

# CHAPTER I INTRODUCTION

## 1.1 Background

In this digital era, where information has become a crucial part of modern organizations. The information helps today's business to make a thorough and precise decision regarding opportunities and threats to a company (Ada & Ghaffarzadeh, 2015). It is said in an article by Al-mamary, Shamsuddin, & Aziati (2014a) that information is a list of organized data that has a purpose and is represented in a meaningful way. So a company without information will be outdated in today's competitive environment (Pazhani, Ventura, & Mendoza, 2015).

A piece of obsolete or misleading information can be fatal and has tremendous impacts on our society (Berti-equille & Ba, 2016), not even mentioning the impacts toward the company which is closely related to profit and loss. But before having quality information, we will need data to be processed. That's where Information System comes in as the solution. Because the goal of the system is to collect data feeds and convert them into information as the output, which will be needed by most companies (Al-mamary et al., 2014a). The information system will be used by companies to continuously track all business activities, start from planning, manufacturing until product distribution (Al-mamary, Shamsuddin, & Aziati, 2014b).

According to Song, Dong, & Xu (2014) manufacturing can have difficulties with the existence of multiple uncertainties such as fluctuating manufacture times and random customer requests. In order to keep inventories for

fulfilling product delivery in a timely manner to customers, companies need to take advantage of advanced and complex modern computational technologies (Cholodowicz & Orłowski, 2015). And eventually, inventory accuracy can be achieved, as a match is established between physical inventory and its digital record, thus; solving the recurring inventory management problem in supply chain companies, as inventory inaccuracy is the major problem of most supply chain companies (Fan, Chang, Gu, Yi, & Deng, 2014).

One of the main hurdles for supply chain administration is warehouse inventory decisions, whereas demand across several retailers is presumed to be correlated to the inaccuracy of inventory stocks. And inventory shortages for particular products are allowed because often retailers or customers getting supply for a particular product with a returnable policy. Once, the product is not selling out by them, they can return the product and hence; affects the accuracy of inventory (Vahdani, Soltani, Yazdani, & Mousavi, 2017). Especially the supply chain company with organic products which is greatly associated with the expiry date of products. In this case, inventory and sales management system need to be used for maximizing profits and at the same time offering fresh products to customers (Coelho & Laporte, 2014; Ketzenberg, Bloemhof, & Gaukler, 2014).

PT Batam Layer Cakes is a company that supplies perishable foods such as Layer Cakes, Moon Cakes, Cup Cakes and Muffins to the retailers. In order to help the company to record sales and make the inventory more accurate, the writer proposes this internship project with the title “**Inventory and Sales Management System Design and Implementation**”. As this project is the only solution to all of

the problems mentioned above: from preventing fraudulence to rectifying inventory stock.

## **1.2 Project Scope**

This project will be restricted as below:

1. The inventory and sales system that will be built using VB.Net programming language, MySQL as the database management system and DevExpress as the framework for faster development and front-end enhancement tool.
2. The inventory and sales management system would be split into three major modules: a data module for entering item, customer, supplier, warehouse, area, department, staff, currency, and exchange rate list, a transaction module that will be used by the users for inputting purchase, purchase return, sales, sales return, mutation in, mutation out, opname production stock and sales, adjusting system stock to real conditioned stock and printing sales invoice. Thus, for the last module would be the stock report and other reporting forms.

## **1.3 Project Objectives**

1. To help PT Batam Layer Cakes record sales and make a better decision in the management of inventory.
2. To seize an opportunity for the writers to implement the lectures learned from Universitas Internasional Batam into real practice.
3. To accomplish the requisite required to successfully graduate from Universitas Internasional Batam.
4. To serve as a chance for the writers to obtain experience in the IT area.

#### **1.4 Project Output**

A robust sales and inventory management system with a friendly User Interface that will be used by PT. Batam Layer Cakes to monitor and balance stocks and sales.

#### **1.5 Project Benefits**

Implementing a well-functioning inventory and sales management system would be an inevitable move for PT Batam Layer Cakes to keep the inventory accurate and avoid employees' fraudulence. Having an information system would also help PT Batam Layer Cakes make a better decision in inventory and sales management.

Since the project would be finished using a series of techniques, and procedures seldom attempted before; it will bestow knowledge about designing algorithms for related business flow.

For writers, the project would provide the opportunity to try out procedures, and development algorithms cultivated from Universitas Internasional Batam, also to obtain experience in the IT area.

#### **1.6 Writing System**

### **CHAPTER I: INTRODUCTION**

In the first chapter, the writers will be elaborating on the definition of Information, System and Management and how Information System Management will be beneficial to a company; before explaining the benefits and objectives of this project.

## **CHAPTER II: LITERATURE REVIEW**

In the second chapter, various technologies that will be used when building the system is explained, and the theories behind them, including the methods that will be leveraged in structuring the system algorithms.

## **CHAPTER III: CORPORATE IDENTITY**

Chapter III contains the introduction of the client's company, what they offer, the company's background, and what kind of Vision and Mission that they possess.

## **CHAPTER IV: RESEARCH METHODS**

Research Methods chapter includes the process of designing the sales and inventory management system that will be used by PT Batam Layer Cakes.

## **CHAPTER V: DATA ANALYSIS & SYSTEM DESIGN**

In this fifth chapter, the writers will be explaining further about the design made during the development, all the data design and diagram created during the design process will be shown.

## **CHAPTER VI: SYSTEM IMPLEMENTATION**

Chapter VI contains the implementation of the sales and inventory management system, also the tools that are being used during the development of the new system.

## **CHAPTER VII: CONCLUSION**

For the final chapter, conclusions gathered from the development of this internship project, along with suggestions about the future path of research and development that likely can be pursued is listed.