.c Design of an IT Consulting Solution (IS Service Analysis Technique)**

The BTC techniques especially the IS service analysis are essential in analyzing the performance between the IT applications in supporting the business operations of an organization (Sun et al, 2016). IS service analysis is also important in the derivation of an IT application rating that indicate the changes to be implemented on a specific IT application. The technique of IS service analysis can be useful in the assessment of the performance of the WHT’s IT applications as shown in the table below (Cadle et al., 2010). The table is important in the calculation of cost-benefit analysis for IT applications in supporting WTF’s business. An example of one of the hospital’s IT applications for analysis is the EQUIDOX.

|  |
| --- |
| **IS Service Analysis** |
| **IS service name:** schedule consumables | Date: |  |  | Version no. |
| **IS service description:** managing consumables for surgery |
| **Issue driver (s):** |
| **Business Indicators** | **IT Application Indicators** |  |
|  | **benefits** | **IT****application rating** |
| Business service nameSchedule supplies | IS servicesSchedule consumables | IT Application nameEQUIDOX | Cost factor | ITA criticality to IS capability (ISCB) | ITA technical quality (ITQ) | ITA usage (ITU) | ITA financial gains (FGV) | ITA user perception (UPV) |

[IT application rating= Relative benefit {(ISCB\*UPV\*ITU\*FGV) +ITQ)} – Relative cost]

IS service analysis involves assessing the relative benefit factors to the WTF’s business. The criticality of the EQUIDOX application (ISCB) can be analyzed using the scale of importance scale (1-5) which can rate the IT application as not important at all (1) to very important (5). This value can be achieved from the response from the IT Director. The technical quality (ITQ) of the EQUIDOX application can be derived by using the scale of importance to measure the functionality, adaptability, extensibility, reliability and scalability among other criteria. The usage of the EQUIDOX IT application (ITU) can be derived by interviewing the systems experts to determine the number of users using the application. A higher number of users will indicate a higher demand of the IT service to the WTH’s business. The financial gains of the application (FGV) by subtracting the value of financial gains from the use value (Use value-financial gains). The user perception (UPV) of EQUIDOX is that the application has direct link to consumable supplies through the website hence enabling suppliers to access usage profiles and resupply without delay. The IS service analysis technique is also effective in following the same procedure to compute the performance of other WHT’s IT applications in supporting the hospital’s daily business services.

**3.d Design of an IT Consulting Solution**

The BTC techniques are also important for analyzing the WHT’s data for the critical alignment of the IT applications, business services, IS services (Krüger and Teuteberg, 2018). The WHT’s IT applications can be analyzed by the four impact factors namely; customization result, IT application rating, BSSV and the perceived business service performance (PBSP) (Michell, 2009). Research further proves that the impact result from the IS service analysis is essential in influencing the decisions such as outsourcing, retaining, replacing, redeveloping and replacing an IT application (Kwanroengjai et al, 2014). It is important to analyze the WHT’s application that pair in terms of the IT application rating and the BSSV. These groups of applications are grouped into the outsourcing, outsourcing or removed and remove categories (Michell, 2009). For instance, the IT Director confirmed that the hospital was looking forward to outsource several applications such as Pharmacy analysis to minimize operating costs. The second category of applications falls into the marginal impact class in relation to the customization results (Krüger and Teuteberg, 2018). For instance, the new PAS admin system has replaced several systems in the hospital hence contributing to fast production of detailed reports. The Ana pro application requires replacement after failing several times leading to data loss. The Vitalstok application is reliable with good functionality hence WHT retains the system. The third category analyzes the IT applications according to their several impact results with the PBSP (Michell, 2009). For instance, the Pharmacy Information System (PIS) is easily accessible by the drug suppliers and manufacturers and at the same time providing an online advice platform regarding the data recordings of the drugs.

 There are several recommendations that WHT’s experts can consider in improving the IT applications with an aim of supporting the business operations.

1. **Application of the McKinsey 7S Model in the alignment of WHT’s IT applications, IS services and the business services.**

The WHT hospital can employ the McKinsey 7S Model in order to align its IT applications, IS services and business services. The model consists of seven elements, namely strategy, structure, systems, shared values, style, staff and skills (Chmielewska et al, 2022). Through an extensive evaluation process of all three areas (IT applications, IS services and business services), the WHT hospital should develop a clear understanding of where improvements need to be made with regard to strategy-structure alignment. For instance, the model will be effective in retaining, upgrading and replacing some of the IT applications and IS services that do not align with the hospital’s services of providing high quality care services to elective surgery patients (Chmielewska et al, 2022). Having accrued this knowledge base, the WHT hospital can then develop action plans to ensure effective deployment of IT resources that support the business objectives. Furthermore, it is important that the hospital carries out regular reviews in order to assess whether or not they are meeting goals in terms of ROI (return on investment), stabilization and scalability (Chmielewska et al, 2022). To sum up, leveraging the McKinsey 7S Model could provide substantial benefit to the WHT hospital by enabling them to efficiently utilize their resources and make intelligent decisions based on data-driven insights.

1. **Aligning external and internal domains of IT**

The WHT hospital needs to find a way to effectively use the two domains of its IT systems, external and internal, in order to align its IT applications, IS services and business services (Liu et al, 2011). To do this, the hospital should utilize external EGS such as supply chain management programs, third-party vendor apps for payment processing, computerized patient records systems and more (Henderson and Venkatraman, 1999). Additionally, the WHT hospital should designate members of the IT staff to manage internal network security from an organizational point of view. This includes monitoring emails for malicious content or unauthorized access, providing ongoing employee training on data privacy protocols, creating strong passwords and other security measures such as new technology updates like biometric authentication systems (Luftman et al, 2017). By utilizing both the external and internal domains of their IT systems, the WHT hospital aligns IT applications with IS services and business services in order to create a secure environment for its patients’ data.

1. **Adopting to the SaaS**

WHT hospital can leverage Software-as-a-Service (SaaS) adoption to align its IT applications, IS services and business services by utilizing a centralized and integrated view of patient medical records, claims systems, billing systems, and other relevant activities within the healthcare field (Tan et al, 2013). Through consolidating all of the hospital's data into one easily accessible platform that SaaS provides, it will be possible to track resources more efficiently, ensure patient privacy is maintained through confidentiality protocols, streamline the ordering process for supplies, and reduce manual effort in areas where electronic automation would be more effective (Tan et al, 2013). Furthermore, SaaS offers enhanced scalability when it comes to deploying digital products or attending to hybrid storage environments such as cloud computing. By taking advantage of these available technologies offered by SaaS adoption for its IT applications, IS services and business services WHT hospital could benefit from a much more comprehensive system for managing their organization.

1. **Conclusion**

The WHT hospital has employed an engagement model for consultancy as part of their learning experience in order to reduce operational costs and improve productivity. The hospital’s management has learnt the importance of aligning the IT applications and IS services to match the business services of the organization. To ensure the success of this endeavor, the hospital has assembled a multi-disciplinary project team with expertise in areas such as energy management, quality assurance, data collection and analysis, healthcare IT systems and more. Through utilizing the skills of their knowledgeable staff members at all levels within the organization, the implementation process is expected to be relatively rapid with measurable outcomes from early implementation activities. The goal at WHT is not only to reduce expenditure but also to view changes through an evidence-based lens that can be applied by other hospitals in similar contexts. Overall, this is shaping up to be a beneficial learning experience for both the clinicians and administrative staff involved. When considering future improvement for the analysis and design of a business technology consulting solution for WHT hospital, there are several key factors that should be taken into consideration. First, it is essential to develop a strategic framework for the project that includes both short-term and long-term objectives, as well as clear timelines and goals. Second, careful assessment must be made of the existing infrastructure, resources, and available technologies at WHT hospital. Finally, implementation plans must be designed that provide best practices around points such as security protocols and patient privacy. By taking these measures into consideration during the analysis and design process of the consulting solution, WHT hospital will be well positioned to achieve its organizational goals with minimal disruption to the business processes and services.

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