**SERVICE MANAGEMENT SYSTEM  
LOGISTIC**  
(**PROCUREMENT, WAREHOUSING, ASSET MNGT. PROJECT MNGT., VENDOR PORTAL FLEET MNGT., AUDIT MNGT. VEHICLE RESERVATION, MRO**)

A Project Study  
Presented to the IT Project Evaluation Committee  
Bestlink College of the Philippines  
Quezon City, Philippines  
In Partial Fulfillment of the Requirements for the Degree  
Bachelor of Science in Information Technology  
By

Marc Julius M. Barcinal

Romel B. Cabiling

Eunique Lambert L. Malang

Ronalyn M. Ramos

Fridalyn T. Lesigues

April 2022

**CERTIFICATE OF ORIGINALITY**

This is to certify that the research work presented in the Project Study entitled **SERVICE MANAGEMENT SYSTEM – LOGISTIC (PROCUREMENT, WAREHOUSING, ASSET MNGT. PROJECT MNGT. VENDOR PORTAL, FLEET MNGT, AUDIT MNGT, VEHICLE RESERVATION, MRO)**

For the degree Bachelor of Science in Information Technology at the Bestlink College of the Philippines embodies the result of original and scholarly work carried out by the undersigned. This Project Study does not contain words or ideas for the published sources nor written works that have been accepted as basis for the award of a degree from any higher education institution, except where proper referencing and acknowledgement were made.

Marc Julius M. Barcinal

Romel B. Cabiling

Eunique Lambert L. Malang

Ronalyn M. Ramos

Fridalyn T. Lesigues

April 2022**Abstract**

**Introduction**

In year of modernization Logistic was still in manual process based on the personnel the grouped interviewed. The process of transmitting and documenting the item in the vehicle transition was manual. In this case Logistic is not in easy way process due to some information of materials are not secured and the records are sometimes misplaced and even the redundancy if data are occurred that causes the misinterpretation of the management because before the management only uses the paper documentation which do not have a backup that if any risk problem the management will be case-hardened in assessment those records. So, the group proposed system that is reliable to make easy way on how to manage the Logistic on the company, instead of manual process. The groups developed a system which can generate reports and can save a lot of information and even track those records by using search engine references.

**Methodology**

Agile methodology enables us to do multiple tasks simultaneously and provides a strategic technique, the sprint-by-sprint cycle method, to complete the task. Agile methodology allows us to plan and arrange all of the tasks that must be completed. This strategy encouraged our team to be more accountable for completing things on schedule. This strategy enabled us to be self-sufficient in our research and provided us the confidence to present our project without fear. We have learned to work together to make our Service Management System a successful endeavor.

**Result**

As a result the project team has successfully provided what the user’s needs to do on a daily task. The project team has set up system to provide the logistics system with the necessary and perform the daily work in Service Management. Logistic is needed to manage the services and monitor the transaction; however this system is still underway and there are a lot of things to improve.

**Discussion**

The project team set up the system which would benefit both the Service Management System (SMS) Logistic and the Tech-Trendz Human Resource. Agile methodology helps to reduce the time required for the development phase of the project system. As a result, the development team has developed a system with user-friendly and full functionality.

# ACKNOWLEDGEMENT

The researchers would like to express their profound gratitude to the following people for their valuable contribution that helped in the completion of this study:

**Dr. Mary M. Vicente**, President of Bestlink College of the Philippines, we extend our gratitude for the guidance and for providing us with quality education.

**Dr. Charlie I. Cariño**, Executive Vice President of Bestlink College of the Philippines, we extend our gratitude for making the school a second home for students helping them to learn and gain knowledge.

**Engr. Doni T. Lleno**, Vice President for Administration, we extend our gratitude for building a strong foundation and ensuring that a school is a place for learning.

**Dr. Thelma Villaluna**, OIC for Research, Bestlink College of the Philippines, we extend our gratitude for giving us proper education to enhance our skills and helping us to become better students.

**Dr. Rosicar Escober**, Dean of College of Computer Studies Bestlink College of the Philippines, for providing us the study equipment to enhance and improve our skills for our career.

**Mr. Rommel Constantino**, Program Head of College of Computer Studies, for the constant supervision as well as providing necessary information regarding the project and also for his support in completing this Project;

**Mr. Enrico Pineda**, Capstone professor, for giving us ideas and suggestions to improve our research and sharing his experience for us to have insights to further develop our knowledge.

**Mr. Jorge Lucero**, Capstone professor, for guiding us and providing the necessary connection for those people that we need to provide all the requirements need for this project.

**Mr. Khristian Hosena**, Capstone adviser, for giving us all of his attention and guidance towards the succession of this project.

**Ms. Evelyn Herrera** Class Adviser, for her excellent advisory and giving us her time to communicate with other professor.

**Almighty God,** for everything He provided for us, giving us another day to live to enjoy life and making us safe through the pandemic and every day.

**TABLE OF CONTENT**

[1. Project Management 9](#_Toc101970649)

[1.1 Business Case 9](#_Toc101970650)

[1.1.1.1 Executive summary 9](#_Toc101970651)

[1.1.1.2 Business case analysis team 9](#_Toc101970652)

[1.1.1.3 Problem definition 9](#_Toc101970653)

[1.1.1.4 Project Overview 9](#_Toc101970654)

[1.1.1.5 Strategic Alignment 9](#_Toc101970655)

[1.1.1.6 Cost-benefit analysis 9](#_Toc101970656)

[1.1.1.7 Approvals 9](#_Toc101970657)

[1.1.2 Project charter 9](#_Toc101970658)

[1.1.3 Stakeholder Strategy 9](#_Toc101970659)

[1.1.3.1 Introduction 9](#_Toc101970660)

[1.1.3.2 Identify stakeholders 9](#_Toc101970661)

[1.1.3.3 Key stakeholders 9](#_Toc101970662)

[1.1.3.4 Stakeholder analyst 9](#_Toc101970663)

[1.2 Project Planning 9](#_Toc101970664)

[1.2.1 Project management plan 9](#_Toc101970665)

[1.2.1.1 Introduction 10](#_Toc101970666)

[1.2.1.2 Project management approach 10](#_Toc101970667)

[1.2.1.3 Project scope 10](#_Toc101970668)

[1.2.1.4 Milestone list 10](#_Toc101970669)

[1.2.1.5 Schedule baseline and WBS 10](#_Toc101970670)

[1.2.1.6 Change management plan 10](#_Toc101970671)

[1.2.1.7 Communication Management Plan 10](#_Toc101970672)

[1.2.1.8 Cost management plan 10](#_Toc101970673)

[1.2.1.9 Procurement Management Plan 10](#_Toc101970674)

[1.2.1.10 Project scope management plan 10](#_Toc101970675)

[1.2.1.11 Schedule management plan 10](#_Toc101970676)

[1.2.1.12 Quality management plan 10](#_Toc101970677)

[1.2.1.13 Risk management plan 10](#_Toc101970678)

[1.2.1.14 Risk Register 10](#_Toc101970679)

[1.2.1.15 Staffing Management Plan 10](#_Toc101970680)

[1.2.1.16 Cost Baseline 10](#_Toc101970681)

[1.2.1.17 Quality Baseline 10](#_Toc101970682)

[1.2.2 Risk management plan 10](#_Toc101970683)

[1.2.2.1 Introduction 10](#_Toc101970684)

[1.2.2.2 Top three risk 10](#_Toc101970685)

[1.2.2.3 Risk management approach 10](#_Toc101970686)

[1.2.2.4 Risk identification 10](#_Toc101970687)

[1.2.2.5 Risk Qualification ad Prioritization 10](#_Toc101970688)

[1.2.2.6 Risk Monitoring 10](#_Toc101970689)

[1.2.2.7 Risk Mitigation and Avoidance 10](#_Toc101970690)

[1.2.2.8 Risk Register 10](#_Toc101970691)

[1.2.3 cope management plan 10](#_Toc101970692)

[1.2.3.1 Introduction 10](#_Toc101970693)

[1.2.3.2 Scope management approach 10](#_Toc101970694)

[1.2.3.3 Roles and responsibilities 11](#_Toc101970695)

[1.2.3.4 Scope definition 11](#_Toc101970696)

[1.2.3.5 Project scope statement 11](#_Toc101970697)

[1.2.3.6 WBS 11](#_Toc101970698)

[1.2.3.7 Scope verification 11](#_Toc101970699)

[1.2.3.8 Scope control 11](#_Toc101970700)

[1.3 Project Execution plan 11](#_Toc101970701)

[1.3.1 Implementation and migration plan 11](#_Toc101970702)

[1.3.1.1 Purpose 11](#_Toc101970703)

[1.3.1.2 Description of implementation 11](#_Toc101970704)

[1.3.1.3 Points of contact 11](#_Toc101970705)

[1.3.1.4 Major task 11](#_Toc101970706)

[1.3.1.5 Implementation Schedule 11](#_Toc101970707)

[1.3.1.6 Security 11](#_Toc101970708)

[1.3.1.7 Implementation Support 11](#_Toc101970709)

[1.3.1.8 Listing of hardware, software and facilities 11](#_Toc101970710)

[1.3.1.9 Performance Monitoring 11](#_Toc101970711)

[1.3.1.10 Implementation Requirements (Hardware/Software/ Personnel/ Facilities/ other capital investment: 11](#_Toc101970712)

[1.3.1.11 Back Out Plan 11](#_Toc101970713)

[1.3.1.12 Post Implementation Verification 11](#_Toc101970714)

[1.4 Project Closure 11](#_Toc101970715)

[1.4.1 Transition-out plan 11](#_Toc101970716)

[1.4.1.1 Executive Summary 11](#_Toc101970717)

[1.4.1.2 Transition Approach 11](#_Toc101970718)

[1.4.1.3 Transition Team Organization 11](#_Toc101970719)

[1.4.1.4 Work Transition 11](#_Toc101970720)

[1.4.1.5 Work Execution during Transition 11](#_Toc101970721)

[1.4.1.6 Subcontracts 12](#_Toc101970722)

[1.4.1.7 Property Transition 12](#_Toc101970723)

[1.4.1.8 Knowledge Transfer 12](#_Toc101970724)

[1.4.1.9 Schedule 12](#_Toc101970725)

[1.4.1.10 Handover and Acceptance 12](#_Toc101970726)

[1.4.2 Project acceptance 12](#_Toc101970727)

[1.4.3 Post project review 12](#_Toc101970728)

[1.4.3.1 Project Summary 12](#_Toc101970729)

[1.4.3.2 Project Costs 12](#_Toc101970730)

[1.4.3.3 Project Schedule 12](#_Toc101970731)

[1.4.3.4 Recommendations 12](#_Toc101970732)

[1.5 Technical solution design 12](#_Toc101970733)

[1.5.1 Project Information 12](#_Toc101970734)

[1.5.2 Executive Summary 12](#_Toc101970735)

[1.5.3 Requirement Definition 12](#_Toc101970736)

[1.5.4 Solution Description 12](#_Toc101970737)

[1.5.4.1 Logical Architecture 12](#_Toc101970738)

[1.5.4.2 High-Level Architecture 12](#_Toc101970739)

[1.5.4.3 Process Flow 12](#_Toc101970740)

[1.5.5 Implementation Timeline 12](#_Toc101970741)

[1.6 System architecture 13](#_Toc101970742)

[1.6.1 Business Process Architecture 13](#_Toc101970743)

[1.6.2 Application Architecture 13](#_Toc101970744)

[1.6.3 Data Architecture 13](#_Toc101970745)

[1.6.4 Technology Architecture 13](#_Toc101970746)

[2. Product Backlog 13](#_Toc101970747)

[2.1 Product backlog (user stories) Table 13](#_Toc101970748)

[2.2 Product Backlog for EIS Information Security 13](#_Toc101970749)

[2.3 Product Backlog for EIS Standards 13](#_Toc101970750)

[2.1.1 UI/UX (Icons, color, etc.) 13](#_Toc101970751)

[2.4 Product Backlog for integration 13](#_Toc101970752)

[2.5 Product Backlog for analytics 13](#_Toc101970753)

[2.1.2 Application System Analytics 13](#_Toc101970754)

[2.1.3 EIS Analytics 13](#_Toc101970755)

[3. Sprint backlog 13](#_Toc101970756)

[3.1 Sprint backlog table 13](#_Toc101970757)

[3.1.1 User stories 13](#_Toc101970758)

[3.1.2 Information security 13](#_Toc101970759)

[3.1.3 EIS standard 13](#_Toc101970760)

[3.1.4 EIS integration 13](#_Toc101970761)

[3.1.5 Analytics 13](#_Toc101970762)

[3.2 Sprint Burndown Chart 13](#_Toc101970763)

[3.2.1 Sprint Backlog 13](#_Toc101970764)

[4. EIS Implementation Model 13](#_Toc101970765)

[4.1 Information and Data Management 13](#_Toc101970766)

[4.1.1 Data Integration Model 13](#_Toc101970767)

[4.1.2 Data Migration Strategies 13](#_Toc101970768)

[4.1.3 Data Analytics (Business Intelligence Framework) 14](#_Toc101970769)

[4.1.4 Privacy and Security 14](#_Toc101970770)

[4.1.5 Backup, Retention, and Disposal 14](#_Toc101970771)

[4.2 Information Security 14](#_Toc101970772)

[4.2.1 Physical Security 14](#_Toc101970773)

[4.3 Network Design and implementation Model 14](#_Toc101970774)

[4.3.1 Design Architecture 14](#_Toc101970775)

[4.3.2 implementation Framework 15](#_Toc101970776)

[*5.* Conclusion and Recommendations 15](#_Toc101970777)

[Appendices: 15](#_Toc101970778)

[Appendix A Detailed System Architecture/ Reference requirements 15](#_Toc101970779)

[A.1 Business Process Architecture (Business Process Model) 15](#_Toc101970780)

[A.2 Application Architecture 15](#_Toc101970781)

[A.3 Data Architecture 15](#_Toc101970782)

[A.4 Technology Architecture 15](#_Toc101970783)

[Appendix B Deployment Diagram 15](#_Toc101970784)

[Appendix C Adviser Acceptance (Functional) 15](#_Toc101970785)

[Appendix D Sprint Burndown Charts (per sprint) Signed by the adviser 15](#_Toc101970786)

[Appendix D.1 Individual burndown charts per member 15](#_Toc101970787)

[Appendix B Deployment Diagram 15](#_Toc101970788)

[Appendix E Requirements Traceability Matrix (PB, Test Scenarios, status 15](#_Toc101970789)

[Appendix F Panel Evaluation and Signature (Plus photo ops during defense) 15](#_Toc101970790)

[Appendix G Pilot Companies Background with proofs of interviews 15](#_Toc101970791)

[Appendix H USB Copy of the codes (reliable USB) 15](#_Toc101970792)

[Appendix I IMRAD Format Summary 15](#_Toc101970793)

[Appendix J Comparison of the EIS to existing EIS’s (5 Pages) 16](#_Toc101970794)

[Appendix K Operation Manual (10 Pages max, 5 Pages min) 16](#_Toc101970795)

[3.2.2 16](#_Toc101970796)

# Project Management

## Business Case

### Executive summary

The **Service Management System** are large modular systems that encompass all or nearly all parts of a service-oriented business. An organization must comprehend the amount of process maturity required to become a service-oriented company in order to have a service-management mindset.

**Logistics** is a detailed process of organizing and implementing an operation. When it comes to business, that process is the flow of work from the beginning to the end, in order to fulfill customer expectations as well as those of your organization. Logistic Management helps the company to reduce costs and efficiently manage customer service

#### Issue

#### Anticipated Outcomes

#### Recommendation

### Business case analysis team

|  |  |  |
| --- | --- | --- |
| **Name** | **Role** | **Descriptions** |
| Barcinal, Marc Julius | Scrum Master | * I Professional in the field of project management. * I Responsible for planning, procurement and execute of a project. * I Undertaking that has a define start and a defined finish |
| Cabiling, Romel | Backend Developer | * Responsible for database development * Responsible for integration of the whole system |
| Malang, Eunique Lambert | System Designer / Frontend Developer | * Responsible for the designing of the UI/UX of the system * Responsible for the branding of the project |
| Ramos, Ronalyn | Frontend Developer | * Responsible for the UI/UX of the system |
| Lesigues, Fridalyn | Documentation / Frontend Developer | * Responsible for the UI/UX of the system * Responsible for the documentation of the project |

### Problem definition

#### Problem statement

#### Organizational Impact

#### Technology Migration

### Project Overview

#### Project description

#### Goals and objectives

#### Project performance

#### Project assumption

#### Project constraints

#### Major project milestones

### Strategic Alignment

### Cost-benefit analysis

### Approvals

## Project charter

## Stakeholder Strategy

### Introduction

### Identify stakeholders

### Key stakeholders

### Stakeholder analyst

# Project Planning

## Project management plan

### Introduction

### Project management approach

### Project scope

### Milestone list

### Schedule baseline and WBS

### Change management plan

### Communication Management Plan

### Cost management plan

### Procurement Management Plan

### Project scope management plan

### Schedule management plan

### Quality management plan

### Risk management plan

### Risk Register

### Staffing Management Plan

### Cost Baseline

### Quality Baseline

## Risk management plan

### Introduction

### Top three risk

### Risk management approach

### Risk identification

### Risk Qualification ad Prioritization

### Risk Monitoring

### Risk Mitigation and Avoidance

### Risk Register

## cope management plan

### Introduction

### Scope management approach

### Roles and responsibilities

### Scope definition

### Project scope statement

### WBS

### Scope verification

### Scope control

# Project Execution plan

## Implementation and migration plan

### Purpose

### Description of implementation

### Points of contact

### Major task

### Implementation Schedule

### Security

### Implementation Support

### Listing of hardware, software and facilities

### Performance Monitoring

### Implementation Requirements (Hardware/Software/ Personnel/ Facilities/ other capital investment:

### Back Out Plan

### Post Implementation Verification

# Project Closure

## Transition-out plan

### Executive Summary

### Transition Approach

### Transition Team Organization

### Work Transition

### Work Execution during Transition

### Subcontracts

### Property Transition

#### Government Furnished Equipment (GFE)

#### Incumbent Owned Equipment

#### Intellectual Property

#### User Accounts and Passwords

### Knowledge Transfer

### Schedule

### Handover and Acceptance

## Project acceptance

## Post project review

### Project Summary

#### Project Team and Staffing

#### Project Deliverable (Planned vs. Actual)

#### Transition to Operations

### Project Costs

### Project Schedule

### Recommendations

# Technical solution design

## Project Information

## Executive Summary

## Requirement Definition

## Solution Description

### Logical Architecture

### High-Level Architecture

### Process Flow

## Implementation Timeline

# System architecture

## Business Process Architecture

## Application Architecture

## Data Architecture

## Technology Architecture

# Product Backlog

## Product backlog (user stories) Table

|  |  |  |  |
| --- | --- | --- | --- |
| **User Story No.** | **User Stories** | **User Stories Priorities** | **Status** |
| 1 | As a procurement officer, I want to have a list of suppliers.  *Create a list of suppliers* | 1 | On-Going |
| 2 | As a procurement officer, I want to have a purchase order form to create a purchase order.  *Create a form for purchase order.* | 1 | On- Going |
| 3 | As a procurement officer, I want to view a list of items  *Create a table to display the list of items* | 1 | On-Going |
| 4 | As a product owner, I want to have an account that can access the whole system  *Create an account for admin* | 1 | On-Going |
| 5 | As a product owner, I want all of department have a different account.  *Create a multiple login for each department* | 1 | On-Going |
| 6 | As a vendor portal staff, I want to view a list of posted ads.  *Create a list of posted ads* | 1 | On-Going |
| 7 | As a vendor portal staff, I want to post a listing for finding the supplier  *Create a posting function for ad listing* | 1 | On-Going |
| 8 |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

## Product Backlog for EIS Information Security

## Product Backlog for EIS Standards

## UI/UX (Icons, color, etc.)

## Product Backlog for integration

## Product Backlog for analytics

## Application System Analytics

## EIS Analytics

# Sprint backlog

## Sprint backlog table

### User stories

### Information security

### EIS standard

### EIS integration

### Analytics

## Sprint Burndown Chart

### Sprint Backlog

# EIS Implementation Model

## Information and Data Management

### Data Integration Model

### Data Migration Strategies

#### Planning

#### Data Profiling

#### Data Backup

#### Migration Design

#### Execution

#### Testing

#### Post-Migration Audit

### Data Analytics (Business Intelligence Framework)

### Privacy and Security

### Backup, Retention, and Disposal

## Information Security

### Physical Security

#### Administrative Security Controls

##### Personnel Security

##### Account Management

#### It and Security Policy

#### Technical Security Controls

##### It Infrastructure Security

##### Software Security Management

##### Cloud Security

##### Cybersecurity

#### Network Security

#### Firewall Management

#### Network Devices Security

#### Software Patch Management

#### Malware Protection

## Network Design and implementation Model

### Design Architecture

#### Hardware

#### Transmission Media

#### Protocols

#### Topology

### implementation Framework

# Conclusion and Recommendations

# Appendices:

## Appendix A Detailed System Architecture/ Reference requirements

### A.1 Business Process Architecture (Business Process Model)

### A.2 Application Architecture

#### A.2.1 UML- Use Case Diagram

#### A.2.2 UML- Detailed Diagrams

#### A.2.3 UI Navigation Diagram

#### A.2.4 UIs (Design Layout)

### A.3 Data Architecture

#### A.3.1 ERD

#### A.3.2 Class Diagram

#### A.3.3 Data Dictionary

### A.4 Technology Architecture

# Appendix B Deployment Diagram

# Appendix C Adviser Acceptance (Functional)

# Appendix D Sprint Burndown Charts (per sprint) Signed by the adviser

# Appendix D.1 Individual burndown charts per member

# Appendix B Deployment Diagram

# Appendix E Requirements Traceability Matrix (PB, Test Scenarios, status

# Appendix F Panel Evaluation and Signature (Plus photo ops during defense)

# Appendix G Pilot Companies Background with proofs of interviews

# Appendix H USB Copy of the codes (reliable USB)

# Appendix I IMRAD Format Summary

# Appendix J Comparison of the EIS to existing EIS’s (5 Pages)

# Appendix K Operation Manual (10 Pages max, 5 Pages min)

### 