



**DATABASE (SECD2523)**  
**SECTION 08**  
**GROUP DEFENDER**

**PROPOSAL PHASE1**

|                 |   |
|-----------------|---|
| Student's Name  | 1. NURSYAFRINA BINTI AHMAD (A19EC0139)<br>2. ONG YIN REN (A19EC0204)<br>3. KOH XIN YI (A19EC0064)<br>4. NUR HIDAYAH BINTI HAMRI (B19EC0046) |
| Lecturer's Name | SHARIN HAZLIN BINTI HUSPI   |
| Submission Date | 28th NOVEMBER 2020  |

## **1.0 Introduction**

Thesis Binding UTM is a shop that provides Thesis Formatting, Printing, Binding and many more services, it is located in Kolej Tun Canselor, Universiti Teknologi Malaysia. The printing shop has had good development in the past few years and the number of customers increases day by day. There are also some customers who came from other areas such as Hospital Sultanah Aminah at Johor Bahru. Besides that, the shop owner decides to provide stationary sales. The shop also provides delivery services for students in UTM. For example, the shop helps students to meet their SV for signature and submit the students' assignment or project to any faculty. It is located in Block S01, Kolej Tun Canselor, Universiti Teknologi Malaysia. People can find a page for this shop on Facebook.

## **2.0 Background Study**

The Thesis Binding UTM is facing problems of handling the data of their customers' information, product, order and payment detail. In the current system, they accept orders online through WhatsApp, then they record all the order details into Microsoft Excel through the computer. Hence, the shop purchased more products, and the sort of product increased. This data handling system lacks control and security. It is because the staff might miss some of the order from WhatsApp when there is a huge amount of order in a day and Microsoft Excel programs run very slowly when the data file is too large. Moreover, the shop has changed the phone number in the last few months, the old customers might not notice it and lost contact with the shop.

## **3.0 Problem Statement**

1. The shop owner can only handle a maximum of 15 orders per day even if there are more than 30 orders on that day.
2. The staff takes a long time to search the previous record of the customer as reference when the customer wants to print or burn the same file.
3. The current system does not classify the order type and the customer's document accurately.

4. The staff takes time to record the customer's information and their order detail.
5. The current system needs the staff to update manually with the customer and tracing the order process.

#### **4.0 Proposed Solution for Analysis Design**

1. To design an online transaction system for the printing shop and the customers to smoothen the order process and enable the customers to trace their order process.
2. To provide the order list follows the order sequence to make it clear to the shop owner and the staff.
3. To implement online payment and QR code payment for the customers to reduce the contact between the staff and the customers.

#### **5.0 Explanation of the Database Planning**

Major aim for this database application is to design an application that allows customers, especially students for printing, binding and using other services for their documents online and runners will deliver the documents to students in order to save the students' time from queuing and use the services at printing shops. This application also can help admin to easily know how many students need for the services of their document on time and they can easily manage the services of documents because this system is connected between students and the shop.

The purpose of this database project is this system can also make the process of services of documents easier and save time and energy between staff and customers. This system will collect information of students, runners and even admins who will interact with this system. Where the customer will sign up then will upload the document as well as the features they want before sending it to the admin. While the admin in the store will collect information and start preparing documents by dividing the work to other staff. When the document is ready, the admin will notify the runner to send the document to the student and the runner will go to the store, pick up the documents and send it to the student, then the admin needs to notify the student about the delivery that will be done. Upon completion of the delivery, the runner

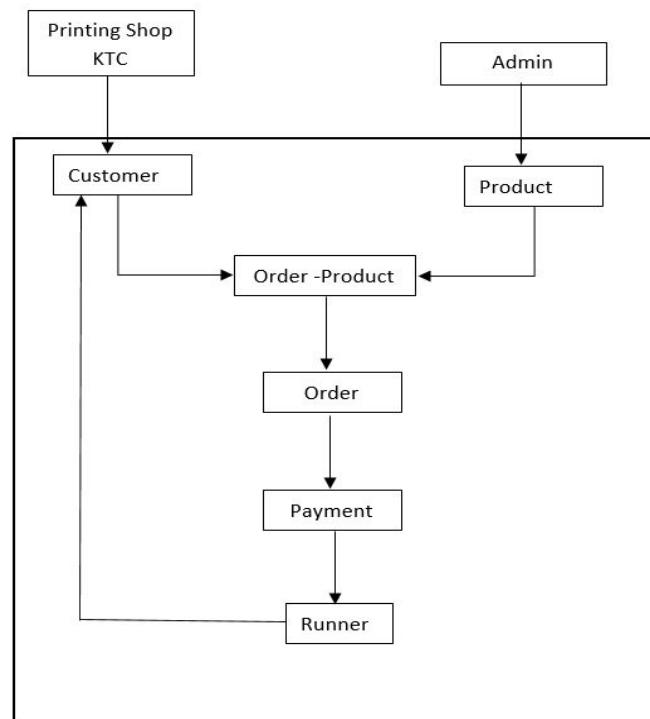
needs to notify the admin through the system that the delivery has been successful. Students also can pay it using cash or via transfer.

## 6.0 Objectives

1. Makes it easy for admins to store customer and order data
2. To reduce redundant customer data of order.
3. To improve the system order (order, payment, delivery and process).
4. to improve a more systematic and easy ordering system
5. To facilitate customer order review

## 7.0 Description of system definition

- Define system boundaries



- Major User View

Users are admin, customer and runner.

| Data         | Access Type                 | Admin       | Customer | Runner |
|--------------|-----------------------------|-------------|----------|--------|
| Customer     | Maintain<br>Query<br>Report |             | x        |        |
| Document     | Maintain<br>Query<br>Report | x<br>x<br>x | x        |        |
| Order        | Maintain<br>Query<br>Report |             | x<br>x   |        |
| Runner       | Maintain<br>Query<br>Report |             |          | x      |
| Payment      | Maintain<br>Query<br>Report | x<br>x<br>x | x        | x      |
| Notification | Maintain<br>Query<br>Report | x<br>x<br>x | x        | x      |

## 8.0 Scope

The system will cover and include the order procedure such as payment methods in this application such as by cash or transfer, the system also will track the order which the customer can view the order process by application. Next is notification of order, this will be updated by an admin to inform the customer that their documents are ready. This system also provides a way to view, edit and search for customer order and admin .

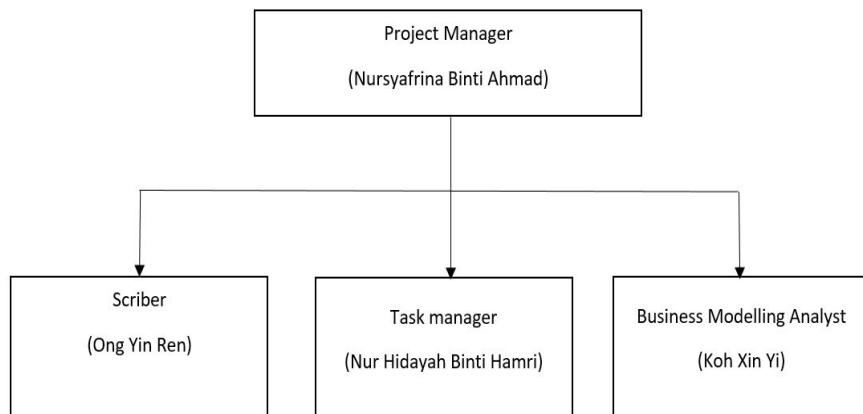
## CBA (Cost Benefit Analysis)

| Estimated Cost     | Column1                       | Assumption                        | Column1 |
|--------------------|-------------------------------|-----------------------------------|---------|
| Hardware           | RM 40000                      | Discount rate                     | 10%     |
| Software           | RM 5000                       | Sensitivity factor (cost)         | 0.8     |
| Supplies           | RM 3000 per year              | Sensitivity factor(benefits)      | 0.9     |
| IS Support         | RM 18000 per year             | Annual Change in production costs | 5%      |
| Maintenance        | RM 2500 per year              | Annual Change in benefits         | 7%      |
| Salary of Staff    | RM 79200 per year (2200*3*12) |                                   |         |
| Estimated Benefits | Column1                       |                                   |         |
| Savings            | RM 5600 per week              |                                   |         |
| Increase Sales     | RM 1400 per week              |                                   |         |

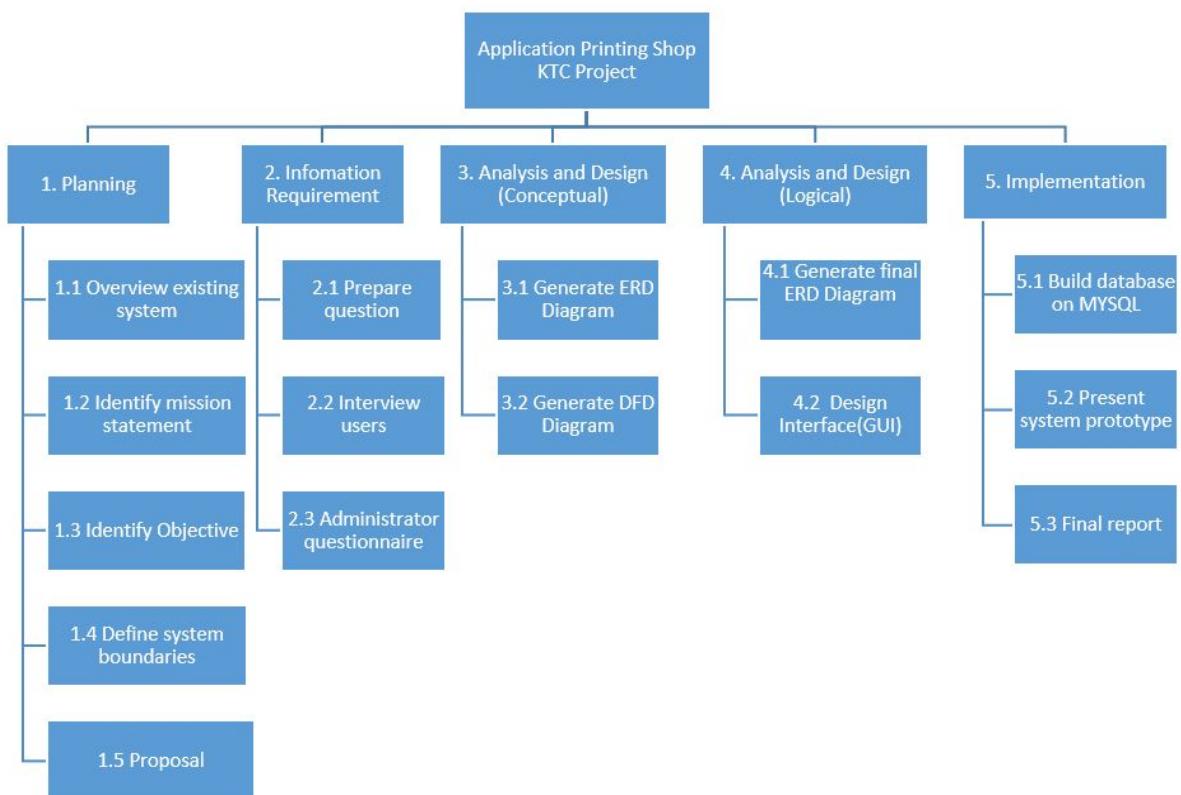
| Costs  | Year 0 | Year 1 | Year 2 | Year 3 |
|--|--------|--------|--------|--------|
| <b>Development Cost</b>  |        |        |        |        |
| Hardware   | 40000  |        |        |        |
| Software   | 5000   |        |        |        |
| <b>Total</b>   | 45000  |        |        |        |
| <b>Production Cost</b>   |        |        |        |        |
| Supplies   |        | 2400   | 2520   | 2646   |
| Network  |        | 14400  | 15120  | 15876  |
| Maintenance  |        | 2000   | 2100   | 2205   |
| Salary   |        | 63360  | 66528  | 69854  |
| Annual Production Costs<br>(Present Value)   |        | 82160  | 86268  | 90581  |
| Accumulated Costs  |        | 74691  | 71296  | 68055  |
|  |        | 119691 | 190987 | 259042 |
| Benefits   | Year 0 | Year 1 | Year 2 | Year 3 |
| Savings  |        | 262080 | 280426 | 300056 |
| Increase Sales   |        | 65520  | 70106  | 75013  |
| Annual Prod. Benefits<br>(Present Value)   |        | 327600 | 350532 | 375069 |
| Accumulated Benefits   |        | 297818 | 289696 | 281795 |
| Gain or Loss   |        | 178127 | 396527 | 610267 |
| Profitability Index  | 13.561 |        |        |        |
| Profitability Index is 13.561, showing that it is a good investment because of its index is more than one. |        |        |        |        |

## 9.0 Project Planning

### 9.1 Human Resource

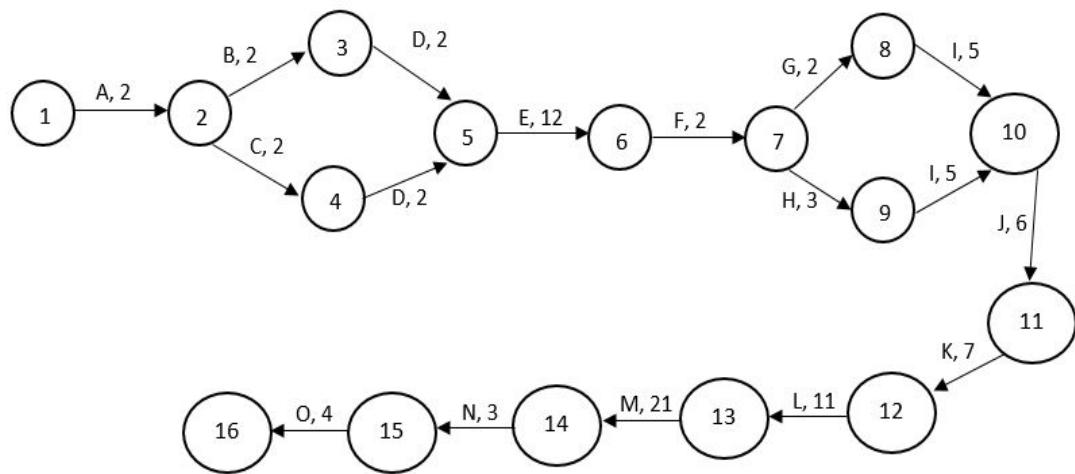


### 9.2 Human Breakdown Structure(WBS)



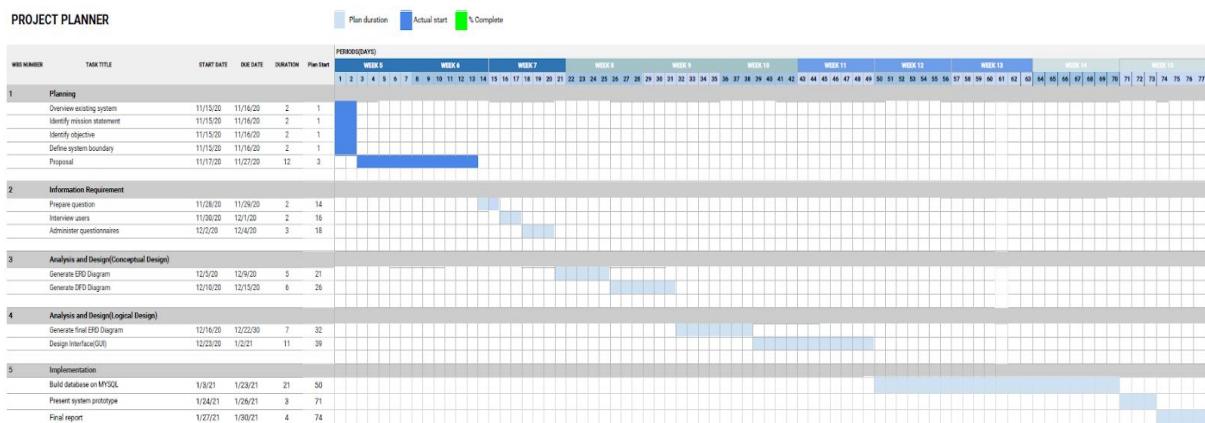
### 9.3 PERT Chart(WBS)

| Activity |                            | Predecessor | Duration |
|----------|----------------------------|-------------|----------|
| A        | Overview existing system   | NONE        | 2        |
| B        | Identify mission statement | A           | 2        |
| C        | Identify objective         | A           | 2        |
| D        | Define system boundary     | B, C        | 2        |
| E        | Proposal                   | D           | 12       |
| F        | Prepare question           | E           | 2        |
| G        | Interview users            | F           | 2        |
| H        | Administer questionnaires  | F           | 3        |
| I        | Generate ERD Diagram       | G, H        | 5        |
| J        | Generate DFD Diagram       | I           | 6        |
| K        | Generate final ERD Diagram | J           | 7        |
| L        | Design Interface(GUI)      | K           | 11       |
| M        | Build database on MYSQL    | L           | 21       |
| N        | Present system prototype   | M           | 3        |
| O        | Final report               | N           | 4        |



## 9.4 Gantt Chart

## GANNT CHART



## 10.0 Benefit and Summary of Proposed System

The benefits gained after this printing shop uses this application system are that their admin no longer needs to record every incoming order via whatsapp one by one. With this application system, the admin can see each order list clearly without overlooking the information provided by the customer as before so as not to mistype in the book. Through this system as well, customers can make reservations to buy stationery for example A4 paper, textpad, pen and so on. In addition, this application system also provides delivery services to customers either inside UTM or outside by showing the order process whether it is still in process or ready to be sent to the customers and they also can go to the store for self pickup. The last advantage of this printing shop application system is also that customers can choose the payment method they want, this application provides two payment methods either cash on delivery or via transfer.

## Meeting Logs for Phase 1

**Date: 15<sup>th</sup> November 2020**

### Attendance:

| Team-mate name             | Signatures |
|----------------------------|------------|
| 1. NURSYAFRINA BINTI AHMAD |            |
| 2. ONG YIN REN             |            |
| 3. KOH XIN YI              |            |
| 4. NUR HIDAYAH BINTI HAMRI |            |

### Discussion Results/Findings:

We tried to brainstorm a project proposal, and we decided to choose Thesis Binding UTM as our target company. With the help of online resources, we learn about the background of the shop, and we also identified the service that the shop provided. Besides that, we did ask a few questions to the shop owner for a better understanding of their current system. Based on the answer provided by the shop owner, we noticed that the current system of the shop is not efficient and unsafe. After confirming our target shop with our lecturer, we started to complete our proposal report.

### Contributions/Ideas:

| Team-mate name             | Contributions/Ideas  |
|----------------------------|--|
| 1. NURSYAFRINA BINTI AHMAD | <ul style="list-style-type: none"><li>- Give some company as a selection for our project.</li><li>- Identify the issues of the current system of the target company.</li></ul> |
| 2. ONG YIN REN             | <ul style="list-style-type: none"><li>- Give some company as a selection for our project.</li><li>- Study the background of the target company.</li></ul>                      |
| 3. KOH XIN YI              | <ul style="list-style-type: none"><li>- Give some company as a selection for our project.</li><li>- Identify the current system of the target company.</li></ul>               |
| 4. NUR HIDAYAH BINTI HAMRI | <ul style="list-style-type: none"><li>- Give some company as a selection for our project.</li><li>- Identify the service provided of the target company.</li></ul>             |

## Meeting Logs for Phase 1

**Date: 17<sup>th</sup> November 2020**

### Attendance:

| Team-mate name             | Signatures |
|----------------------------|------------|
| 1. NURSYAFRINA BINTI AHMAD |            |
| 2. ONG YIN REN             |            |
| 3. KOH XIN YI              |            |
| 4. NUR HIDAYAH BINTI HAMRI |            |

### Discussion Results/Findings:

We discuss the cost and benefit of the system, and we calculate the profitability index and find out that it is greater to 1. After that, Syafrina assigned the role of each member, and everyone agreed with their position. Besides that, we identify the timeline and evaluation of the system, then we complete the Pert Chart and Gantt Chart. We also discuss the benefit of the system and do summarization of the system.

### Contributions/Ideas:

| Team-mate name             | Contributions/Ideas  |
|----------------------------|--|
| 1. NURSYAFRINA BINTI AHMAD | <ul style="list-style-type: none"><li>- Proposes some idea during the discussion.</li><li>- Complete the Gantt Chart and Human Resource.</li></ul>                   |
| 2. ONG YIN REN             | <ul style="list-style-type: none"><li>- Proposes some idea during the discussion.</li><li>- Complete the cost benefit analysis.</li></ul>                            |
| 3. KOH XIN YI              | <ul style="list-style-type: none"><li>- Proposes some idea during the discussion.</li><li>- Complete the cost benefit analysis, benefit and summarization.</li></ul> |
| 4. NUR HIDAYAH BINTI HAMRI | <ul style="list-style-type: none"><li>- Proposes some idea during the discussion.</li><li>- Complete the Gantt Chart, Pert Chart and WBS.</li></ul>                  |