[ICT292 GROUP TASK]

2023 TJA ICT292 FTB Group1

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1. Information Management strategy
   1. Justification

In this document, the Purchase requisite system was designed from the perspective of the imaginary hospital.

In the healthcare industry, hospitals have unique purchasing needs and requirements. The ability to manage inventory effectively and ensure the availability of critical supplies and equipment is critical to maintaining a high standard of patient care. Furthermore, regulatory and compliance requirements mean that hospitals must have rigorous purchasing processes that comply with regulations such as HIPAA and FAR. To meet these challenges, many hospitals are turning to purchase requisition systems to automate and optimize essential elements of the purchasing process.

A purchase requisition system is a software system that allows healthcare workers to electronically submit purchase requests. These requests are then routed through a series of approval procedures before being converted into purchase orders and issued to suppliers. This automated system can minimize the chances of errors and allow employees to prioritize more value-adding responsibilities. By streamlining the procurement process, hospitals can save time and resources, allowing employees to focus on more strategic tasks that add value to the organization. This can result in considerable time and cost savings while increasing productivity levels.

One of the primary benefits of implementing a purchase requisition system is the ability to manage inventory more efficiently. In the healthcare industry, inventory management is critical to ensuring that hospitals have the supplies and equipment they need to provide high-quality patient care. By automating the purchase request and approval process, hospital staff can ensure that supplies and equipment are ordered and delivered in a timely manner, reducing the risk of shortages or overstocking. This can also help reduce waste and save costs by optimizing inventory levels and preventing expired or unused items.

Furthermore, a purchase requisition system can help hospitals comply with regulatory and compliance requirements. Healthcare organizations are subject to a range of laws and regulations governing purchasing, such as the Health Insurance Portability and Accountability Act (HIPAA) and the Federal Acquisition Regulation (FAR). By implementing a purchase requisition system, hospitals can ensure that their purchasing processes comply with these regulations, reducing the risk of legal and financial penalties.

A purchase requisition system can also help hospitals cultivate stronger relationships with their suppliers. By providing greater transparency regarding purchasing patterns and preferences, hospitals can negotiate better pricing and terms with their suppliers, resulting in cost savings and improved supplier satisfaction. This can also help ensure that hospitals have access to the supplies and equipment they need when they need it, improving patient care and outcomes. Additionally, the system can help ensure that suppliers comply with the hospital's policies and procedures, which can reduce the risk of supply chain disruptions.

In addition to improving inventory management and compliance, a purchase requisition system can help hospitals manage their budgets more effectively. By automating the purchase request and approval process, hospital staff can track and analyze their purchasing data, identifying areas where costs can be reduced or optimized. This can help hospitals allocate their resources more effectively, improving their financial performance and sustainability. By having a better understanding of their purchasing patterns and supplier relationships, hospitals can negotiate better pricing and terms, which can help reduce costs and improve their financial position.

Finally, implementing a purchase requisition system can help hospitals streamline their purchasing process, reducing administrative burdens and allowing staff to focus on patient care. By automating several manual procedures associated with generating and monitoring purchase orders, a purchase requisition system can minimize the chances of errors and allow employees to prioritize more value-adding responsibilities. This results in considerable time and cost savings for hospitals while simultaneously increasing productivity levels. By streamlining their purchasing processes, hospitals can ensure that their staff can focus on what matters most: providing high-quality patient care.

* 1. Purpose and Scope

The aim of purchase requisition systems is to automate and optimize the process of generating and managing purchase requisitions for a hospital. Microsoft SharePoint is an effective tool that can be utilized to implement purchase requisition systems since it offers an array of features and functionalities that support the purchasing process.

* + 1. Purpose of purchase requisition system

The purpose of a purchase requisition system is to increase the purchasing process's efficiency and accuracy while also offering more visibility and control over purchasing operations. A purchase requisition system can assist to minimize the time and effort necessary to develop and manage purchase requisitions by automating important components of the process, while also enhancing accuracy and compliance with corporate standards and external requirements. This can result in considerable cost reductions as well as increased production and efficiency.

* + 1. Scope of purchase requisition system

A purchase requisition system has a comprehensive reach and includes various activities associated with the purchasing process, such as creating and submitting purchase requisitions, routing, and approving requisitions through workflows, transforming requisitions into purchase orders, and overseeing and managing purchase orders throughout the procurement process. By offering end-to-end assistance for these functions, a purchase requisition system can aid the hospital in enhancing its purchasing processes and attaining improved results.

* + 1. Implementation of purchase requisition system

Microsoft SharePoint is a great tool for implementing purchase requisition systems across enterprises. SharePoint offers a variety of tools and capabilities to assist with the purchase process, such as the ability to develop custom processes, manage documents and information, and interface with other business systems. SharePoint also includes strong security and compliance capabilities that may assist in ensuring that buying operations are conducted out in line with company rules and external standards.

The purchase request creation process involves users completing a form that can be tailored to meet the unique requirements of the organization. The form has the capacity to extract various information, including the user’s supervisor from Active Directory, product details and prices from product catalogs, and approvers from SharePoint lists, among others. This level of automation helps to simplify and streamline the request creation process.

Once submitted, the system's workflows distribute approval notices to the purchasing department. These approval workflows can be tailored to the organization's specific needs, ranging from straightforward to complex. The approval process can be based on multiple factors, such as the requester's name, quantity, purpose, and cost of the items requested. The approval process can be one-level or multi-level, with parallel or serial approval, or it could be as simple as requiring only the requester's manager to approve, or in some instances, only approval from purchasing department is required.

## Roles and Responsibilities

* + 1. Employee and Approvers

Below are the different roles and responsibilities related to the purchase request and approval process in the organization:

|  |  |
| --- | --- |
| Level of Purchase Approval | |
| Purchase Request | Employee |
| 1st Level Approvement | Team supervisor |
| 2nd Level Approvement | Department Manager |
| 3rd Level Approvement | Vice President |
| 4th Level Approvement | Chief Financial Officer |
| Final Accept/reject | Purchasing Department |

* Employee: This person creates a purchase request for the company and prepares all billing reports related to the purchase. The employee then submits the request to their supervisor for approval.
* Team Supervisor: The team supervisor checks that the purchase requests made by their team members are valid and approves them if they are under $250.
* Department Manager: The department manager is responsible for approving purchase requests that exceed $250 and are less than $1000, following the approval of the team supervisor.
* Vice President: The Vice President is responsible for approving purchase requests that exceed $1000 and are less than $5000, following the approval of the department manager.
* Chief Financial Officer (CFO): The CFO approves purchase requests that exceed $5000, following the approval of the Vice President.
* Purchasing Agent (Purchasing Department): The purchasing agent executes the purchasing activities to acquire the necessary products and supplies for the organization. They ensure that all approvals have been attained and administrative requirements have been met before making the purchase.
  + 1. Information management stakeholders

Below are the different roles and responsibilities associated with purchase data management:

* Data Owner: The data owner owns policies and procedures for capturing, storing, using, and destroying request data. This may include the development of an electronic purchase request form with the required data fields. Data owners also investigate how other users/departments use the data in the request process to establish and document data definitions.
* Data Author: The data author is responsible for executing policies and procedures approved by the data owner. It is also responsible for working with other users/departments to agree on the data values to be entered into the data fields of the requesting system.
* Data Protection Officer: Ensure information management by complying with privacy laws and ethical issues.
* Data Manager: Data Manager ensures that data usage is limited to authorized people.
* Data Manager Representative: In the absence of a data manager, the delegate has the same role and responsibility as the data manager.
* Information Architects: Information architects are responsible for designing the information architecture that will be used to manage information in the requesting system.
* Project Manager: If the purchase request is a purchase order or quote request, this role will be responsible for the vendor selection process.
  1. Performance Measures

Performance measures are the process that assesses the project's efficiency and is commonly utilized for information management review strategy, also known as Key Performance Indicators (KPI). KPI are to evaluate the project's succession or failure by tracking its progression status and goal. It can range from different levels, such as a whole organization to an individual employee. Regular updates of the performance measures ensure that they are kept up to date and remain relevant. Below are some of the key performance measures.

* Availability: To measure the availability and how accessible the information is to the authorized users in the organization. Some essential factors include the system's user-friendliness, speed, and downtime. With these factors, the data can be more reliable and accurate for the user to use and provide the information.
* Security and Privacy: This helps to measure the organization's ability to protect the vital information data stored in the system. Only the employee can open their information data with their login credentials.
* Governance: This focus on the organization's policies and its standards for managing the information data, which complies with factors such as regulatory and legal documentation requirements for the accountability of the information data management process.
* Utility: The organization uses information data to support its decision to achieve its goals. The level of data integration has to be set across the entire organization so that the data flow can be divided accordingly to show more effectiveness in data analytics and reporting.
* Prevention of Human error: Human errors such as typo mistakes and mishandling of information can lead to drastic consequences that can affect the entire organization. To prevent it from happening, the employees must ensure that the information on the document is accurate to clarify it further. Access to the documents should also be limited to authorized employees.

In relation to our purchase requisition system, we have created in-depth performance measures to assess the performance of the Information Management Strategy. A few metrics have to be set to have an overview of the overall effectiveness, these metrics detect objectives that have been met or changes that need to be made to the existing strategy.

* Requisition processing time

The CEO will regularly review the strategy's progress with the Information Manager every quarter to revise the policies and procedures. The requisition processing time is one possible performance measure for this information management strategy. Requisition processing time measures the time it takes for a requisition to move from creation to final approval and routing to the purchasing department. The formula to calculate the requisition processing time is as such:

*Requisition processing time = Time of final approval - Time of creation*

The time of creation is when the employee submits the requisition for approval, followed by the time of the final approval by the appropriate approvers, such as CFO (if necessary) and routes it to the purchasing department.

This performance measure is essential because it reflects the efficiency of the workflow process and the speed at which purchasing decisions can be made. The increase in processing time will lead the organization to make more efficient purchases and respond faster to business needs.

To improve this performance measure, the organization could track the time it takes for each step of the workflow process, identify bottlenecks or delays, and implement measures to streamline the process. For example, the organization could automate the routing and approval process using a digital workflow tool or train employees and supervisors to improve their understanding of the approval requirements for each requisition type.

In addition to the requisition processing time measure suggested above, here are two additional performance measures for the purchase requisition workflow process.

* Requisition approval rate

The requisition approval rate measures the percentage of purchase requisitions approved by the supervisor, department manager, vice president, and CFO. The formula of the requisition approval rate is as such:

*Requisition approval rate(%) = (Number of approved requisitions / Total number of requisitions submitted)\*100*

This performance measure is critical because it reflects the approval process's effectiveness and the organization's ability to make timely purchasing decisions. A low approval rate could indicate issues with the requisition quality, unclear approval guidelines, or delays in the approval process.

The organization could train employees and supervisors to understand the approval guidelines and requisition requirements to improve this performance measure. The organization could also use data analysis to identify trends and patterns in the rejected requisitions or require additional approvals and use that information to improve the process.

* Requisition accuracy rate

Requisition accuracy rate measures the percentage of purchase requisitions that contain accurate and complete information, such as the correct item name, price, quantity, and purpose. The formula of the requisition accuracy rate is as such:

*Requisition accuracy rate(%) = (Number of accurate requisitions / Total number of requisitions submitted)\*100*

This performance measure is essential because it reflects the quality of the requisition data and the ability of the purchasing department to make informed purchasing decisions. Inaccurate or incomplete requisitions could lead to delays in the approval process, incorrect purchases, and wasted resources.

To improve this performance measure, the organization could train employees to ensure they understand the information requirements for the requisitions. The organization could also use data analysis to identify common errors or omissions in the requisitions and use that information to improve the process and provide employee feedback.

1. Data definition for the purchase requisition entity
   1. Definition of Purchase requisition

A purchase requisition is a request for purchases of goods that is submitted by an employee on behalf of the hospital for approval by designated approvers. The purchase requisition includes information such as the employee’s name, the name of the item, the total price, quantity, and purpose of the purchase. There are varied approval levels for the different category of pricing of the purchase requisition such as Type A, B, C, D. Business rules govern the approval process, ensuring that the request is within budget, consistent with inventory levels, and caters to the hospital needs. Once appropriate approval has been given, the purchasing department will either reject the purchase requisition, create a request for the quotation to receive bids for the purchase or to create a purchase order of the requisition from a supplier.

* 1. Key: Potential entity and business rules
* Goods are referred to items with monetary value required by the hospital
* The purchase requisition is made by a staff member of the hospital
* The employee is contractually bound to the hospital, validated through HR
* Approval refers to an evident agreement made between two or more parties, consisting only of designated approvers.
* Designated approvers include supervisors, department managers, vice president, chief financial officer
* Approval levels must follow the organization’s hierarchy and approval from levels of designated approvers below is required, starting from a supervisor, and leading up towards chief financial officer
* The different category of pricing refers to the categorization of total cost of the purchase requisition in monetary value
* Type A refers to the total monetary value of the purchase requisition leading up to $250
* Type A requires only the employee’s supervisor approval prior to the purchase requisition being routed to the purchasing department
* Type B refers to the total monetary value of the purchase requisition above $250 and not exceeding $1000
* Type B requires the approval from both employee’s supervisor and department manager prior to the purchase requisition being routed to the purchasing department
* Type C refers to the total monetary value of the purchase requisition above $1000 and not exceeding $5000
* Type C requires the approval from employee’s supervisor, department manager and vice president prior to the purchase requisition being routed to the purchasing department
* Type D refers to the total monetary value of the purchase requisition above $5000
* Type D requires the approval from employee’s supervisor, department manager, vice president and chief financial officer prior to the purchase requisition being routed to the purchasing department
* Budget and needs of the organization are set by the hospital’s key stakeholders
* Inventory levels are based upon the hospital’s storage department
* Purchase order refers to a legally binding document created by the purchasing department to be presented to the supplier
* Supplier refers to a person or a business that provides goods or services for the hospitals to purchase and acquire.

1. Workflow diagram

## 3.1. Approval workflow

### 3.1.1. Diagram

도표이(가) 표시된 사진

자동 생성된 설명

### 3.1.2. Explanation

* Purchase Request (PR) Submission

Employees submit purchase request form to their supervisor for approval.

If the supervisor rejects the PR, the purchase agent will proceed with the PR rejection process and the workflow will end.

If the supervisor approves the PR, it will move to the next step.

* Approval Workflow

If the price of the PR is more than $250, a message will be sent to the department manager for approval.

If the price of the PR is more than $1000, the vice president will have to approve it.

If the price of the PR is over $5000, it will be the CFO who will approve it.

If any of the approval is rejected, it will proceed to the PR rejection process and the workflow will end.

* Classification of Purchase Request

Approved PRs will be classified into four categories based on their price.

PRs with a price of more than $5000 will be classified as 'Type D PR'.

PRs with a price of $5000 and below will be classified as 'Type C PR'.

PRs with a price of $1000 and below will be classified as 'Type B PR'.

PRs with a price of $250 and below will be classified as 'Type A PR'.

* Acceptance and Processing of Purchase Request:

After classification, the purchase agent will process the acceptance of the PR and create a request for quotation and a purchase order.

Once the approval workflow is completed, the process will end.

This organizational structure ensures that all purchase requests go through a proper approval workflow and are classified based on their price, which helps in budget planning and decision-making. It also streamlines the purchase process, making it more efficient and transparent.

* 1. Process workflow

### 3.2.1. Diagram

도표이(가) 표시된 사진

자동 생성된 설명

### 3.2.2. Explanation

* Requirement Identification:

The process will begin by identifying the requirements needed.

* Information Collection and Permission Request:

Once the requirements are identified, the information that is required will be collected.

Permission will be requested from the management to proceed with the purchase.

* Creation of Purchase Request Order:

A new Purchase Request Order will be created.

The details will include the name of the item, the total price of the item, the quantity, and the purpose.

* Submission of Purchase Request Order:

The Purchase Request Order will be submitted and forwarded to the appropriate level for approval.

If the PR is rejected, the workflow will end.

If the PR is approved, the purchaser will be informed.

* Check and Modification:

The purchaser will check if the PR information is accurate.

If modification is needed, the workflow will go back to the creation of the Purchase Request Order.

If no modification is needed, the PR order will be sent to the supplier.

* Invoice Generation and Completion of Purchase:

The supplier will generate an invoice.

The purchase will be completed and the workflow will end.

1. SharePoint

<https://murdochuniversity.sharepoint.com/sites/ICT292_2023TJA/FTAClassBGrp1>

1. Summary

This organizational structure ensures that all purchases go through a proper approval workflow, accurate information is collected and modifications can be made if necessary. It also streamlines the purchase process, making it more efficient and transparent

Hospitals are under tremendous pressure to improve their operational efficiency and streamline their workflows. With the help of purchase requisition system, healthcare providers can create a mini-information system that can improve the efficiency and accuracy of their workflow management system. This can significantly enhance patient care and experience while reducing operational costs.

One of the primary benefits of using purchase requisition system in healthcare is that it offers custom workflow solutions that can help healthcare providers automate their routine tasks. This is especially helpful in healthcare where there are several tasks that need to be done repeatedly. With purchase requisition system, healthcare providers can create workflows that automate tasks such as scheduling patient appointments, ordering tests, and prescribing medications. This not only saves time but also reduces the risk of errors that can lead to patient harm.

Moreover, purchase requisition system allows healthcare providers to create a centralized document management system. In healthcare, it is essential to keep patient records, medical histories, and other sensitive data organized and easily accessible. purchase requisition system offers a secure and centralized document management system that can help healthcare providers access relevant information quickly and efficiently. This is especially helpful in emergency situations where healthcare providers need to make quick decisions based on a patient's medical history and other related information.

Another benefit of purchase requisition system in healthcare is its collaboration features. Healthcare is a collaborative field, and effective collaboration among healthcare providers is essential for providing quality patient care. purchase requisition system offers a range of collaboration tools, including document sharing, co-authoring, and real-time communication. This allows healthcare providers to work together efficiently and effectively, improving patient care and experience.

Additionally, purchase requisition system's robust security features are a significant advantage in healthcare organizations and hospital. Patient data is highly sensitive and confidential, and healthcare providers are legally bound to protect it. purchase requisition system's security features ensure that only authorized personnel have access to sensitive information, reducing the risk of data breaches and maintaining patient privacy.

Lastly, purchase requisition system’s reporting and analytics capabilities can provide healthcare organizations with valuable insights that can help improve their performance. Healthcare providers can use purchase requisition system's reporting tools to track their performance, identify areas for improvement, and make data-driven decisions. This can help healthcare providers optimize their workflows, reduce costs, and improve the quality of patient care.

In conclusion, purchase requisition system is a valuable for healthcare organizations and hospitals can use to enhance patient care, and experience, and reduce operational costs. By automating routine tasks, providing centralized document management, enhancing collaboration, ensuring data security, and providing valuable insights, purchase requisition system can significantly enhance the efficiency and effectiveness of healthcare organizations. It is a wise investment for any healthcare organization looking to improve its performance and provide quality patient care.

1. Logbook

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| --- |
| PROJECT SUMMARY |

|  |  |  |
| --- | --- | --- |
| Project Date | Project Name | Prepared By |
| Start: 2023-03-13  End: 2023-04-02 | ICT292 Group Task | Lee Jihu (GL)  Khairul Adam Bin Jufri  Edmund Wong Zhiyi  Jon Paul Lawas Dela Cerna |

|  |
| --- |
| PROJECT OVERVIEW |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Start | End | Task Action | Done(%) | Notes |
| 2023-03-14 | 2023-03-14 | 1st Group meeting (online via discord) | 100 | All attended. |
| 2023-03-14 | 2023-03-18 | Creation of the report. Starts working on IM strategy. | 25 | The performance Measure part was handling the wrong topic. It should be Improved. |
| 2023-03-19 | 2023-03-19 | 2nd Group meeting (online via discord) | 50 | All attended. |
| 2023-03-19 | 2023-03-21 | Completion of the report. Starts working on Data definition and Workflow. | 70 | None |
| 2023-03-21 | 2023-03-21 | 3rd Group meeting (physical) | 100 | All attended. |
| 2023-03-21 | 2023-03-24 | Completion of the report. | 100 | None |
| 2023-03-21 | 2023-03-24 | Completion of the SharePoint. | 100 | None |
| 2023-03-24 | 2023-03-24 | 4th Group meeting (online via discord) | 100 | All attended. |

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| --- |
| CONTRIBUTION |

|  |  |  |
| --- | --- | --- |
| Name | Content | Contribution(%) |
| Lee Jihu (GL) | IM strategy - Roles and responsibility  Workflow diagram  SharePoint | 25% |
| Khairul Adam Bin Jufri | IM strategy - Justification / Purpose and scope  Data definition for purchase requisition entity  SharePoint | 25% |
| Edmund Wong Zhiyi | IM strategy - Performance Measures  Workflow explanation  Summary | 25% |
| Jon Paul Lawas Dela Cerna | IM strategy - Performance Measures  Workflow explanation  Summary | 25% |