CHAPTER I
# INTRODUCTION

This chapter is the introduction of the study. This chapter will explain the background, purpose, and scope of the final project. Introduction conducted from several pieces of information from interviews and references research.

1.1.   Background

The current era of globalization has triggered developments in various industrial sectors, including the entertainment industry, the culinary industry, and various other industries. The increasing industrial growth causes companies to face intense competition. To satisfy customers, each of these sectors must demonstrate the added value in their respective companies, both in terms of quality and service. The primary key to winning the competition is to provide value and satisfaction to consumers by delivering high-quality products at competitive prices.

Based on Indonesia's GDP (Gross Domestic Product) in the last ten years, the growth of the food industry in Indonesia has made significant progress. This growth can be seen from the GDP of the food industry, which continued to increase from the year 2010 to the year 2019, as seen in Figure 1.1. With the increase in the GDP, the increase will be directly proportional to the national income, increasing every year. These data can conclude that the Indonesian people have more needs in line with the current growth rate. (bps.go.id, 2019)
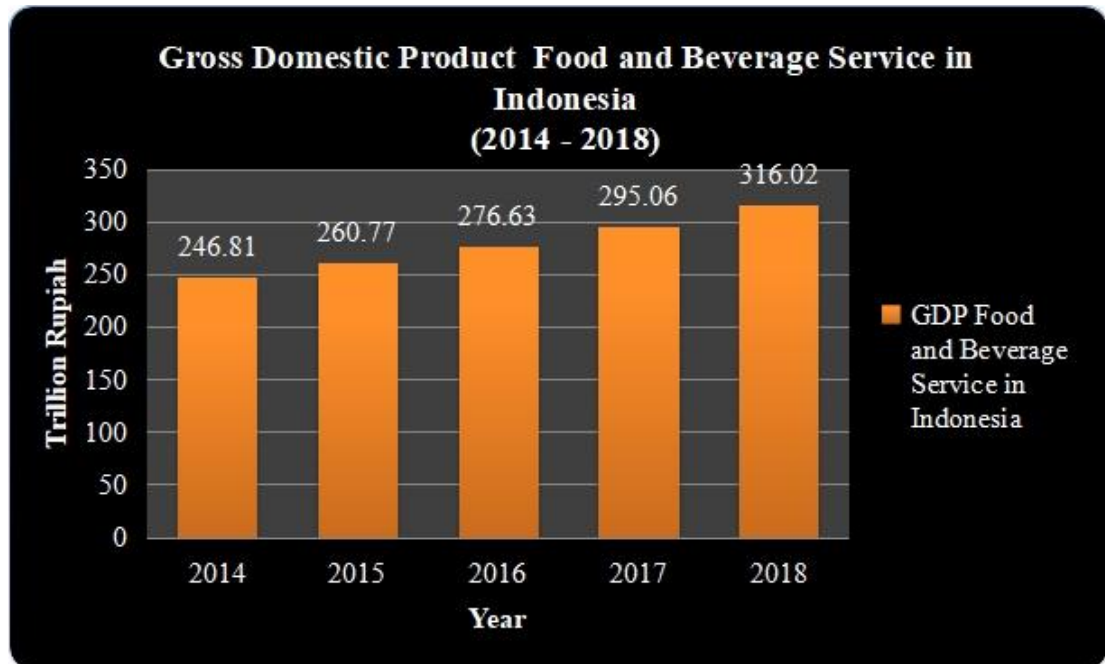
Figure 1.1. GDP Food and Beverage service in Indonesia (2010 -2019)
(source: bps.go.id)

It can be seen in **Figure 1.1** that the GDP value of the food industry in 2019 has already exceeded 300 trillion rupiahs. The significant growth of the food industry in Indonesia is driven by several factors. One of the factors is the tendency of people to eat in restaurants rather than at home. The growth of the restaurant industry has excellent opportunities in Indonesia. Due to a large population, which reaches more than 242 million people, food is an inseparable basic need. Another reason is that Indonesia is a developing country that continues to build entertainment centers such as malls and recreational places, making many restaurants grow in crowded places and increasing per capita income, which also triggers increased public consumption (Alamsyah, 2010). Restaurants indeed help increased 6,35% economic growth in 2019 (Jakarta Post, 2019).

One of the growing places to eat in Indonesia is Ayam Gepuk Pak Gembus (AGPG). AGPG is a business in the field of fast-food sales. AGPG is a company founded in West Jakarta in 2016 by Mr. Rido. AGPG is

expanding to many regions in Indonesia with the franchise sales method. The franchise owner has the right to use the name and sell the menu set by AGPG. AGPG already has 462 branches, such as 406 in Indonesia, 52 in Malaysia, 2 in the Philippines, and 2 in Singapore. At first, Mr. Rido can only spend three chickens, now each stall can consume 110 chickens, and if counted in all branches, 12 tons of chickens can be used up in one day. (source: ayamgepukpakgembus.co.id)

In West Sumatera, AGPG already has 20 outlets spread across several cities. 16 outlets in Padang, 2 in Bukittinggi, 1 in Batusangkar, 1 in Solok, and 1 in Solok Selatan. Mr. Muspardi owns the AGPG franchise in Sumatera Barat. According to Mr. Muspardi, the management of AGPG, the head office regulates the kitchen layout, dining area, logo, interior wall colors, recipes from the main menu, and raw materials for seasoning and size of the chicken piece. Meanwhile, what is free to do for franchise owners are additional menus and the restaurant size. Orders for the primary raw materials are carried daily and are plan for the number of purchases per day. Raw materials such as spices and chicken come from a warehouse located in Kubu Dalam, Padang.


Figure 1.2. Map of Warehouse Location to AGPG M.Hatta Padang

(source : google maps)

One of the AGPG branches is located on M. Hatta st, close to the University of Andalas, managed by Mrs. Bulan Purnama. AGPG M.Hatta has located 6,7 km from the warehouse. Based on an interview with Mrs. Bulan Purnama, AGPG is open from 11.00 a.m – 09.00 p.m; except for holidays. Based on the rating obtained from the Gojek application, AGPG gets a rating of 4.7 / 5. This rating is obtained from more than 5 thousand application users. This rating is considered quite high compared to its competitors in the area, such as Ayam Takapik and Sambal Oleg Tirta, which have a rating of 4.6 / 5 with an average review of 3 thousand application users. Every day, the M.Hatta branch of AGPG used 100-200 chickens. Inventory is managed by the manager directly. In determining the stock for each day, calculations are carried out manually based on the remaining chickens and the previous day's sales. Raw material orders are made in D-1 or on the same day when needed. There are two primary raw materials for AGPG: durable raw materials (can last more than a week) and perishable material (lasting less than three days). Examples of perishable materials at AGPG include chicken, cabbage, tofu, and chilies.
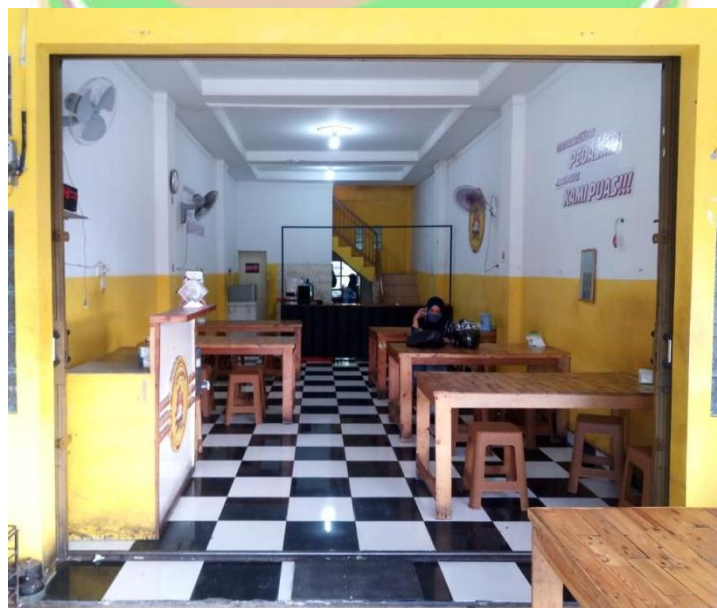
Figure 1.3. AGPG Interior layout and Color Display

(source: AGPG, M.Hatta st Sumatera Barat)

In managing raw materials, accurate calculations are needed every day to avoid losses. Inventory Management is needed to get the supply of raw materials every day. According to Ms. Bulan Purnama, losses due to wasted materials often occur, materials that are often wasted, such as chili and tofu. However, losses are often not considered credible. In addition, this is often experienced by perishable foods. The importance of planning for inventory every day should be done so that large losses do not occur. The AGPG business process is shown in **Figure 1.4**
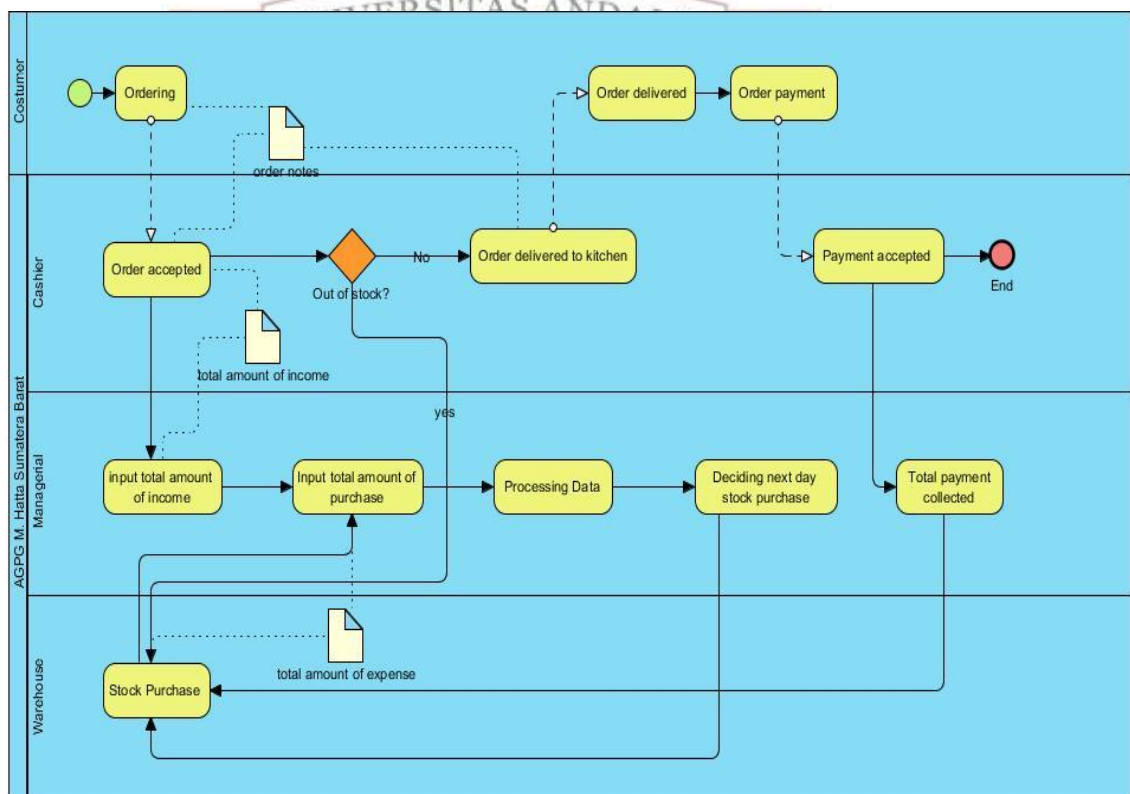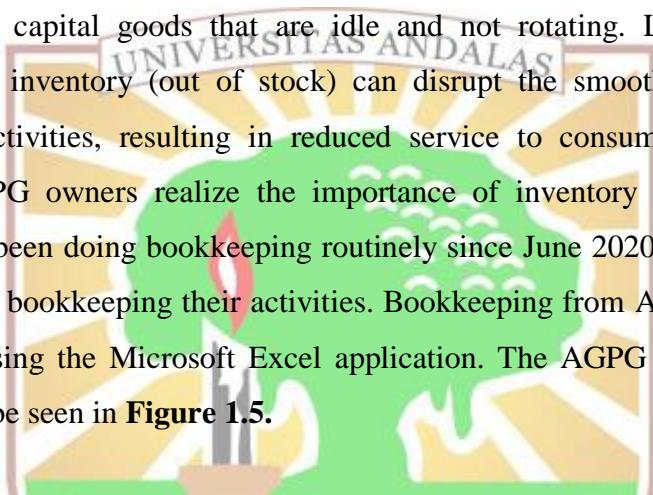
Figure 1.4. Business Process Diagram AGPG M.Hatta
(source : AGPG M.Hatta, Padang)

AGPG business process apllied the basic flow with no secure. Current management to controlling inventory also did not support if there is drastic decline in demand. Based on Mrs. Bulan Purnama, In March 2020, AGPG experienced a drastic decline in demand. It happens because of the COVID-19 pandemic. This causes difficulties in using up the remaining stock of raw materials. Therefore, it needed an inventory management

system that can help to decide the best option to do if a drastic decline in demand happens again accurately.

Inventory management is an activity carried out by a company that is needed in making decisions so that the need for materials or goods for the purposes of company activities, both production and sales, can be fulfilled optimally with the least possible risk. Inventory that is too large (overstock) is a waste because it causes too high costs for storage and maintenance during storage in the warehouse. Besides that, too large an inventory means too large a capital goods that are idle and not rotating. Likewise, the shortage of inventory (out of stock) can disrupt the smooth running of company activities, resulting in reduced service to consumers. (Taufiq, 2017). AGPG owners realize the importance of inventory management. AGPG has been doing bookkeeping routinely since June 2020. Before that, they are not bookkeeping their activities. Bookkeeping from AGPG is done manually using the Microsoft Excel application. The AGPG bookkeeping format can be seen in **Figure 1.5.**

						PENGELUARAN							
TGL	GUDANG	PASAR	BERAS	METE	GAS	ES KRISTAL	KLEP	JAMUR	SPEEDY	LISTRIK	INFAK	GALON	
1	828,000	85,000	126,000		100,000	16,000					3,000		
2	1,128,000	330,000	126,000			32,000					2,000		
3	882,500	165,500	126,000			32,000					2,000		
4	1,072,000	293,000			100,000	32,000						35,000	
5	1,565,000	118,000	126,000		100,000	16,000					2,000		
6	1,149,000	460,000	126,000		100,000	32,000		50,000					

Figure 1.5. M.Hatta St branch of AGPG Sumatera Barat Bookkeeping Uses

the Microsoft Excel Application(1)

(source : AGPG M.Hatta, Padang)

AND JULI 2020

N	MINERAL	LAIN2	CREW	GAJI	BON	MAKAN HARIAN	TOTAL TOTAL	MAKAN CREW	PEMASUKAN CASH	GOFOOD	80%	INCOME INCOME
			TOKO			30,000	1,188,000		1,521,000	851,500	681,200	1,0
			TOKO	50,000		30,000	1,698,000		1,223,000	498,000	398,400	(
			RIAN					15,000				
			FELKY					15,000				
			TOKO			30,000	1,768,000		1,598,000	627,000	501,600	3
			DEDI	50,000								
			LIDO	315,000								
5,000			TOKO			30,000	1,905,000		1,331,000	962,000	769,600	1
			DEDI	50,000								
			BULAN					30,000				
			RIAN					15,000				
			TOKO			30,000	2,175,000		1,314,000	816,900	653,520	(2
			FARUL					15,000				
			FELKY		100,000							
			DEDI					15,000				
			TOKO			30,000	2,507,000		1,829,000	923,000	738,400	

Figure 1.6. M.Hatta St branch of AGPG Sumatera Barat Bookkeeping Uses
the Microsoft Excel Application(2)
(source : AGPG M.Hatta, Padang)

Based on the display of the current AGPG inventory information system format, it can be seen that the AGPG arranges the expenditures based on the object purchased, not clarifying the type of object. In calculating profits based on total income minus expenses per day, Mrs. Bulan Purnama acknowledges that tools are needed to be able to manage daily inventory so as not to cause losses to the company. The company needs a management system that analyzes and studies the size of daily demand to maintain service quality.

Based on the explanation above, the M.Hatta branch of AGPG has not carried out good inventory planning. Therefore we need a system model that can manage inventory, especially for perishable food. Making the right inventory system model can be done using the inventory model by considering the expiration time. In addition, the model can also be developed in the form of an application to make it easier to make decisions in the future. The development of the waterfall model application can be done. The waterfall model describes the software development process in a linear sequential flow. This means that each phase in the development

process is started only when the previous phase is complete. In this waterfall model, the steps do not overlap where it describes a systematic and sequential approach to software development, starting with the specification of user requirements and then proceeding through the stages of planning, modeling, construction, and delivery of the system to customers or users. (deployment), ending with support for the resulting full software.

1.2. Problem Formulation

The problem formulation of this research is how to design a management system that can determine the inventory decisions of AGPG M. Hatta West Sumatra every day. This problem formulation is based on the background explanation.
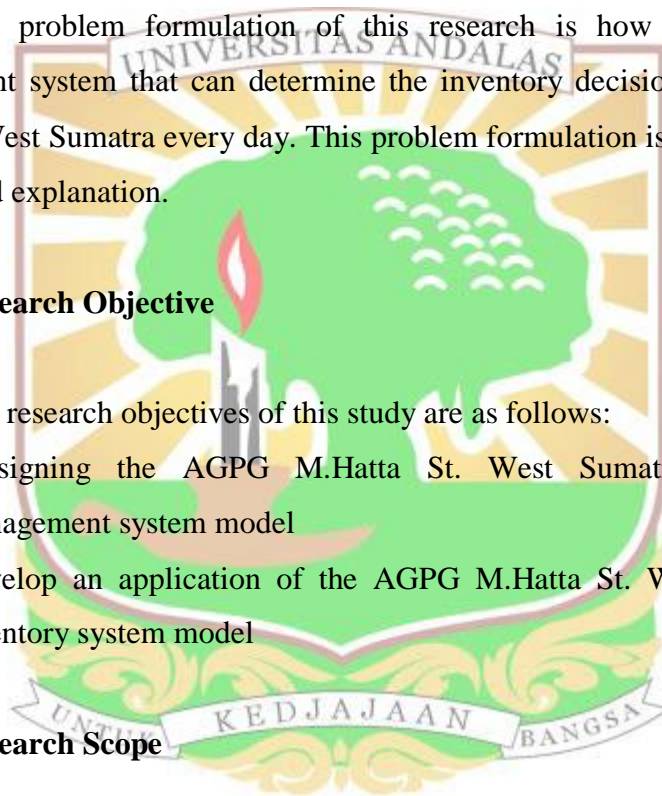
1.3. Research Objective

The research objectives of this study are as follows:

1. Designing the AGPG M.Hatta St. West Sumatra inventory management system model
2. Develop an application of the AGPG M.Hatta St. West Sumatra inventory system model

1.4. Research Scope

The research scopes of this study are:

1. Making application only to manage the inventory system of AGPG

2. This application using a local server and local database system

3. The output only applied on AGPG M. Hatta, Sumatera Barat

1.5   Outline of Report

The outline of this report is described as follows:

CHAPTER I INTRODUCTION

This chapter explains the background of the underlying research, the formulation of the problem, research objectives, research scope, and an outline of the report.

CHAPTER II LITERATURE REVIEW

This chapter explains the theories related to problem-solving to do research. The theory consists of the theoretical theory of Auto-Regressive Into Moving Average (ARIMA), Decision Support System, Inventory Management, and information systems theory.

CHAPTER III RESEARCH METHODOLOGY

This chapter contains the steps being taken in conducting the research. These stages consist of a literature review, pre-system design, system design, methods used to the analysis of the system.

CHAPTER IV INVENTORY SYSTEM APPLICATION

This chapter contains application system design, begins with analyzing system requirements, making system designs, and to conceived the system. The design stage ends with testing the conceived information system. specifications.

CHAPTER V ANALYSIS

This chapter contains an analysis of inventory management and application design that has been carried out in the previous chapter.

CHAPTER VI CONCLUSION

This chapter contains the conclusions of the research and the suggestions for further study