**Information Technology Project Management**

**New Life Health Data System**

**Project Charter**

Done by:

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Tutor: Mr. Arnett Campbell

**Brief Business Background:**

The New Life Hospital has a health care system which is well known for its speedy services. It is a widely recommended hospital for treating persons who are sick or in need of an emergency. The head of the hospital Dr. David James stated that the facility has an up-to-date medical staff and system to ensure good wellbeing of the Spanish town community. Hence, the hospital can also accommodate other communities. The Emergency Department was built with the necessities for swift service when dealing with the injured persons. This establishment was a great achievement for both the young and old.

**Business Objectives**

At the New Life Hospital, our goal is to provide the optimum services to those in need of our care. We seek to keep our customer service at its’ best; this would include hiring more staff if customer demands are too high for those already employed. Our response time is another aspect that is very crucial to our daily activities, we endeavor to provide the fastest relief for our patients in an orderly manner. We will continuously upgrade our machinery and databases, creating the need for employee training or the hiring of skilled workers which will propel our services to be among the best, if not the best in the country.

**Problem/Opportunity Statement**

Currently, the New Life Hospital is faced with numerous issues in providing healthcare. The hospital is understaffed and resources are few. The Accident and Emergency department suffers from overcrowding and inefficient patient triage/flow. Senior medical consultants in meetings held with the CIO requested the implementation of a system which would help curb the challenges being faced in the hospital.

**Preliminary Project Requirements**

The main features of the system are to facilitate the following tasks:

1. Triaging of patients as they enter the clinic (deciding the order of treatment).
2. Facilitating registration of patients where their name and unique identifier is taken (Unique identifier example: TRN) to bring up all medical records.
3. Automatically running a waiting-priority query and updating the list of patients to be seen based on the severity entered by the clinician in real time.
4. Assigning doctors to patients based on their availability and ESI (availability is checked by the system).

**Critical Assumptions and Constraints**

The proposed system must improve the level of care in the clinic’s emergency department. Clinic staff is assumed to be computer literate. The system must be able to be maintained internally without contract support and should have no down time. The system must have a high retrieval speed of records and contain no redundancies. The system must be able to be accessed from the office or remotely. Deliverables must be delivered on schedule and within budget. System must conform to the scope i.e. it must be correct. Software must be able to run optimally on provided hardware.

**Potential Risks Overview**

System Malfunctions

Technical

Poor Reporting

Faulty Planning

Management

Competitors

Patient Dissatisfaction

External

Lack of Cooperation

Lack of Understanding

Internal

Inexperienced Users

With any given project stems potential risks that could hinder the efficiency of completion. During this project at the New Life Hospital, potential risks were broken down into 4 categories; Technical, Internal, External and Management risks. The technical risks are potential events that could affect the functioning of the machinery being implemented, such as system malfunctions or the inability of the workers to use the systems effectively. Internal risks stem from within the hospital environment, team members could lack the understanding and not support the endeavor, and divisions could also surface, leading to the lack of cooperation. The external risks may include patient dissatisfaction by the implementation and other organizations with similar systems outperforming our initiative. Management risks could be from faulty planning by managers in charge of the project as well as poor reporting, causing management to have a misinterpretation of the performance of the system and how it impacts the hospital activities.

**Budget Estimate and Financial Analysis**

The estimated total cost for the project is J$565,000. This estimate places the software development of the system at a total of J$500,000 including data entry of the hospital’s existing records which are currently in hardcopy format. J$65,000 is budgeted towards the hardware for the system which includes 2 computers at J$26,500 each and a tablet at J$12,000. Assuming the hospital has both computers running 24/7 year round the system will incur a cost of J$60,000 in utilities per year.

The project benefits are based on increasing the efficiency at which emergency department patients are triaged and seen by a clinician. It will also reduce cases of patients unnecessarily occupying hospital beds when awaiting surgery. The system will increase the efficiency and level of care by 40%.

The hospital receives an annual patient load of 160,000 people. If nurses save only 15 seconds when processing each patient, the nurses will save 660 hours of labour each year. Based on the average nurse’s monthly salary of J$30,000 and a 6-day work week at 8 hours a day the hospital will be saving J$99,000 a year.

With the current system in place, cases occur when patients are hospitalised and occupy beds for days to weeks while awaiting surgery due to poor scheduling of the hospital staff. These patients occupy much of the nurses’ time in an already understaffed establishment where beds are also a scarce commodity. Assuming bedding and nursing these patients who are kept longer than necessary costs J$11,500 (a low end estimate) per night if patients are cumulatively kept in the ward for 100 days less the hospital will save J$1,150,000 per year.

The financial estimates show that the project would be very beneficial to the hospital. The net present value (NPV) at 3 years is J$2,469,448 and it has a return on investment (ROI) of 344% after 3 years. The payback period for the project is 13 months.

*\*All values are in Jamaican Dollars*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Discount Rate | **8%** | | | | |
| **Year** | **0** | **1** | **2** | **3** | **Total** |
| **Costs** | 565,000 | 60,000 | 60,000 | 60,000 |  |
| Discount Factor | 1 | 0.92 | 0.85 | 0.78 |  |
| Discounted Costs | 565,000 | 55,200 | 51,000 | 46,800 | **718,000** |
|  | | | | | |
| **Benefits** | 0 | 1,249,000 | 1,249,000 | 1,249,000 |  |
| Discount Factor | 1 | 0.92 | 0.85 | 0.78 |  |
| Discounted Benefits | 0 | 1,149,080 | 1,061,650 | 976,718 | **3,187,448** |
|  | | | | | |
| Discounted Benefits - Costs | (565,000) | 1,093,880 | 1,010,650 | 929,918 |  |
| Cumulative Benefits - Costs | (565,000) | 528,880 | 1,539,530 | 2,469,448 | **🡨 NPV** |
|  |  | | | | |
| **Discounted life Cycle ROI 🡪** | 344% |  |  |  |  |
| **Payback period 🡪** | 13 months |  |  |  |  |
| **Assumptions** |  |  |  |  |  |
| Costs |  |  |  |  |  |
| Computers (each) | 26,500 |  |  |  |  |
| Tablet | 12,000 |  |  |  |  |
| Benefits |  |  |  |  |  |
| Nurse Salary | 30,000 |  |  |  |  |
| Patient Cost per Night | 11,500 |  |  |  |  |

**Project Justification**:

The purpose for implementing this computerized system (Patient Health Data Tracking

Software) for the ED is to improve ED patient flow and patient management, thus increasing the level of care being provided and decreasing ED overcrowding. The implementation of a Patient Health and Data System will enable workers in the ED to track the care of all patients registered to be seen in the emergency room until there time of discharge. In terms of individual patient management, the clinician seeing the patient will be able to order blood and radiological investigations and print request forms. The system will also help to improve efficient disposal procedure, allowing the clinician to quickly print specific discharge instructions and/or patient summaries allowing for follow up care.

The PHDTS (Patient Health Data Tracking Software) would be a great investment. The calculations of financial analysis are shown in the table above. In a 3-year period of implementing the system the hospital would have spent over $700,000. However, their benefits would be over $3,000,000. The return on investment would be 344%. Thus the hospital would have left over money support different parts of the hospital.

**Project charter:**

**Project title**: Patient Health Data System

**Project Start Date**: September 14, 2015 **Project End Date**: January 14, 2016

**Budget Information**: The hospital has invested $600,000 towards the development of this project.

**Project Manager**: Romaine Halstead, 1-876-987-9876, [romaine877@gmail.com](mailto:romaine877@gmail.com)

**Objectives**:

The main objective of this project is to improve productivity and efficiency with the triage of patients. This is proposed healthcare data system will allow the departments within the hospital to handle the data of the patients from the moment of their arrival to the hospital to their discharge. This efficient and user-friendly system will offer real time data management which will allow hospital personnel to view and track patient flow more efficiently.

**Success Criteria**:

Essentially, completing the project within the allotted time and projected budget would be a success. Certain approaches and measures will be taken to meet this success. Other criteria include:

* A quicker and efficient patient flow and tracking from ED to the ward to release of the patient
* A more simplified patient registration system
* Reducing hassle for patients relating to follow up care, acquiring medical records ect.
* Proper scheduling for doctors, surgeons, nurses, pharmacists, radiologists to reduce irregularities when dealing with the patients.

**Approach**:

* Communication is a key factor in this project. Meetings will be held every two weeks where representatives and stakeholders voice their opinions and complaints to the project manager.
* Proper analysis of the business processes of the hospital is needed.
* Processes will be re-engineered as necessary as the computer based system is implemented.
* Training of employees to proper utilize the system as well as the hiring of personnel to implement, manage and maintain the system.

**Stakeholders**:

|  |  |  |
| --- | --- | --- |
| Name | Role | Responsibility |
| Dr. David James  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | CEO New Life Hospital,  Executive Sponsor | Has overall accountability of the project and is a representative of the organization as well as playing the leadership role. |
| Mr. Romaine Halstead  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | CIO New Life Hospital,  Project Manager | Manages the day to day activities of the project from the initial phase to the ending phase |
| Ms. Shanique Clarke  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | IT Consultant New Life Hospital,  Procurement Manager | Identifies potential suppliers and negotiates favorable payment terms. The primary bridge between the hospital and its suppliers |
| Mr. Dane Jackson  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Human Resources Manager | Manages the hiring, paying and training of new and existing staff members of the hospital |
| Mr. Kevin Astwood  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | CFO New Life Hospital,  Financial Consultant | Responsible for managing the financial risk of the hospital as well as financial planning, record keeping and producing financial reports to higher management. |
| Jane Mitchell  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Quality Assurance Manager | Responsible for testing and managing the quality of the system |
| Oscar White  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Internal Auditor | Responsible for routine audits of the system after implementation. |

**Milestones**

|  |  |
| --- | --- |
| Milestone/Delivery | Date |
| Initialization Phase: | **Mon 9/14/15** |
| Conduct feasibility analysis | Mon 9/14/15 |
| Develop Project Charter | Tue 9/15/15 |
| Project Sponsor Reviews Project Charter | Fri 9/18/15 |
| Approval of the Project Charter | Thu 9/24/15 |
| Planning Phase: | **Fri 9/25/15** |
| Check Total Expenses | Fri 9/25/15 |
| Acquire Revenue | Wed 9/30/15 |
| Hire/Train Employees | Tue 10/6/15 |
| Implementation Phase: | **Thu 10/15/15** |
| Request Quote from Suppliers | Thu 10/15/15 |
| Smoke Testing | Thu 10/22/15 |
| Install Equipment | Tue 10/27/15 |
| Assign Employees to Operation of Equipment | Fri 10/30/15 |
| Testing Phase: | **Tue 11/3/15** |
| Quality Management team tests System | Tue 11/3/15 |
| QM team approves | Thu 11/12/15 |
| System goes Online | Mon 11/16/15 |
| Closing Phase: | **Tue 11/17/15** |
| Audit team preforms Risk Management | Tue 11/17/15 |
| Files are Documented | Tue 11/24/15 |
| Finish | Thu 11/26/15 |

**Approval Sheet**

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| --- | --- | --- | --- |
| Name | Role | Signature | Date |
| Dr. David James | Chief Executive Officer | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_/\_\_/\_\_ |
| Mr. Romaine Halstead | Chief Information Officer | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_/\_\_/\_\_ |
| Ms. Shanique Clarke | IT Consultant | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_/\_\_/\_\_ |
| Mr. Kevin Astwood | Chief Financial Officer | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_/\_\_/\_\_ |
| Mr. Dane Jackson | Human Resources Manager | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_/\_\_/\_\_ |
| Oscar White | Internal Auditor | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_/\_\_/\_\_ |
| Jane Mitchell | Quality Assurance Manager | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_/\_\_/\_\_ |

*The signatures of the people above relay an understanding in the purpose and the content of this document by those signing it. By signing this document, you agree to this project and the objectives of this project.*