

**INDUSTRIAL PRACTICE REPORT
IN PT. KANISIUS**



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FACULTY OF INDUSTRIAL TECHNOLOGY
UNIVERSITAS ATMA JAYA YOGYAKARTA**

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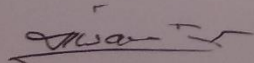
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Demikian surat keterangan ini kami sampaikan. Atas kepercayaan yang diberikan kami ucapkan terima kasih.

Yogyakarta, 18 Mei 2019
Hormat kami,

Danang Afriady K
Kadep. Pengembangan

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PREFACE

Industrial practice is one of academic requirements in the curriculum of International Industrial Engineering Program, Universitas Atma Jaya Yogyakarta and it accomplished by completing the industrial practice report. In this report, author reported all process that is done during industrial practice period which can explains how the student reach the goal of the industrial practice itself.

Author would like to thank God for His blessing during the industrial practice period until accomplishment of this activity so that the report can be prepared well and submitted on time.

During the completion of this activity, author has also been given a lot of motivation, support, and also guidance by all parties, and in this occasion, author would like to express the gratitude to:

1. Family members who always give all of support and motivation every day during industrial practice.
2. Ririn Diar Astanti, S.T., M.MT., D.Eng as Head of Department of Industrial Engineering.
3. Mrs. Deny Ratna Yuniartha, S.T., M.T. as the Coordinator of Internship.
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5. Mr. Iwan Setyadi as the On-site Supervisor and also the Head of Sub-department of PPIC, Logistic Team.
6. Mr. Anton Aryana as the HRD Staff who did the recruitment for the student to do industrial practice in PT. Kanisius.
7. Mrs. Budiastuti as the Head of Percetakan Division and Head of PPIC Department.
8. Mr. Bambang, Mr. Eko, Mr. Martono Mr. Peta the member of Logistic.
9. Nicholas Indra Pramana Soenarno as team-mate during industrial practice.

Industrial Practice in PT. Kanisius from August 2th, 2018 until September 6th, 2018 has been completed and the industrial practice report has also been prepared and done on time.

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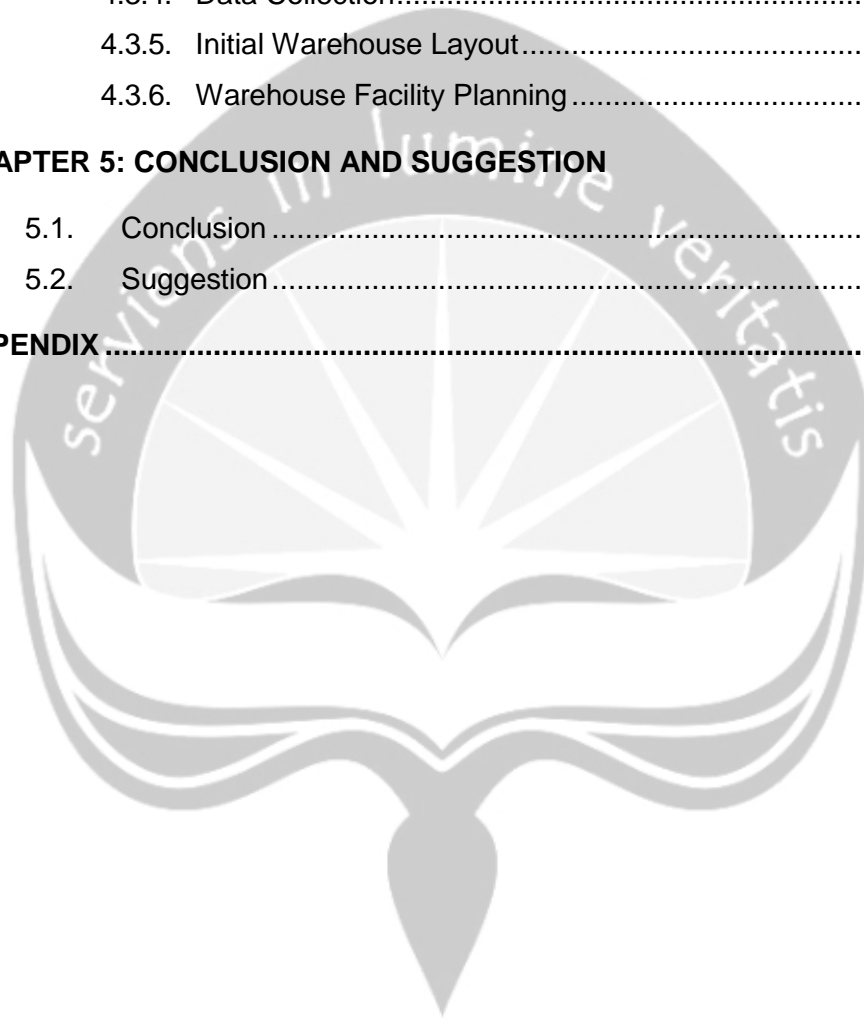
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CHAPTER 1

INTRODUCTION

Chapter 1 explains background and purposes of Industrial Practice activity as the implementation of industrial engineering studies in International Industrial Engineering Program, Universitas Atma Jaya Yogyakarta. Moreover, there will be an explanation about student's tasks in the company during the Industrial Practice period and the period of this activity.

1.1. Background

Department of Industrial Engineering, Atma Jaya Yogyakarta University (PSTI UAJY) defines the internship as a simulator that enables the students not only to apply the Industrial Engineering knowledge into the real-world industry but also to train the student how to be a professional of Industrial Engineer. For this purpose, during the internship, the students are requested to work in the host company within a period of month. The paradigm of the internship is that the students are expected to experience the application of Industrial Engineering knowledge in practice in which it can be obtained if during their internship the students do some activities to enhance their understanding in term of planning, designing, improving, implementing and problem-solving. Therefore, during the internship period students are requested to:

- a. Doing all the tasks that have been assigned by the host company
- b. Following all of the relevant working procedures of the host company
- c. Capturing the big picture of the enterprise system in the host company and observing its characteristics

Since Industrial Engineer is dealing with the integrated system of some elements which are Man, Machine, Material, Methods, Money, Energy, Environment, and Information, therefore during the internship the students should relate all of their activities in term of system perspective. Based on the explanation above, it is clearly seen that internship is not only gathering the data.

1.2. Objectives

The aims of the internship are:

- a. Practice adaptability in the working atmosphere
- b. Observe the daily work of the host company
- c. Enhance the Industrial Engineering knowledge in practice by seeing the practical work in the host company

d. Enhance the knowledge of enterprise system

1.3. Location and Time of Industrial Practice

This Industrial Practice was done in PT. Kanisius (Printing and Publishing) located in Jalan Cempaka No. 9, Deresan, Depok, Sleman, Daerah Istimewa Yogyakarta 55281. The period of the Industrial Practice was from August 2th, 2018 until September 6th, 2018. The student is assigned to the PPIC (*Production Planning and Inventory Control*) Department, *Percetakan* Division. However, the student also did another task to support Pre-printing team in the plate-making process and also helped PPIC-Logistics sub-department to collect some data of plates in plate warehouse. During the industrial practice, there are also some projects given by the On-site Supervisor (Head of PPIC JSA- Expedition), Pak Iwan Setyadi and the Head of PPIC Department which also the Division Manager, Bu Budiastuti, which mostly about data collection, data analysis, and data management in the company. The working time for Industrial Practice student in PT. Kanisius is 7.30 WIB - 15.00 WIB for weekdays and 07.30 WIB - 12.30 WIB for Saturday. All employees must come to the office before 07.30 WIB because at that time the morning prayer begins.

CHAPTER 2

COMPANY OVERVIEW

This chapter 2 describes the general description of the company where the Industrial Practice is carried out. Also described the overall company system and a more detailed explanation of the department where students carry out Industrial Practice activity.

2.1 History of PT. Kanisius

PT. Kanisius is one of Kanisius Foundation's business in the field of book publishing and printing (offset and digital). PT. Kanisius is committed to empowering the nation and the church through education, therefore, it focuses on publishing and printing books in the field of *Kependidikan Umum* and *Gerejawi*.

According to historical records, Kanisius Printing was first established in Yogyakarta on January 26, 1922, under the name Canisius Drukker'j as we can see at figure 2.1. Canisius Drukker'j was one of the missionary works of the Kanisius Foundation which was then called Canisius Vereniging (Association of Canisius) founded by Father Franciscus Georgius Josephus van Lith in 1918.



Figure 2.1. Canisius Drukker'j in 1922 (Source: pressreader.com)

Canisius Drukker'j, as known as Kanisius Printing, is an initiative of Superior Missionary, Pastor J. Hoeberechts, SJ. At first, Canisius Drukker'j was a small printing press that printed books for the benefit of church worship and educational books to meet the needs of the native students in Yogyakarta and beyond. At the time of its establishment, the main mission of Canisius Drukker'j was to become a

printing press that could provide textbooks for schools and prayer books for the Catholic Church all over Indonesia.



Then in 1928, Kanisius Drukker'j also printed magazines, such as Tamtama Dalem and Swaratama that contributed a lot to the movement of young people in the independence era. After Indonesia became independent, Kanisius Printing gained the trust of the Indonesian government at that time to print Indonesian bank notes called *ORI (Oeang Republik Indonesia)*.

Entering the 1970s, *Penerbit dan Percetakan Kanisius* run by the Jesuit priest began to cooperate with common people (in Indonesia called *awam*), and modernization developed well in this period. This step is contributed a great impact in the development of human resources and financial improvement in the company. There is also increasing the variety of books printed and published by this company.

Since January 1, 2014, *Penerbit dan Percetakan Kanisius* changed the form of its business entity into PT (*Perseroan Terbatas*) which was later called PT. Kanisius with the Jesuit Priest as its president director and common people in the organization structure. Until now, PT. Kanisius grew to publishers and printing that has customers from Sumatra to Papua.

2.2 Company Profile

This is the company profile where the practical work is done.



Figure 2.2. Logo of PT. Kanisius

Company Name	: PT. Kanisius
Industrial Classification:	Publishing and Printing (Offset and Digital)
Address	: Jalan Cempaka No. 9, Deresan, Depok, Sleman, Daerah Istimewa Yogyakarta 55281
Website	: www.kanisiusmedia.co.id
E-mail Address	: office@kanisiusmedia.com
Phone / Fax	: (0274) 588783; (0274) 565996 / (0274) 563349
President Director	: P. E. Azismardopo Subroto, SJ.
Director	: Sulistyorini
Number of Employee	: 332 orang

2.3 Organizational Structure

PT. Kanisius was led by a president director who was also a Jesuit and was a Father. Since its establishment era, PT. Kanisius is managed by the Kanisius Foundation under the supervision of the Jesuit. Therefore, Catholic culture such

a. *Divisi Penerbitan*

This division is responsible for all forms of book publishing that are published by PT. Kanisius. As we can see at figure 2.3 There are 3 departments within this division, the Department of *Gerejawi*, the Department of *Kependidikan Umum*, and the Department of *Penerbitan Eksklusif Kanisius* or Kanisius Exclusive Publishing (KEP).

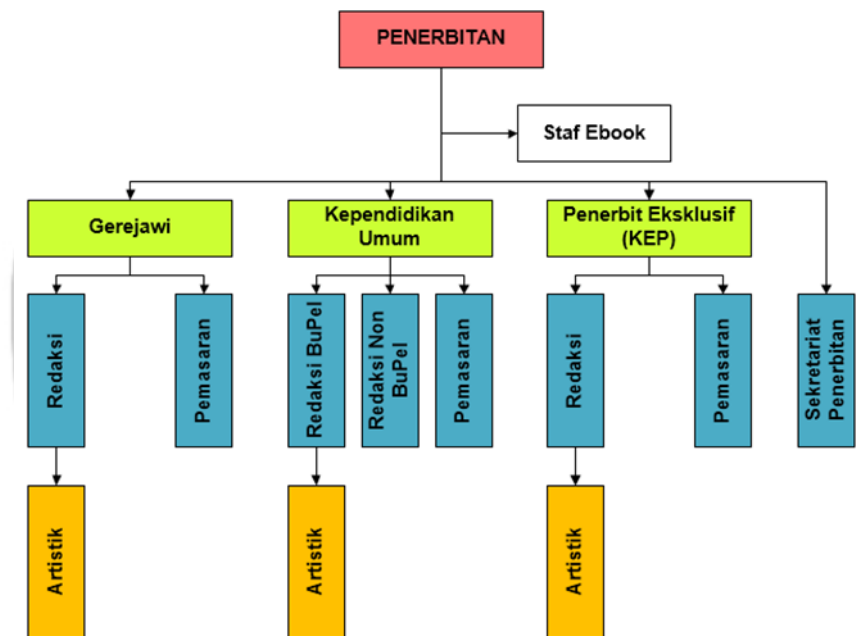


Figure 2.3. Organizational Structure of *Divisi Penerbitan*

The main task of this division is to plan the publication of books, such as finding authors who want to publish a book, compile book manuscripts, and book publishing. Before the publication, the division was also responsible for selecting the eligibility of the books for publication.

Tasks for departments also vary according to the classification of books published for each department. The Department of *Gerejawi* is responsible for the publication of spiritual books or in relation to Church needs, such as the Book of *Tata Perayaan Ekaristi*, *Madah Bakti*, the Bible, as well as sacramental handbooks for *Komuni Pertama*, *Sakramen Krisma*, and so on. There are also books of philosophy, theology, catechesis, spirituality, prayer and worship books, inspirational, and

spiritual reading. Almost all books published by the Department of *Gerejawi* published by PT. Kanisius with the Church Commissions.

Department of *Kependidikan Umum* publishes 2 product groups under the category of *Buku Pelajaran (BuPel)* and *Non-Buku Pelajaran (Non-BuPel)*. Example of *BuPel* is a textbook from elementary to high school level such as Catholic religion textbooks, thematic books, and textbooks according to the applicable curriculum in Indonesia. There are also books for universities such as general courses and textbooks for various fields of study such as economics, education, psychology, law, language, and health. As for *Non-BuPel* covers children's and adult reading books, such as ideas books, inspirational books, general knowledge, and so on. It also publishes books for families and the general public, such as child care books, personal development, health, and skills.

For books published by the Department of *Penerbitan Eksklusif Kanisius* or Kanisius Exclusive Publishing (KEP at figure 2.4) are special order books whose circulation amount or print quantity is less than 1000 copies. Examples are lecture books compiled by university lecturers, textbooks that are used only inside a school internally, autobiographical books (as special gifts), papers, work reflections, and so on. KEP customers come from various groups including institutions, communities, foundations, schools, colleges, lecturers, teachers, institutions, students, students, and freelance writers.



Figure 2.4. Logo of Kanisius Exclusive Publishing
 (Source: kanisiusmedia.co.id)

b. Divisi Penjualan

Divisi Penjualan is responsible for the sales process of all products manufactured at PT. Kanisius. Management and supervision of marketing offices of PT. Kanisius is scattered in various cities in Indonesia as well as sales of books in every marketing office done by this division. There are 2 departments within this division, the Department of *Perdagangan* and the Department of *Penjualan*.

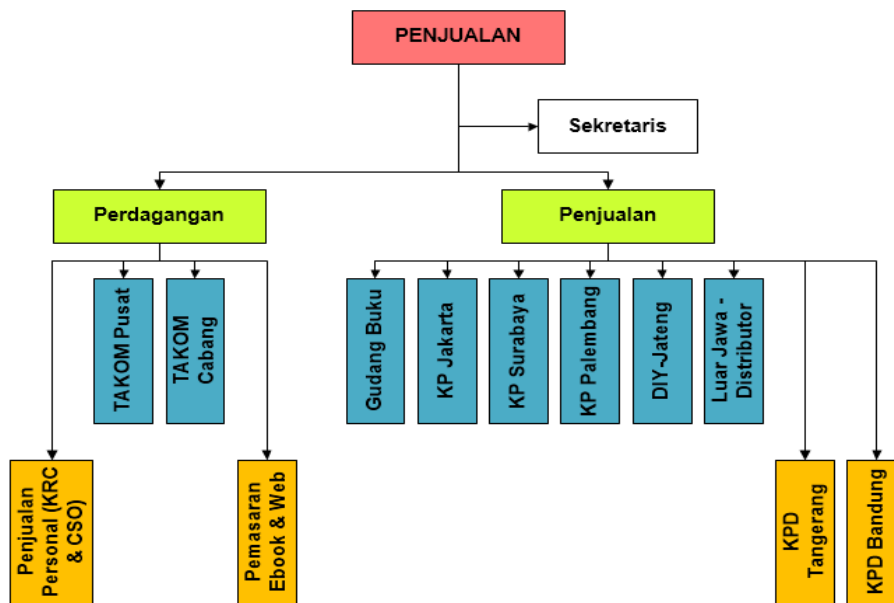


Figure 2.5. Organizational Structure of *Divisi Penjualan*

Department of *Perdagangan* is responsible for the supply of goods sold in all showrooms owned by PT. Kanisius. Showroom owned by PT. Kanisius is called the *Taman Komunikasi (TAKOM)*. TAKOM sells books, souvenirs, and spiritual tools. PT. Kanisius has several showrooms scattered in several cities in Indonesia that will be described in the Marketing System sub-chapter.

While the Department of *Penjualan* is the department responsible for selling Kanisius products in marketing offices throughout Indonesia as well as its distribution. The Department of *Penjualan* is also responsible for the book warehouse that is ready to be distributed. The book warehouse is located in the headquarters (Yogyakarta) and the stock of books in the book warehouse is obtained directly from the *Divisi Percetakan* located in the same office. The stock of this book should be well managed to meet market demand.

c. *Divisi SDM Sarpras (Sumber Daya Manusia dan Sarana Prasarana)*

For *Divisi SDM Sarpras* (Human Resource and Company Facility) as we can see at figure 2.6 is the division responsible for human resource management and management of company facility in PT. Kanisius. The process of hiring company employees and training for employees is the responsibility of this division. In addition, the division also takes care of the company's internal activities such as gatherings, competitions, corporate birthday parties, and similar activities. This division is also responsible for managing the compensation system of all employees of PT. Kanisius. All facilities that support activities at PT. Kanisius such as parks, canteens, offices, toilets, and office vehicles are also managed by this division, including recruitment of workers who assist the management of company facilities in the company.

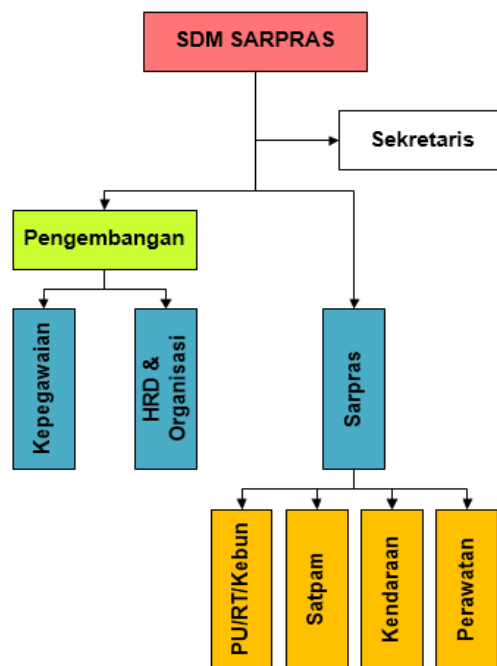


Figure 2.6. Organizational Structure of *Divisi SDM Sarpras*

d. Divisi Percetakan

This division is responsible for all kinds of printing processes ranging from raw material procurement until the shipments of finished products to the customers. There are 3 departments within this division, namely Department of *Pemasaran Jasa Cetak* (PJC), Department of PPIC (Production Planning and Inventory Control), and Department of *Produksi*.

Department of *Pemasaran Jasa Cetak* (PJC) is a department responsible for marketing print services at PT. Kanisius. This department consists of 2 sub-departments, namely Sub-department of *Penjualan Jasa Cetak* consisting of sales team who market services PT. Kanisius and Sub-department of *Administrasi* that manages documents of print services that enter at PT. Kanisius. This department has an important role in finding potential customers, especially customers with circulation or the number of big orders that become the main income for PT. Kanisius. Customers will deal directly with the PJC team in ordering orders, determining the desired product specifications and price negotiations.

After PJC customers and teams agree with the order to be requested, then the PPIC Department is responsible for fulfilling the request and then planning the whole production process of each order. The entire production process in question starts from the procurement of raw materials to the delivery schedule of finished products to customers. The main target is to manage the entire production

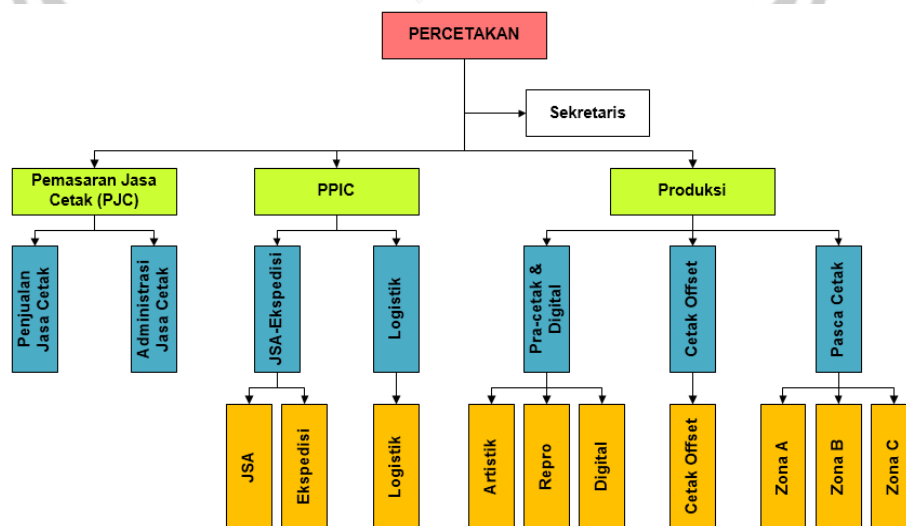


Figure 2.7. Organizational Structure of Divisi Percetakan

schedule with the agreed targets within the time set so as to achieve customer satisfaction. The department is also authorized to determine the gentle timing of employees on the production floor when additional time must be added to pursue the target from incoming orders.

Then, Department of *Produksi* has the duty to execute the production planning made by the Department of PPIC and as much as possible to follow the scheduling already made, so that every order can be received by the customer in the right amount, time and quality on demand. In this department there are many machines used in the processing of raw materials to be finished products. The offset printing process undertaken by this department includes the pre-printing process (plate making process and plate imposition), the printing process, and the post-printing process (covering various finishing processes). There is also a digital printing process in a separate unit

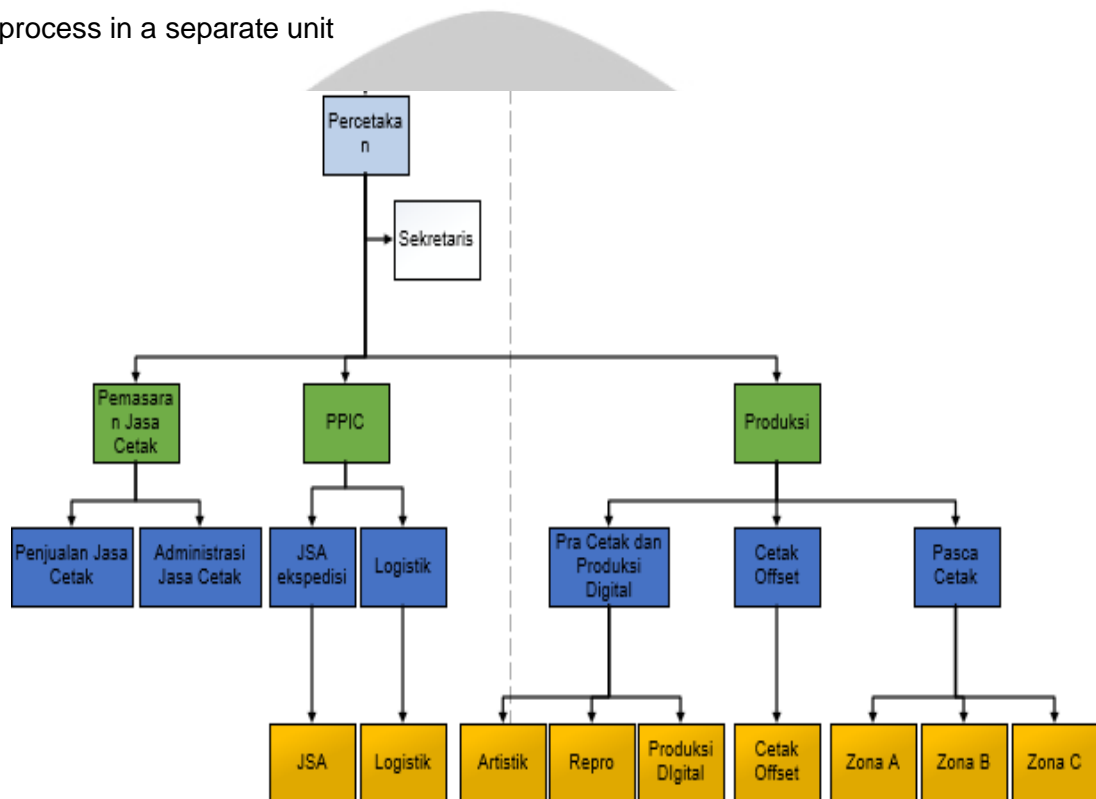


Figure 2.8. Organizational Structure of Department of PERCETAKAN sub LOGISTIC

a. Manager of Divisi Percetakan and Head of Department of PPIC

From figure 2.9 this report means Mrs. Budiastuti serves as Manager of *Divisi Percetakan* as well as Head of Department of PPIC. Her job as Manager of *Divisi Percetakan* as well as Head of Department of PPIC is to control all departments and departments in the *Divisi Percetakan* in order to meet the demand

b. Head of Sub-department of *Logistic*

The Head of Sub-department of *Logistic* is Mr. Yohanes Iwan Setyadi who is also the On-site Supervisor of the industrial practice students. The task of the Head of Sub-department of *Logistics* is to coordinate every raw material, warehouse management system, FIFO policy, stock opname, and collection administration data.

c. Staff Administration

Staff Administration have responsibilities to:

- i. receive order a paper or plate and recap it on the computer. However, this person receives an order confirmation first. Before going to cut the paper into customize size. This activity to avoid from mistaken because of the size.
- ii. Calculate and remaining the head of logistic department about buying some paper if the stock running out.
- iii. Full fill job ticket form and sending the final paper to department who need that paper or order before.

d. Staff Cutting

Staff cutting also have several job descriptions:

- i. Maintenance machine. Because this company only have one cutting machine and already getting old. This machine must have special treatment for ensure in good condition. The maintenance can be lubrication at several part and air-blowing.
- ii. Preparation before working an order. This situation means ensure the size (double verification with person who ask new paper), ensure the cutter position, and ensure the safety
- iii. Cutting. This is the main responsibilities from staff cutting, after already cut the paper must check again for last time. Is at right position or there is still enough space at paper must be cut.

2.4 Company Management

2.4.1. Vision and Mission

Vision of PT. Kanisius

Being a professional company of customer's primary choice through publishing, printing and trading products to realize a nationalist and dignified society.

Mission of PT. Kanisius

1. Engage in Church work and Community education.
2. Prioritize customer satisfaction by providing publications, printed products, ecclesiastical equipment and complete and quality education.
3. Strengthen and increase the number of customers by building *Taman Komunikasi (TAKOM)* and synergize with strategic partners.
4. Achieve growth and profitability through increased sales and cost control.
5. Improve employee productivity with professional human resource management system.
6. Utilizing the right technology to optimize business operations and create innovative products.

The values implemented in PT. Kanisius are as follows:

1. Honesty
2. Discipline
3. Wide-awake
4. Competent
5. Learners

2.4.2. Employment

a. Employee Recruitment

Recruitment process in PT. Kanisius is conducted by the Department of *Pengembangan, Divisi SDM Sarpras*. Every year, PT. Kanisius always opens job vacancies to meet the needs of the workforce in the company. Job opening is based on the human resource needs requested by each division to the Department of *Pengembangan* and its qualifications are adjusted to the position or position or function required.

Job vacancy at PT. Kanisius is usually announced through social media, official corporate website, announcements to Churches, newspapers, and other agencies, or through employees of PT. Kanisius personally. In general, all applicants who enroll in PT. Kanisius is required to submit a Curriculum Vitae (CV), a copy of a diploma, a copy of the Identity Card (*Kartu Tanda Penduduk or KTP*), a copy of the last value transcript, a portfolio of works ever made, a recent photograph, and a supporting file according to the desired position.

Stages of employee recruitment process in PT. Kanisius covers the administrative stage or file selection, written test, and interview test. This recruitment system uses a selection system, so that in the final stages, candidates will be obtained in accordance with the qualifications required by PT. Kanisius. Applicants who pass the final stage or the interview stage then negotiate related to the salary to be earned during work at PT. Kanisius. If the applicant and the company gets an agreement, then the contract signing is done.

At the beginning of the work initiation period, new employees will be introduced to the company's system and management that includes an explanation of the company's vision and mission, corporate organizational structure, company business processes, ISO certification owned by the company, and also explained about the company's health and safety system. first work, new employees will be accompanied by a department mentor. Then after 3 months, will be evaluated work performance.

b. Compensation System

PT. Kanisius applies the 3P principles to his pay system, namely Pay for Position, Pay for Performance, and Pay for Person. For salaries earned by employees of PT. Kanisius includes basic salary, benefits, and salary from the *Yayasan Dana Pensiun (YaDaPen)*. Allowances for permanent employees include job allowances, functional allowances, child support, husband / wife allowances, yadapen family allowances, and other benefits.

The company also provides subsidies for all employees. Subsidies given in the form of rice, educational savings for children, and payroll subsidies. Applied also cuts in wages for employees who come late, home early, and do not come to work.

c. Working Hour

There are 2 types of work hour in PT. Kanisius, the office hours, and working hours of production and logistics. Office hours start at 07.30 WIB up to 15.00 WIB on Monday to Friday, while Saturday starts at 07.30 WIB until 12.30 WIB. For breaks is 11:30 am to 12:00 pm, but the break period is only valid Monday to Friday, no break hours Saturday.

Production and logistics working hours are divided into 2 shifts, at 06.30 WIB until 14.00 WIB on shift 1 with break time at 10.30 WIB until 11.00 WIB, then at 13.30 WIB until 21.00 WIB for shift 2 with break hours at 17.30 WIB to 18.00 WIB . Except on Saturday, shift 1 starts at 06.30 WIB until 11.30 WIB, while shift 2 starts at 11.00 WIB until 16.00 WIB without break.

2.4.3. Facilities

Facilities owned by PT. Kanisius among others as follows:

a. Canteen

All employees of PT. Canisius get a meal once a day as we can see at figure 2.10. Food is distributed by redeeming employee meal cards given for each department before lunch hour. This canteen has a capacity of up to 80 people. The canteen chef is determined by the tender system, for the winning food enterprise can provide food for Kanisius employees within the certain period of time. Employees also provide feedback on the food quality of the enterprise so it can be decided whether the offered food services by the current enterprise will be used in the next period or not. The canteen is equipped with tables and chairs, a hand wash and a dispenser for drinking. Usually there are at least 2 menus served in this canteen.



Figure 2.9. Canteen in PT Kanisius

b. Employee"s Parking Lot

Employee parking lot is provided for 4-wheeled figure 2.11 vehicle and 2-wheeled vehicle figure 2.12. Employee parking lot for 4-wheeled vehicles can accommodate up to 16 vehicles. While the parking lot for 2-wheeled vehicle can accommodate upto 150 vehicles.



Figure 2.10. Parking Lot for 4-wheeled Vehicle



Figure 2.11. Parking Lot for 2-wheeled Vehicle

c. Parking Lot for Visitors of *TAKOM*

Parking Lot for Visitors of *TAKOM* also provides a place for 2-wheeled vehicles and 4-wheeled vehicles figure 2.13. Capacity of this parking lot approximately 10 vehicles for 4-wheeled vehicles and 30 vehicles for 2-wheeled vehicles.



Figure 2.12. Parking Lot for Visitors of *TAKOM*

d. Storage of Paper Waste

Paper waste is collected in the storage of paper waste. As we can see at figure 2.14. There are two types of paper waste, namely white paper waste and colored paper waste. These wastes became a vendor by winning the tender with the purchase of waste paper Rp 4,500, - per kilogram for white paper waste and Rp 2,200, - per kilogram for colored paper waste.



Figure 2.13. Paper Waste (White Paper – Left; Colored Paper – Right)

e. Storage of B3 (*Bahan Berbahaya dan Beracun*) Waste

PT. Kanisius also produces waste containing hazardous and toxic materials produced from the production process in printing. This type of waste is categorized as B3 waste (*Bahan Berbahaya dan Beracun*) according to government regulation, *PP. 18 Tahun 1999*. The storage area is distinguished from other wastes and this waste is also sold to suppliers that provide B3 waste at figure 2.15.



Figure 2.14. Storage for B3 Waste

f. Liquid Waste Treatment

The production process of PT. Kanisius also uses liquid chemicals primarily to support the the production machinery (printing machines). The liquid waste generated from these processes is then discharged to the liquid waste treatment site and collected for sale to the partner figure 2.16 and figure 2.17.



Figure 2.15. Liquid Waste Treatment Area

In addition to liquid chemicals, waste water that does not contain chemicals is also processed and sterilized for later reuse for the company supply. Processed water is used in the bathroom and is supplied to all water taps in the company, but not for consumption.



Figure 2.16. Liquid Waste Treatment Area

g. Table Tennis Facilities

The company provides facilities to support table tennis equipments that can be used for employee sport activities. This facility is placed in the canteen and can only be used outside the company's break hours.

h. Basketball and Badminton Court



Figure 2.17. Basketball and Badminton Court

The company also provides basketball and badminton court to facilitate employee sport activities figure 2.17.

2.4.4. Marketing System

PT. Kanisius also has several marketing offices in various cities in Indonesia outside Yogyakarta, including Surabaya, Tangerang, Bandung, Jakarta, and Palembang. These offices are responsible for marketing the products of PT. Kanisius in the city and its surroundings. In every marketing office, there are marketing teams that do marketing in every region. The addresses of each marketing office are as follows:

a. Marketing Office in Surabaya

Komplek Ruko Rungkut Megah Blok H/1 Jalan Raya Rungkut 5, Surabaya 60923

b. Marketing Office in Tangerang

Regency Melati Mas Blok A6 No 20 Serpong, Tangerang

c. Marketing Office in Palembang

Jalan Lintas Barat Sukabangun II, Ruko G.3 Kelurahan Sukajaya, Kec. Sukarami Palembang, Sumatera Selatan

d. Marketing Office in Jakarta

Komplek Ruko Kranggan Permai RT 16/4 Jalan Alternatif Cibubur, Jatisampurna, Bekasi 17433

e. Marketing Office in Bandung

Komplek Perumahan Paln Bridge No 5B Jalan Awiligar, Kelurahan Cieunying, Kecamatan Cimencyan, Bandung.

PT. Kanisius as we can see at figure 2.19 also does marketing through the website of the company. The website address of PT. Kanisius is www.kanisiusmedia.co.id.

PT. Kanisius also established *Taman Komunikasi (TAKOM)* in various cities in Indonesia so customers in other cities can visit. The address TAKOM

PT. Kanisius are as follows:

a. TAKOM St. Maria

Jalan Daan Mogot 14, Tangerang 15111

b. TAKOM Kanisius Rungkut

Kompleks Ruko Megah Blok H/1, Jalan Raya RUnghut 5 Surabaya 60293

c. TAKOM St. Laurensius

Jalan Sutera Utama 2, Alam Sutera, Serpong Utara, Tangerang Selatan, 15329

d. TAKOM Kanisius Kranggan

Kompleks Ruko Kranggan Permai, RT 16/4 Jalan Alternatif Cibubur, Jatisampurna, Bekasi 17433

e. TAKOM Kanisius Katedral

Jalan Katedral 7, Jakarta Pusat

f. TAKOM Santo Antonius Purbayan

Jalan Arifin 1, Surakarta

g. TAKOM St. Yakobus

Puri Widya Kencana Blok LL 1 Citrland, Surabaya



Figure 2.18. Taman Komunikasi in Yogyakarta

CHAPTER 3

COMPANY SYSTEM OVERVIEW

Chapter 3 describes the work systems and business processes in the company. The types of products and product specifications produced by the company's production system will also be described in this chapter.

3.1. Business Process

3.1.1. Business Process Mapping

Business Process Mapping in PT. Kanisius done by the student during the period of industrial practice focuses on how an order is processed from the moment the order entered into PT. Kanisius until the finished product is accepted by the customer.

Work process at PT. Kanisius in general is the process of producing books and other prints ordered by customers or orders from internal PT. Kanisius for publishing and office needs. Mapping this business process shows the work flow of each department to process an order that goes to the company either from outside customers or internal PT. Kanisius. The result of Business Process Mapping for Order Fulfillment Process is attached to Appendix 2.

3.1.2. Description of Business Process Mapping

The business process in Appendix 2 describes how an order entered PT. Kanisius was completed by focusing on the PPIC Department especially the Sub-department of *JSA-Ekspedisi*. The process of ordering will begin after an agreement between the Department of *Pemasaran* and the customer. The deal that has been made is recorded in a document called job ticket. Each order will also get a *No. WO* or Order Number as the order identity on the production floor. Job ticket is then used as a guideline for the execution of orders in each unit on the production floor. Job ticket contains various information such as order number, date of entry and date of order, number of order or circulation, book number, paper type, paper size, number of contents page, type of volume, finishing type, customer, sales name, type of print (rearranged or new), to-print, number of colors, number of packs, amount per wrapping, and other customized additional information. All of this data becomes input to share the kind of calculation on the production floor.

Job tickets obtained from the Department of *Pemasaran* are inserted into a bag or folder called the *kantung order*. These bags will be distributed to different parts and units on the production floor. When the bag is received by a sub-department or unit, then the work process in that sub-department or unit can begin. So this bag will move in sequence from the initial process to the final process of the work of an order.

The part that will receive the *kantung order* from the Sub-department of *Pemasaran* is the Analyzer of the Sub-department of *JSA-Ekspedisi*. After receiving the *kantung order*, Analyzer will do the analysis with focus to the specifications and information that is listed on job ticket. The results of this analysis are printed into the production planning document. This document serves as a guide for making orders for Sub-department of *Pra-cetak*, Sub-department of *Gudang Logistik*, and Offset Printing Unit.

For new prints order, the Sub-department of *Pra-cetak* will be required to make the plate to be used in the printing process. The specification of plate, mold imposition, plate type, plate number, and other information required in the plate printing process are in the *kantung order* and production planning document from the Analyzer. However, this plate-making process is scheduled by the Offset Scheduler. After that, Sub-department of *Pra-cetak* that have printed the plate according to schedule and specifications provided will deliver the ready-made plate to the Sub-department of *Gudang Logistik*.

For reprints order, the Sub-department of *Gudang Logistik* will be required to find the required plate in the Plate Warehouse by looking at the data on the job ticket to see the code of the book to be reprinted making it easier to search the license plate in the Plate Warehouse. After the requested plate is found, the plate along with the *kantung order* will be delivered back to the Analyzer. Then if found damage to the plate, it will be done as the print plate process in a new print.

After this, the production planning document will be checked by the Head of Sub-department of *JSA-Ekspedisi* for verification. After order planning is verified, Offset Scheduler does production scheduling for Offset Printing Unit. Scheduler performs scheduling for all printing machines taking into account processing time, target so, print count, material type, and other factors. The main target is to make schedule based on the closest due date of finished order.

Then for the procurement of raw materials, Analyzer calculates the quantity and size of the raw materials used to process the order and then asks the Sub-department of *Gudang Logistik* to prepare the raw materials with specifications according to Analyzer analysis. Analyzer should analyze the type and size of the raw materials as best as possible to achieve efficient use of materials, so that not a lot of material is wasted.

Then to start the production process, Scheduler will give production schedule to Offset Printing Unit, while Sub-department of *Gudang Logistik* will deliver raw materials and plate and order bag to Offset Printing Unit. Then the production process begins and is controlled by the Job Coordinator. The Job Coordinator is responsible for ensuring that the production schedule that has been created can be executed in a timely manner.

After the print process is complete, then the print will be taken to the finishing area, which are Zone A, B, and C according to the required stages. This process is divided into 3 types based on the type of binding (*jilid*), namely *jilid perfect*, *jilid kawat*, and *jilid benang*. The finishing process for the cover will be explained in the Production Process sub-section. All work on this finishing area is scheduled by Post-Print Scheduler. After receiving the schedule from the Post-Print Scheduler, the finishing area will do the job as per specification in the order bag. At the end of the work on the finishing area is always done inspection to ensure product quality.

The final stage after finishing is packing a book. The packing is done by the Expedition Unit. The Expedition Unit will check the order bag then calculate and verify whether the finished product amount is ready to be delivered in accordance with the request stated on the job ticket. If there is a shortage of finished products, it will be a less printed scheduling process by Offset Scheduler and this causes the re-scheduling process.

If the quantity produced is in accordance with the amount requested by the customer, the Expedition Unit will carry out the packing process as per the request stated on the job ticket. Then once the product is ready to be delivered, the Expedition Unit will send the finished product to the customer by creating a document for the road as a report.

3.2. Product Variety

The main business of PT. Kanisius is publishing and printing. In the field of publishing, PT. Kanisius has 3 product categories, namely Church, Public (KEP). Issuance by PT. Kanisius is called internal publishing.

a. Gerejawi

Books in *Gerejawi* as we can see at category are spiritual or related to the needs of the Church. Books for the benefit of the Church include the book of *Tata Perayaan Ekaristi*, *Madah Bakti*, the Bible, and the sacramental handbooks such as Handbook of *Komuni Pertama*, *Krisma*, and so on. Spiritual reading books included in this category include philosophy reading books, theology, catechesis, spirituality, prayer and worship books, inspirational, and spiritual reading Education, and Exclusive Publishing Kanisius or Kanisius Exclusive Publishing

b. Kependidikan Umum

Book in *Kependidikan Umum* category is divided into 2 groups, namely the *Buku Pelajaran* (BuPel) and *Non-Buku Pelajaran* (Non-BuPel) BuPel includes instructional learning books from elementary to high school level

c. Kanisius Exclusive Publishing (KEP)

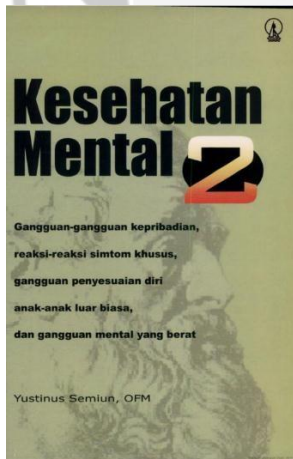
Exclusive issue of product ever published in PT. Kanisius, among others, is a lecture book composed by lecturers from a university, textbooks that are used only inside a school internally, autobiographical books (offerings / special gifts)

For brief example every single one variety of product type, see table below:

List of Figure	Product Variety Type
	<p>Gerejawi</p>



Kependidikan Umum (Bupel)



Kependidikan Umum (Non-Bupel)



Kanisius Exclusive Publishing (Magazine and Newspaper)

Basket Putra Babel Juara Kedua

Ditulis: Media Putri Handayani
Wartawan LASPELA Yogyakarta

YOGYAKARTA. Tim Putra Babel juga menorehkan prestasi sebagai juara kedua dalam pertandingan "The Most Favorite Team", yaitu pertandingan populer dan ke-100 di antara semua tim yang menjadi peserta. Selain itu, pertandingan ini juga dipusatkan oleh Komite Nasional Bola Basket "Top Scorer" yang sama dengan "Top Scorer" yang sama pada 20 Mei 2016. Walaupun tim ini kalah dari Provinsi DKI Jakarta dengan skor 84-62, namun prestasi Tim Putra Babel ini sangat membanggakan bagi para pemain yang melabai "Top Scorer" dengan jumlah skor yang baik. Tim ini juga dipusatkan oleh Komite Nasional Bola Basket "Top Scorer" dengan jumlah skor yang baik. Tim ini juga dipusatkan oleh Komite Nasional Bola Basket "Top Scorer" dengan jumlah skor yang baik.



PUTRA	No. Urut	Nama
1	1	ADRIANUS
2	2	ADRIANUS
3	3	ADRIANUS
4	4	ADRIANUS
5	5	ADRIANUS
6	6	ADRIANUS
7	7	ADRIANUS
8	8	ADRIANUS
9	9	ADRIANUS
10	10	ADRIANUS
11	11	ADRIANUS
12	12	ADRIANUS
13	13	ADRIANUS
14	14	ADRIANUS
15	15	ADRIANUS
16	16	ADRIANUS
17	17	ADRIANUS
18	18	ADRIANUS
19	19	ADRIANUS
20	20	ADRIANUS
21	21	ADRIANUS
22	22	ADRIANUS
23	23	ADRIANUS
24	24	ADRIANUS

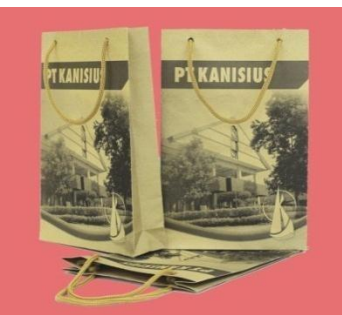
Kanisius Exclusive Publishing (Magazine and Newspaper)



Calendars



File Holder



Goodie Bag



Packaging Box



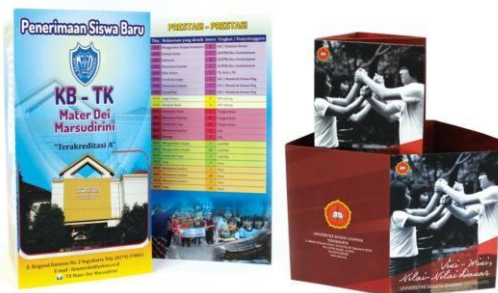
Blocknote



Agenda Book



Cards



Flyer and Booklet

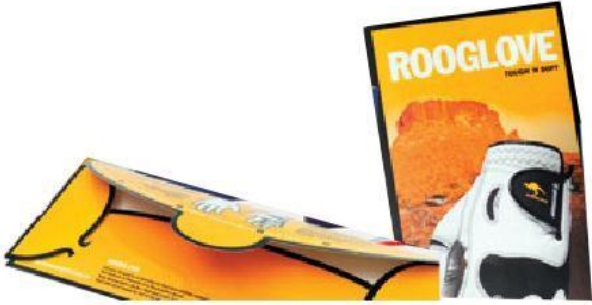
	<p>Envelope</p>
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Table 3.1 List of Product Variety



3.3. Production Process

Production process at PT. Kanisius is divided into 2 types, which are offset printing and digital printing. Offset printing is usually done for orders with print or circulation quantities, or so called mass printing. For digital printing, PT. Kanisius serves mold at least 1 sheet.

3.3.1. Process of Offset Printing

As we can see from figure 3.16.the offset printing process can be defined as a printing process in which the inked print arrangement is offset or transferred from the plate onto rubber sheets in the machine to be attached to the paper so as to stamp the process.

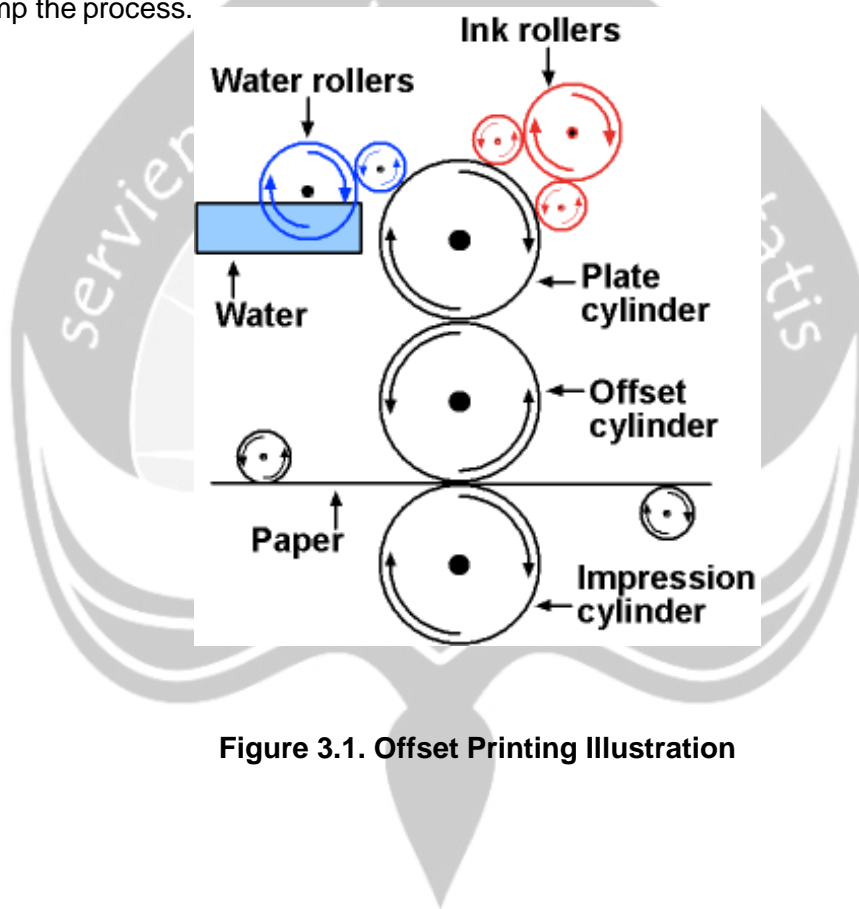


Figure 3.1. Offset Printing Illustration

Stages of offset printing process consists of 3 main processes, namely pre-print, print and post print. The explanation is as follows:

a. Pre-printing Process

From the entire process of offset printing, pre-print stage is done by CTP Unit (Computer to Plate), Sub-department of *Pra-cetak*. At this stage, the order file you want to print by the customer is first printed on the plate. Before the order file to be printed on the plate is received by the CTP Unit, the Analyzer of Sub-department PPIC *JSA-Ekspedisi* first determines its print imposition settings. What is meant by imposition is setting the print area of the order file onto the plate by utilizing as much of the plate area as the print area. The specified imposition setting will be informed to the CTP Unit in the section ordering document. This document is inserted into the order bag.

To be able to start the plate printing process, the CTP Unit must accept the ordering bag and also the plate printing schedule from the Scheduler Offset. Then the print process is done according to the information in the order bag and print schedule. The machine used to print the plate is the Heidelberg Suprasetter. This machine is controlled by a computer that will display the processes that take place inside the machine so that if there is an error in the process, then the computer will give instructions on the action to be done to overcome the problem.

There are 2 types of plates used in the printing process. Large plate size 745x605 mm. Large plates are usually used for printed book contents. Small plate size 525x459 mm. Small plates are usually used for printing book covers and other types of non-book prints. Each machine in the Offset Print Unit can only use 1 plate type (large or small). For 1 color print, it will be printed only 1 plate, for 2 color prints (black and 1 color) will be printed 2 plate consisting of black plate and color plate, while for full color print will be printed 4 plate consisting of plate cyan, magenta, yellow, and black.

Then after the requested plate is finished, then the plate must be delivered to the Sub-department of *Gudang Logistik* along with its order bag. Plates that have been stored in Sub-department of *Gudang Logistik* is ready for the printing process. In addition to the plate, Sub-department of *Gudang Logistik* will also prepare the raw materials intact required in the print process in accordance with job ticket and order planning made by Analyzer that has been attached in the order bag.

b. Printing Process

The print process is done by the Offset Print Unit with scheduling made by Scheduler Offset. There are 5 machines with different capabilities in the Offset Printing Unit. Explanation of each machine will be explained in sub-chapter of production facility. Each machine is operated by an operator and offset printing scheduling will be made for each machine. In the Offset Print Unit there is a unit head responsible for ensuring the execution of the print schedule and controlling all printing processes on the unit.

Before starting the process of printing, will be the process of setting the machine (machine setup) in accordance with the needs of printing. One example of the machine settings to be done is the setting of the machine's print speed, or the type of print setting, whether one side or back and forth, or the whole paper size setting to be printed, and various other settings.

Once ready, the raw materials in the form of whole paper and also the printing plate will be taken from the Logistics Warehouse which is located opposite the Offset Printing Unit. Then began the printing process. In the printing process, each machine will produce sheets called katerns. A katern sheet can contain as many as 2 to 16 pages figure 3.3. Each side can contain 2 to 8 pages figure 3.2. The settings are as follows:

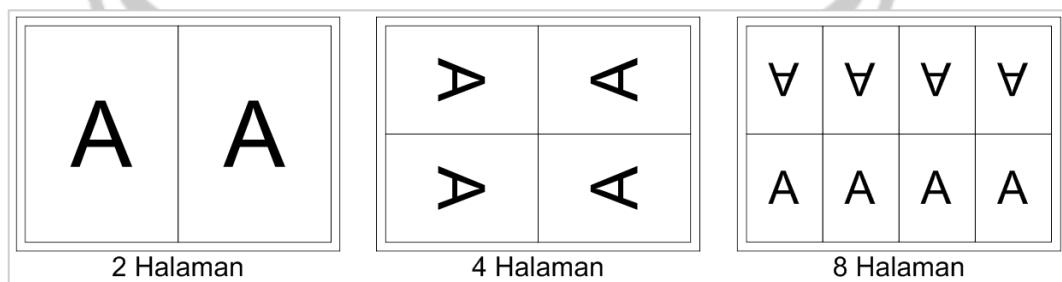


Figure 3.2. Imposition of Katern for 1 Sided-printing

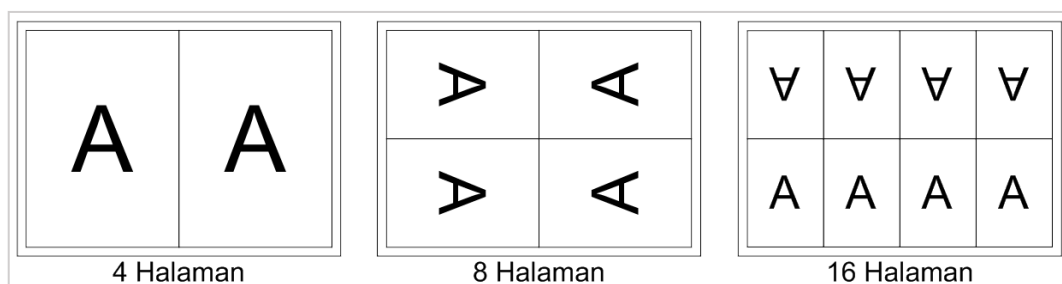


Figure 3.3. Imposition of Katern for 2 Sided-printing

c. Post-printing Process

After the print process is complete, the printout will be sent to the post-print area. The post-printing process is done based on the order planning document. Basically, there are 3 types of processes that are categorized by type of volumes, namely the process of wire, binding string, and perfect binding. The explanation of each process is as follows:

i. Bending String

The binding string or *jilid benang* process begins with a folding of 16-page *katern* sheet (8 pages on 1 side and 8 other pages on the other side). As we can see at figure 3.4. This sheet is folded in such a way that the 16 pages are sequential resulting in a pile of cathans the total number of pages of the book.



Figure 3.4. Product of Bending String

Collect the folded *katern* is then sorted and inserted into the yarn sequence machine. In this machine, each *katern* is bound with a thread in the middle (between the 8th and 9th pages). All the folded kernels are then stacked sequentially from the beginning of the book to the end. Then the stack of books is united with the cover and glued so that the whole book. However, the composition of this book still has sides whose papers are still attached to each other, since the folds have not been cut. Therefore, once the book is intact, the sides are cut to form the finished book.

also begins with page cutting and sorting. Then if the order is set, then the pages will be bound with threads. The page is bound, because if it is too much, the thread cannot hold the number of pages. Therefore, the yarn volume consists of several groups of pages bound together with other threads.

ii. *Jilid Perfect*

For the perfect binding, the katern sheets are folded and sequenced later in the perfect binding machine, As we can see at figure 3.5. these folded valves will be slashed on the part to be bound so that the folds on the part are lost.



Figure 3.5. Product of *Jilid Perfect*

iii. Wire



Figure 3.6. Product of Wire or *Jilid Kawat*

pages, it will be the process of sorting the page. The process of sorting this page is done with the machine, and at the end of the machine, the sequential pages will be bound in the middle of the book using the wire. Wire volumes cannot be used for books with too many pages.

3.3.2. Process of Digital Printing

The digital printing process is not as long as the offset printing process, because digital printing technology enables the printing process with PDF file format (Portable Document Format). The process is like using a regular printer.

The pre-print process for digital printing only checks files, whereby Kanisius checks the files from customers whether the paper size setting and print imposition are ready for printing on a digital machine. After the file is declared to be printed, then it can then be directly printed on a digital machine.

The digital print schedule remains through the Sub-department of *JSA-Ekspedisi*, then the print process is controlled and reported back to the Sub-department of *JSA-Ekspedisi*. For digital printing finishing process, done with the same process as in offset printing process. Some finishing machines are also provided in the digital area, so there is no need to bring prints to offset area for finishing process.

If the digital print is completed with the machine on the offset production unit, then the scheduling for this finishing will be scheduled by the Post-Print Scheduler. But if finishing is done with the existing machine in the digital printing area, then no need to do scheduling. Usually finishing with machines in the digital printing area is done for fewer order quantities.

3.4. Production Facility

PT. Kanisius uses several machines that support the printing process in the company, among others are as follows:

a. Pre-printing Machine

Plate making uses as we can see figure 3.7. is Heidelberg Suprasetter Machine. There is one plate making machine in CTP Unit, Sub-department of *Pra-cetak* and Digital. This machine needs one operator.



Figure 3.7. Heidelberg Suprasetter Machine

b. Printing Machine

There are 4 types of offset printing machines used in PT. Kanisius. These machines are placed in the same area. Each machine is operated by an operator and all operators are supervised by a Head Offset Printing Unit, Mr. Totok. The machine used has different capabilities, the explanation is as follows:

i. Miller

Miller machines see figure 3.8. are used for black and white prints. This machine can print on two sides of the paper at once. The ability to print on both sides of the paper is very useful for the whole process, as it can reduce production time.

Miller machines can print up to 5,500 sheets per hour with an average set up time of 15 minutes. The paper size that can be used as print media on this machine is 220x280 mm and 520x720mm size. The size of the plate is 745x605 mm (large plate).



Figure 3.8. Miller Machine

ii. Speed Master 52

Speed Master 52 machine as we can see at figure 3.9 is a color printing machine. The colors used on this machine are CMYK color types (Cyan, Magenta, Yellow, Black). Each color is printed separately and in sequence. This machine can print 10,000 sheets per hour with machine set up time of 15 minutes on average. The full paper size that can be printed on this machine is 105x180 mm and 370x520 mm.

This machine can only print one side for each printing process, so the production time for the print back and forth will be doubled. The process of flipping the paper to print the opposite side is done manually by the operator.



Figure 3.9. Speed Master 52 Machine

iii. Rolland (2 Colors)

Rolland 2 as we can see at figure 3.10 Color Machine is used for molds with 2 colors, namely black and other colors (usually red or green). This machine can print as many as 5,500 sheets every hour. The machine set up time is on average 10 minutes. This machine is able to print two sides of the paper at once. When will print the opposite side, then there will be set up time again for 10 minutes. The paper size for this machine is 240x320 mm and 520x720 mm. The plate used is a large plate measuring 745x405 mm.



Figure 3.10. Rolland (2 Colors) Machine

iv. Rolland (4 Colors)

There are 2 Rolland 4 figure 3.11 Color machines in the Offset Printing Unit. The ability of both machines is the same, which can print up to 7,500 sheets of paper per hour. However, the setup time of both machines is slightly different, ie 20 minutes for Rolland 4 New Color and 25 minutes for Rolland 4 Old Colors 3.12. The size that can be printed with this machine is at least 240x420 mm in size and a maximum of 520x720 mm. This machine can only print one side only, so it takes additional time to flip the paper if it is used to print 2-sided prints. This machine also uses CMYK color type, so there are 4 parts of the machine with color cyan, magenta, yellow, and black.



Figure 3.11. Old Rolland (4 Colors) Machine



Figure 3.12. New Rolland (4 Colors) Machine

c. Post-printing Machine

The machines for the post-printing process are the machines for the finishing process. These machines are placed in 3 different zones, namely Zone A, Zone B, and Zone C, with the following divisions:

i. Zone A

In Zone A, there is a machine for *jilid kawat*. To be bundled with wire, the sheets of katern are first cut by cutting machines in the same zone to be 4 pages for each piece to be bound. Then the sheet per 4 pages will be placed on the machine. The machine will sort and staple the sheets into a book. The name of this machine from figure 3.13 is Muller Martini. The machine is operated by an operator.



Figure 3.13. Muller Martini Machine (For *Jilid Kawat*)

There is also a folding machine for folding the katern sheet. There are 3 folding machines in this zone, the figure 3.14 and 3.15 is MBO Folding Machine, the Stahl Fold Machine 1, and the Stahl Fold Machine 2. The MBO Folding Machine is used to fold the cathode with the number of pages per page of 4 to 16 pages of the book.



Figure 3.14. MBO Folding Machine



Figure 3.15. Stahl Folding Machine

In addition to machines that process book content, there are also machines Stahl Folding machine see figure 3.16 that process book covers, envelopes, and packaging. To cover paper cover or envelope and packaging with plastic, used lamination as we can see figure 3.31 machine or called Water Base Thermal, so the surface becomes shiny. To make parts appear on the surface.



Figure 3.16. Water Base Thermal (Lamination Machine)

ii. Zone B

In Zone B there is a machine used to bind the folds of a katern made in Zone A. The binding machine in Zone B is a Muller Martini for *jilid benang* from figure 3.17 and a perfect binding machine or so-called Star Binder Machine for *jilid perfect*. Muller Martini will bunch each katern in the center with the yarn. Then all this katern will be united



Figure 3.17. Muller Martini Machine (For Jilid Benang)

The Star Binder machine uses a heated glue to unite the pages of the book. The machine will sort the kernels and slice the cathode on the side to be bound so that the heated glue can fit between each page. Glue that entered between the pages were attached each page to each other.



Figure 3.18. Muller Martini Machine (For Jilid Benang)

Then, both *jilid benang* and *jilid perfect*, have the same final stages. The final stage of the two binding process is to unite the contents of the book with its this thcover. process is done with Perfect Binding Star Binder Machine. The contents of the book and cover are combined with glue. After the contents of the book together with the cover, then the sides of books that are not needed (the rest of the print area) will be cut with a cutting machine.

iii. Zone C

There are several functions in Zone C used to complete the process from Zone A and Zone B. After the contents of the book and its cover are cut and trimmed to become a book, the next step is quality control. This quality control process is done manually by some operators. All books are inspected for quality views. If a defect is found, the book will be placed on a shelf. These defective books will be reused if there is a shortage of finished products. If there is a shortage of finished products, the defective book will be fixed. However, if it is still lacking, then the process will be less print (print again a number of book shortages).

After the inspection books are considered good, then the books will go into the process of wrapping, the packaging of books with clear plastic is pressed. This process is done by a machine operated by an operator. The result of the wrapping process (figure 3.19.) is then delivered to the Expedition Unit to be counted and packaged in cardboard ready to send.



Figure 3.19. Wrapping Machine



Figure 3.20. Wrapping Process

d. Digital Printing Machine

In the Digital Print Unit there are 2 types of machines, namely black and white printing machines and black and white printing and color. The only black-and-white printing press is the Océ VP6250 (figure 3.21), while the black-and-white and color machines such as machine ID Card. ID Card lamination machine, fusionator and plong (ID) figure 3.22. and 3.23.



Figure 3.21. OCE VP6250 Machine



Figure 3.22. Konica Minolta C 8000 Machine



Figure 3.23. Cutting Machine for ID Card

CHAPTER 4 INDUSTRIAL PRACTICE PROJECT REVIEW

This chapter describes the work done by students during the period of industrial practice. It will also explain the results of the tasks assigned by the On-site Supervisor and Faculty Supervisor.

4.1. Scope of Work

On the industrial practice in PT Kanisius, the works is done in the sub-department Logistic, Divisi Percetakan. In this industrial practice the work is done in the warehouse (Cutting dan Incoming Material). The following is the layout of the workspace during industrial practice by Figure 4.1.

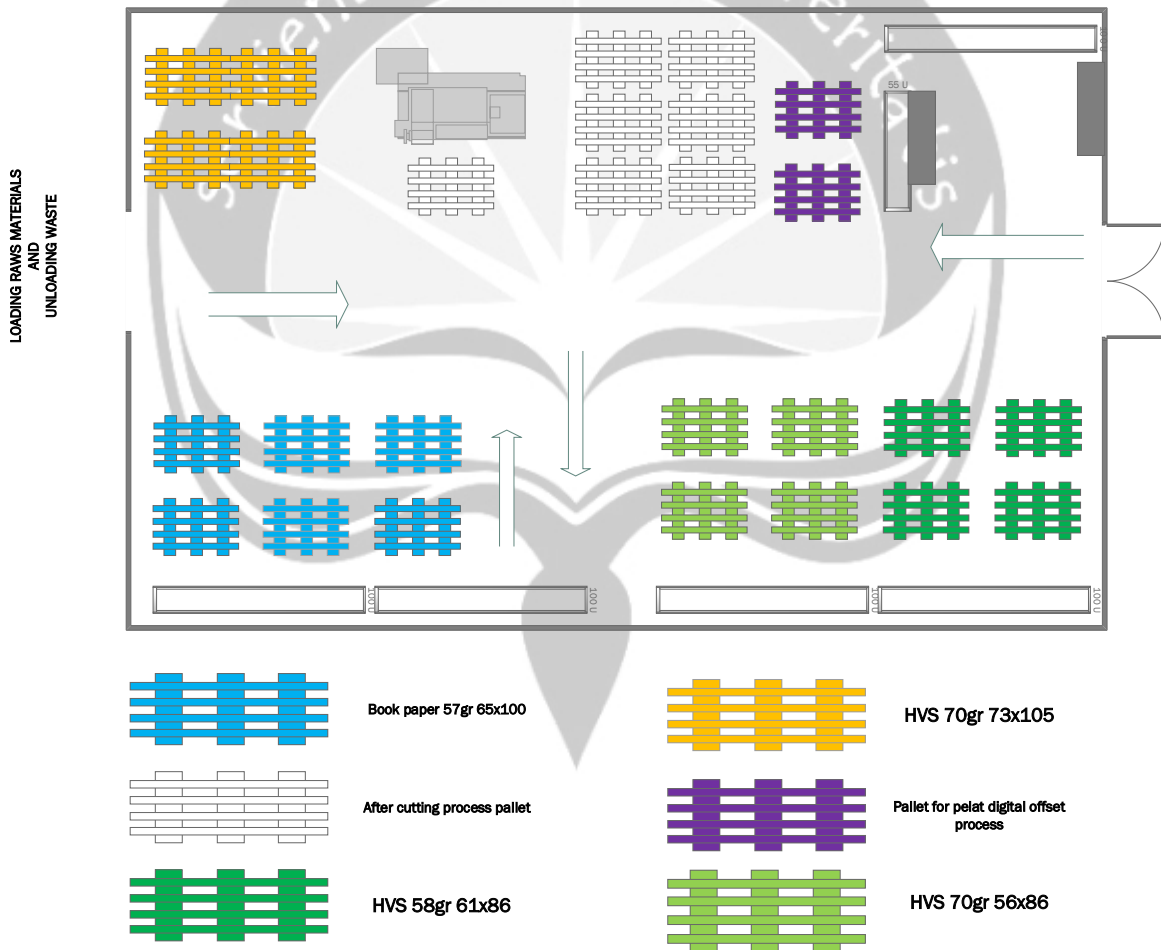


Figure 4.1. Warehouse PT Kanisius

The author is given a place at open meeting table which is also commonly functioned as multipurpose table, a computer completes with cpu and printer. During implementation of industrial practice at PT Kanisius, the author was create to solve

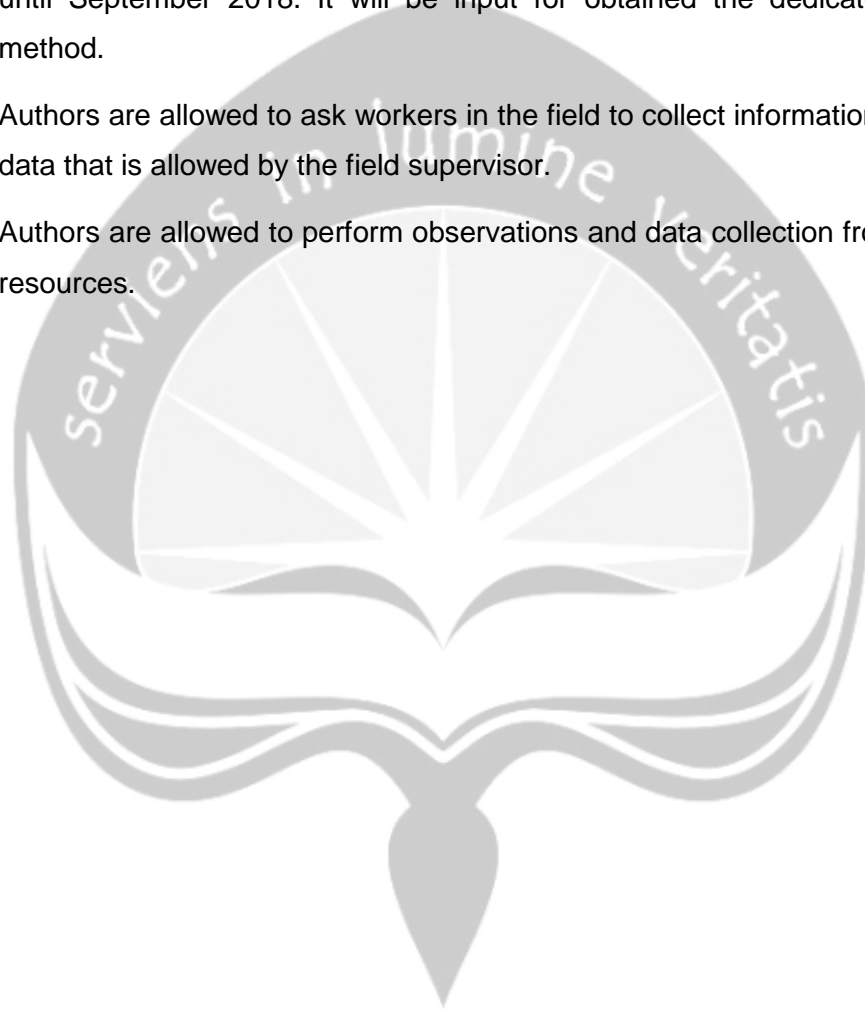
the problem related about product placement. This observation aims to determine the right place for many variety raw materials. To decrease searching time, and at the end increasing productivity. As we can see colorful pallets means random placement for several paper. Use free space as guidance for product placement will effect continuously with duration of searching. Because of that the author try to conducted product placement policy with one of warehouse management system tools is Dedicated Storage Product Placement Policy. And the final result of this tools to minimize travel distance for searching raw materials and increasing the productivity. With new recommendation warehouse layout.



4.2. Responsibility and Authority in Industrial Practice

In the implementation of practical work in PT Kanisius authors are given the task to observe the work process. The process I mean related with scope of work or problem. Unloading raw materials and cutting processes. There are several authorizations given by the company to the author during the industrial practice in PT Kanisius:

- a. Authors are allowed to access database about quantity raw materials in August until September 2018. It will be input for obtained the dedicated storage method.
- b. Authors are allowed to ask workers in the field to collect information and store data that is allowed by the field supervisor.
- c. Authors are allowed to perform observations and data collection from another resources.



4.3. Work Methodology

In doing problem solving, the authors make work steps for the research done to succeed and achieve the goal. The figure 4.2. is a research flow diagram created by the author:

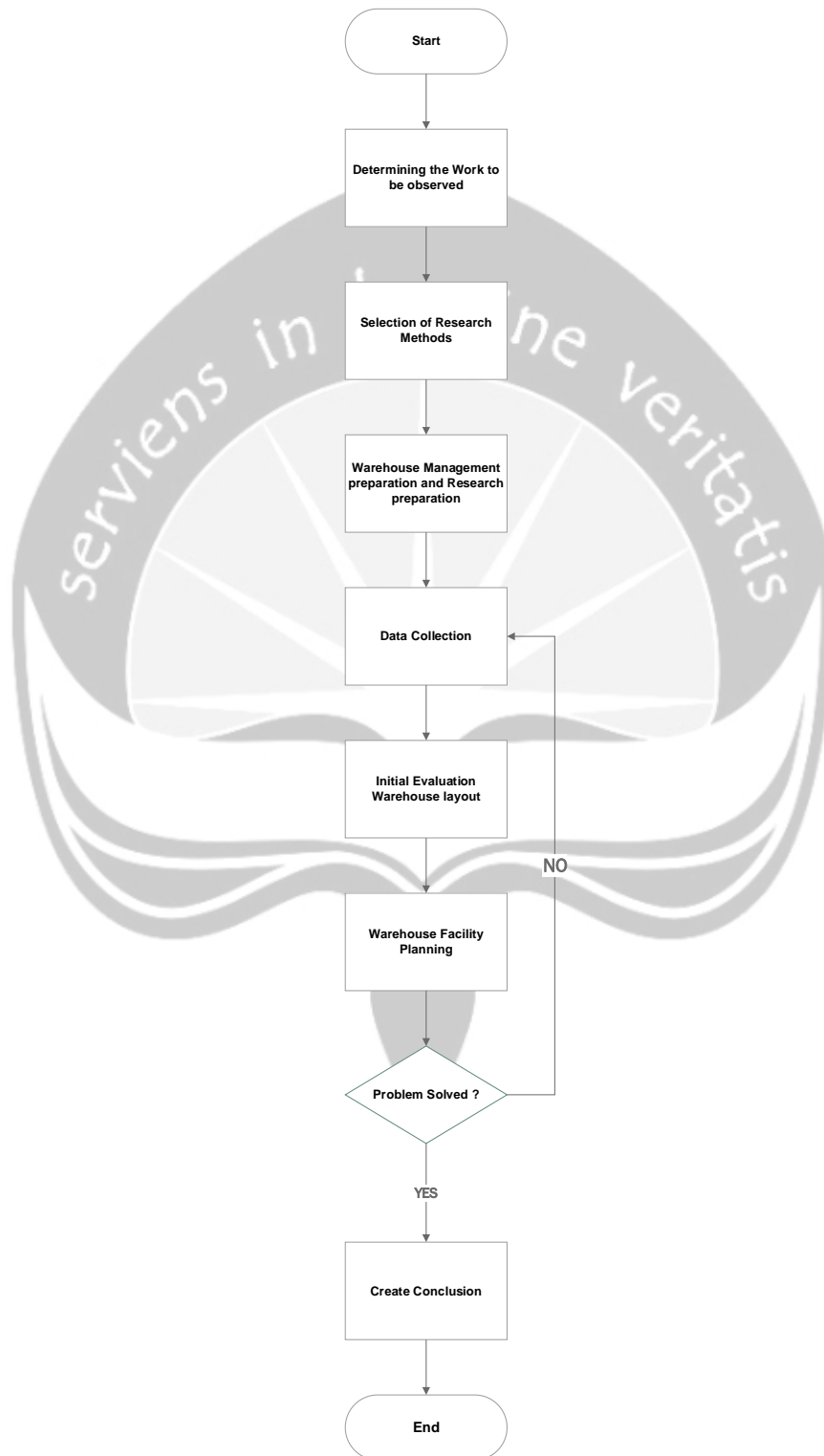


Figure 4.2. Work Methodology Diagram

4.3.1. Determining the work to be observed

At the beginning this research methodology, the author should have data recapitulation during industrial practice started. This excel data come from origin software from PT. Kanisius, who developed by their informatic engineering.

The author already has acces for this kind data, as I explained before. The author trying warehouse management system implementation at their warehouse use dedicated storage policy.

Formulation is:

Throughput: **(Average of Incoming raw materials/Total product in one pallet) + (Average of Outcoming raw materials/Total product in one pallet).**

Throughput means: Divide the number of items moved through the warehouse by the amount of total product in one piece/pallet. This is the throughput time per item. In the warehousing industry, warehouse throughput refers to the number of number of units that can be processed given a certain activity.

The final result for this observation is give best product placement based on product have highest number throughput to lowest throughput, hopefully will decrease number at searching raw materials activity. Because unnecessary movement include in 7 waste perspective, that must be eliminate. To make easier way, the author already generates that data based on high frequently product to pick up. And add some color to divided into several groups.

Another information for this research will explain below:

1. The maximum number of *rim* paper at one pallet is 22 *rim* every rim of paper contains 500 oplah. So, every single pallet consists of 11.000 oplah in any variety size and weight.
2. Because there are many product varieties, the author after generate the recapitulation only use top four kind of paper. There are, HVS 70 gr. 73 cm x 105 cm, HVS 70 gr. 56 cm x 86 cm, HVS 58 gr. 61 cm x 86 cm, and Book Paper 57.5 gr. 65 cm x 100 cm.



4.3.2. Selection of Research Method

The author chooses dedicated storage policy for guidance because for solving this kind problem who had warehouse kanisius more suitable between another methodology. (Class based storage and Randomized based storage).The advantages this method is placement paper at fix position. Using throughput data to selecting the position, would be helping the workers to find out the paper easily. Decrease unnecessary movement and another advantages.

4.3.3. Warehouse Management Preparation and Research Preparation

Another data resources for this research also come from our supervisor Mr. Iwan, Mr. Peta and Mr. Martono as staff. This people help the author to checking the current position before dedicated storage policy implemented.The author use Microsoft excel, Word and Calculator to calculation the number of throughputs. Because Kanisius already had software, the author feels comfortable for easier access and helping person around the author.

4.3.4. Data Colection

				Data Recapitulation between 2 August - 6 September 2018						
No.Transaksi	Tgl.Transaksi	Produk Id	Nama Produk	No.WO	Tgl Order	No Bukti	Jumlah	Total	Tgl Input	
2,41E+11	09/08/2018	21750872	HVS 70gr.73x105	1	317465	02/08/2018	M 409	30717	26369930	10/08/2018
2,41E+11	06/07/2018	21750884	HVS 70gr.73x105	2	313067	05/06/2018	M 331	29219	15760729	06/07/2018
2,41E+11	30/07/2018	21510355	HVS 70gr.73x105	3	913168	21/05/2018	M 386	26000	10996180	31/07/2018
2,41E+11	04/08/2018	21510411	HVS 70gr.73x105	4	932284	07/07/2018	M 401	22515	12538378	04/08/2018
2,41E+11	18/07/2018	21750872	HVS 70gr.73x105	5	920841	08/06/2018	M 356	22000	18886560	18/07/2018
2,41E+11	13/08/2018	21750872	HVS 70gr.73x105	6	920841	08/06/2018	M 416	22000	18886560	14/08/2018
2,41E+11	14/08/2018	21750872	HVS 70gr.73x105	7	920841	08/06/2018	M 417	22000	18886560	15/08/2018
2,41E+11	15/08/2018	21750872	HVS 70gr.73x105	8	920841	08/06/2018	M 421	22000	18886560	16/08/2018
2,41E+11	19/07/2018	21750872	HVS 70gr.73x105	9	920841	08/06/2018	M 358	21500	18457320	19/07/2018
2,41E+11	23/07/2018	21750872	HVS 70gr.73x105	10	920841	08/06/2018	M 366	21500	18457320	23/07/2018
2,41E+11	03/07/2018	21510462	HVS 70gr.73x105	11	312862	30/05/2018	M 326	20950	13983916	03/07/2018
2,41E+11	17/07/2018	21750872	HVS 70gr.73x105	12	315382	11/07/2018	M 354	20796	17852950	17/07/2018
2,41E+11	09/08/2018	21750872	HVS 70gr.73x105	13	920841	08/06/2018	M 409	20500	17598840	10/08/2018
2,41E+11	03/07/2018	21510462	HVS 70gr.73x105	14	312862	30/05/2018	M 325	20000	13349800	03/07/2018
2,41E+11	14/08/2018	21850890	HVS 70gr.73x105	15	951261	30/07/2018	M 417	20000	14213400	15/08/2018
2,41E+11	11/07/2018	21510462	HVS 70gr.73x105	16	312862	30/05/2018	M 343	19500	13016055	12/07/2018
2,41E+11	04/07/2018	21750872	HVS 70gr.73x105	17	313647	26/06/2018	M 327	19405	16658804	04/07/2018
2,41E+11	23/07/2018	21750872	HVS 70gr.73x105	18	920841	08/06/2018	M 369	18625	15989190	23/07/2018
2,41E+11	30/07/2018	21510355	HVS 70gr.73x105	19	913140	21/05/2018	M 381	18450	7679947	30/07/2018

Figure 4.3. Initial Data Colection

The data collection is done on shift 1 that is at 07.00 until 14.30 WIB. The data collection of paper that processed in the cutting process can be seen in the table above (figure 4.3).

Start from 2nd August 2018 until 6th September 2018 is doing data collection has begun. The author use Microsoft excel to become main software to solve this project. Even though, there are a lot of data. The author already grouping the type of paper based on highest frequently product picking. There are top four HVS 70 gr. 73 cm x 105 cm, HVS 70 gr. 56 cm x 86 cm, HVS 58 gr. 61 cm x 86 cm, and Book Paper 57.5 gr. 65 cm x 100 cm.

4.3.5. Initial Warehouse Layout

This layout displays the current situation at PT. Kanisius Warehouse during in the author internship period. Not organized in a good condition, sometimes cutting staff had problem related searching raw materials at messy places. The color representing the position of paper before warehouse management has been implemented. Although looks like nice, this positioning effect more extra energy to searching process. For the example let say the blue color become next process, after that the worker must use a forklift to lift pallet at cutting area. The aisle only accommodate forklift in one way. Another distraction come from if raw materials has coming. The que forklift between loads (product placement) and unloading (product picking) effect the time duration of waiting. The author believe, if this methodology would be implemented. A kind of condition will be decrease and give each other advantages

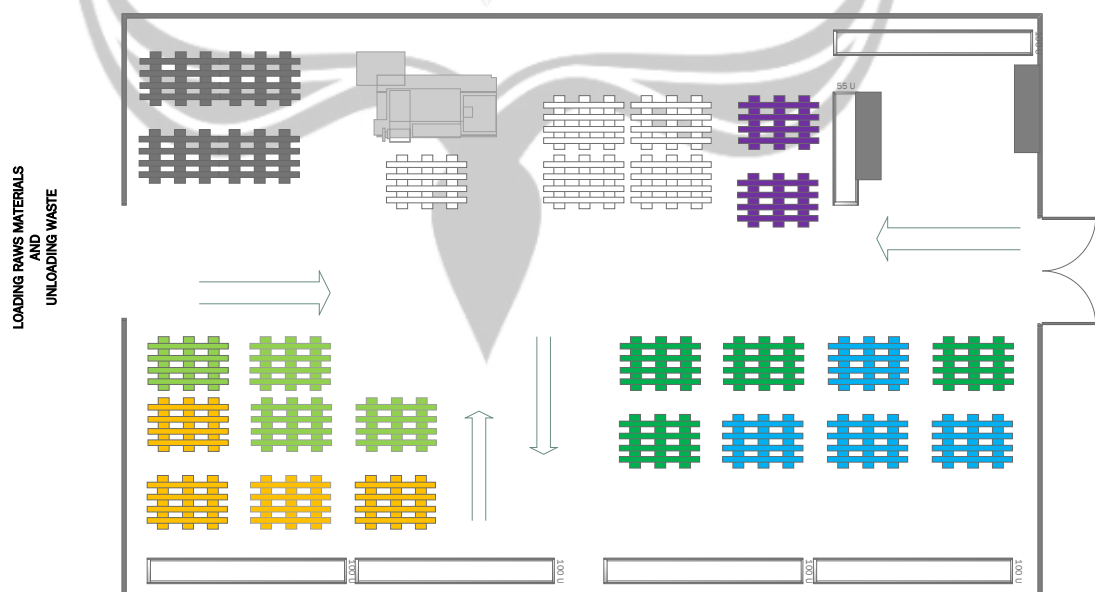


Figure 4.4. Initial Warehouse Layout

4.3.6. Warehouse Facility Planning

Before re-arrange the layout based on warehouse management method. The author calculate the throughput with the data of paper transaction during 2nd August – 6th September 2018. Starts from data incoming raw materials.

Incoming Material during 1 July - 18 August	Total Material coming	days	Average	Total Product in one pallet	Activity/pallet
HVS 70gr.73x105	2000000	40	50000	11000	4,545
HVS 70gr.56x86	150000	40	3750	11000	0,340
HVS 58gr.61x86	200000	40	5000	11000	0,454
Book Paper 57,5gr.65x100	450000	40	11250	11000	1,022

Table 4.1. Data for Incoming Raw Material

Total material coming means the arrival day of raw material has come to the warehouse. The units in oplah. After that average value come from, Total material coming divided by 40. 40 is total day during 1st July – 18th August. So we can conclude the result equals to average divided by total product in one pallet. At result column represent the initial throughput based on incoming raw materials figure 4.5

Paper name	Total material usage	days / duration	Average	Total Product in one pallet	Activity/pallet
HVS 70gr.73x105	1405197	40	35129,9	11000	3,193
HVS 70gr.56x86	110932	40	2773,3	11000	0,252
HVS 58gr.61x86	189910	40	4747,75	11000	0,431
Book Paper 57,5gr.65x100	323247	40	8081,18	11000	0,734

Table 4.2. Data for Outcoming Raw Material

Let's move on the out coming raw materials calculation throughput. Not different at all than before, first we generate the data → calculate the average, and results based on out coming raw materials information. We get the throughput based on out coming raw materials. See figure 4.6.

Paper Name	A	B	Througput Calculation	Rank
HVS 70gr.73x105	4,545	3,194	7,739	1
HVS 70gr.56x86	0,341	0,252	0,593	4
HVS 58gr.61x86	0,432	0,432	0,863	3
Book Paper 57,5gr.65x100	1,023	0,735	1,757	2

Table 4.3. Data for Throughput Calculation

Suitable with the formula, the final way to conclude this throughput calculation as we can see at figure 4.7. We get the highest throughput is HVS 70gr. 73 x 10 cm at the first rank, second is HVS 70gr. 56 x 86 cm, third HVS 58gr. 61 x 86 cm and the last one is Book Paper 57.5 gr 65 x 100 cm. For easier conclusion, the author put HVS 70gr. 73 x 100 cm at nearest position with cutting machine, for the second, third and fourth position following the first position. This research use cutting machine as center point from product placement. Another reason is efficiency procedure and process. The author goals is decrease the distance and easily to help worker to product picking with fix position. After all calculation is done, we can compare from layout before and after as the picture below figure 4.8.

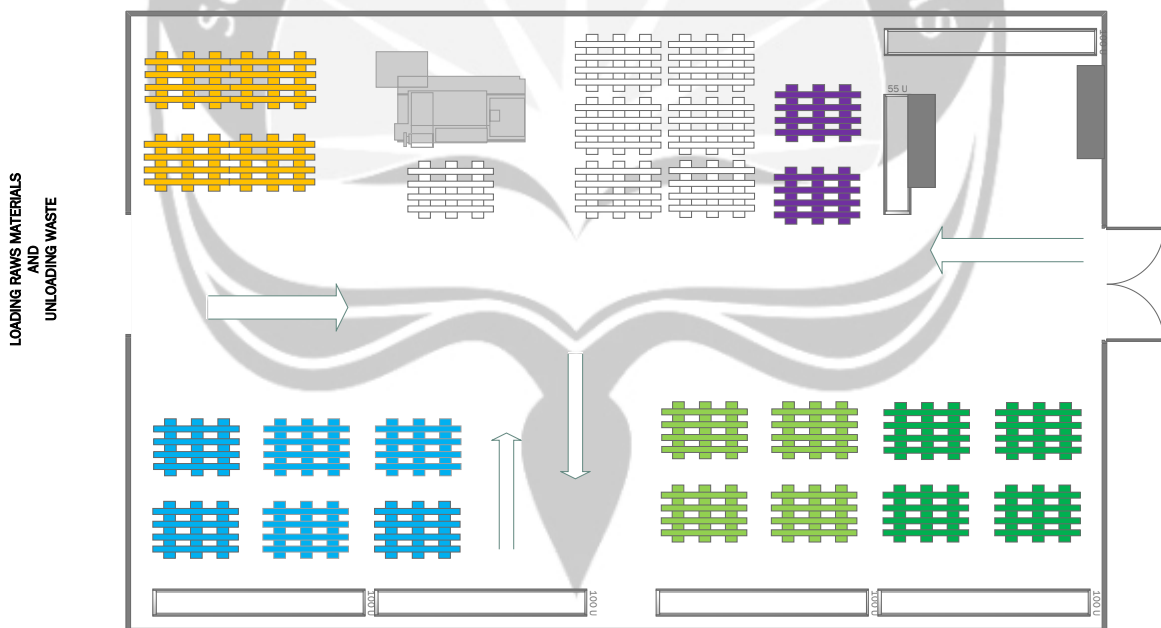


Figure 4.8. Final Layout

More organized store raw materials placement, the yellow one pallet means HVS 70 gr. 73 cm x 105 cm. because this product has high total throughput

CHAPTER 5

CONCLUSION AND SUGGESTION

This Chapter 5 contains the conclusions of the processes done by students during the period of industrial practice and suggestions from students to the company about the potential improvements of the problems discovered during the period of industrial practice.

5.1. Conclusion

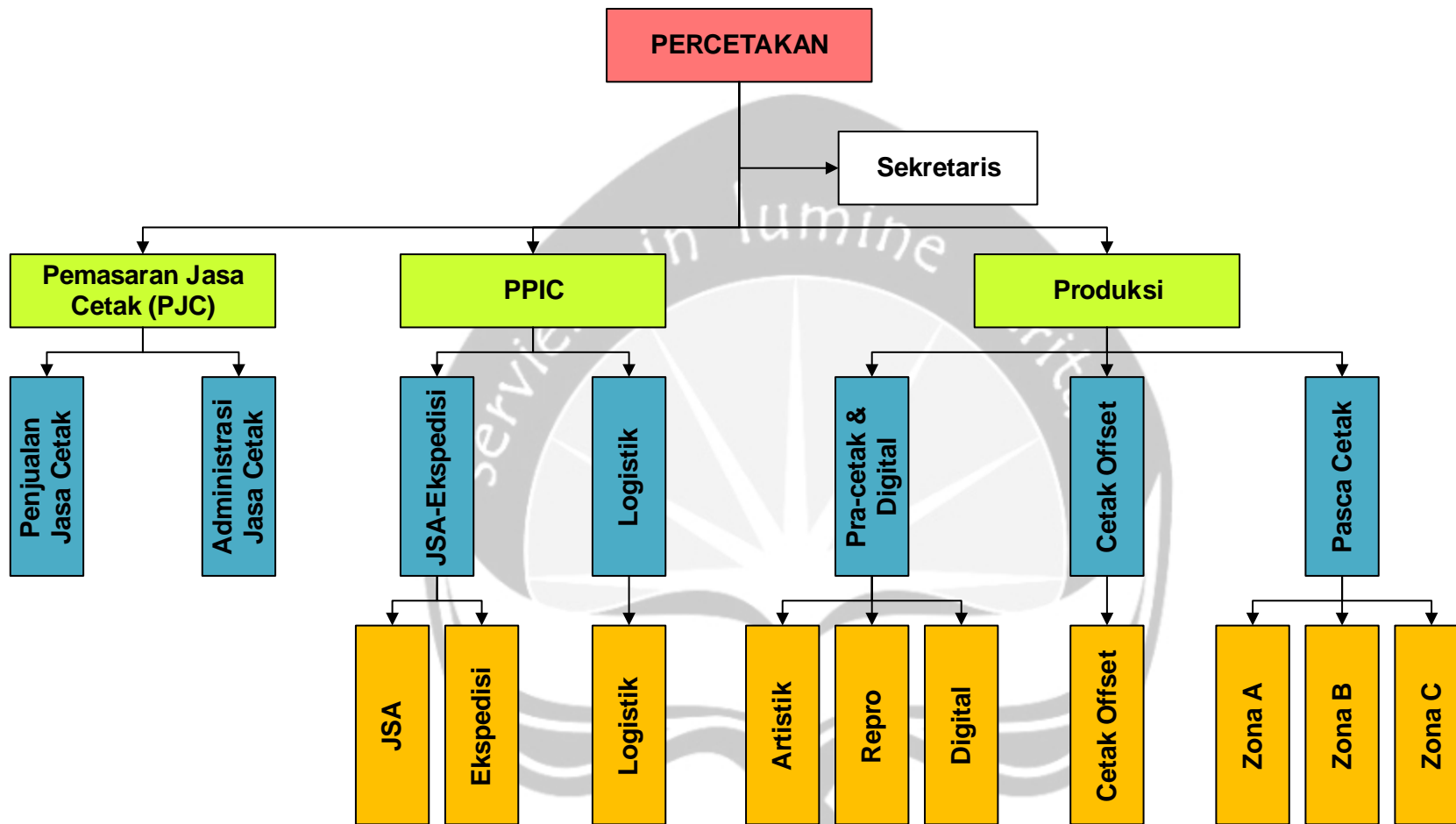
- a. Students can understand the company scope and business processes that exist in the company already well.
- b. Students adapt to the work environment and learn to place themselves properly.
- c. Students participate in the process and are involved in the real activities of everyday companies, especially in the Department of PPIC, *Divisi Gudang*.
- d. Students are able to complete all tasks provided by the On-site Supervisor and Faculty Supervisor.
- e. The highest number of throughputs is HVS 70 gr. 73 cm x 105 cm it means type this of paper must located nearest cutting machine
- f. Suggestion of layout after dedicated storage method had been created

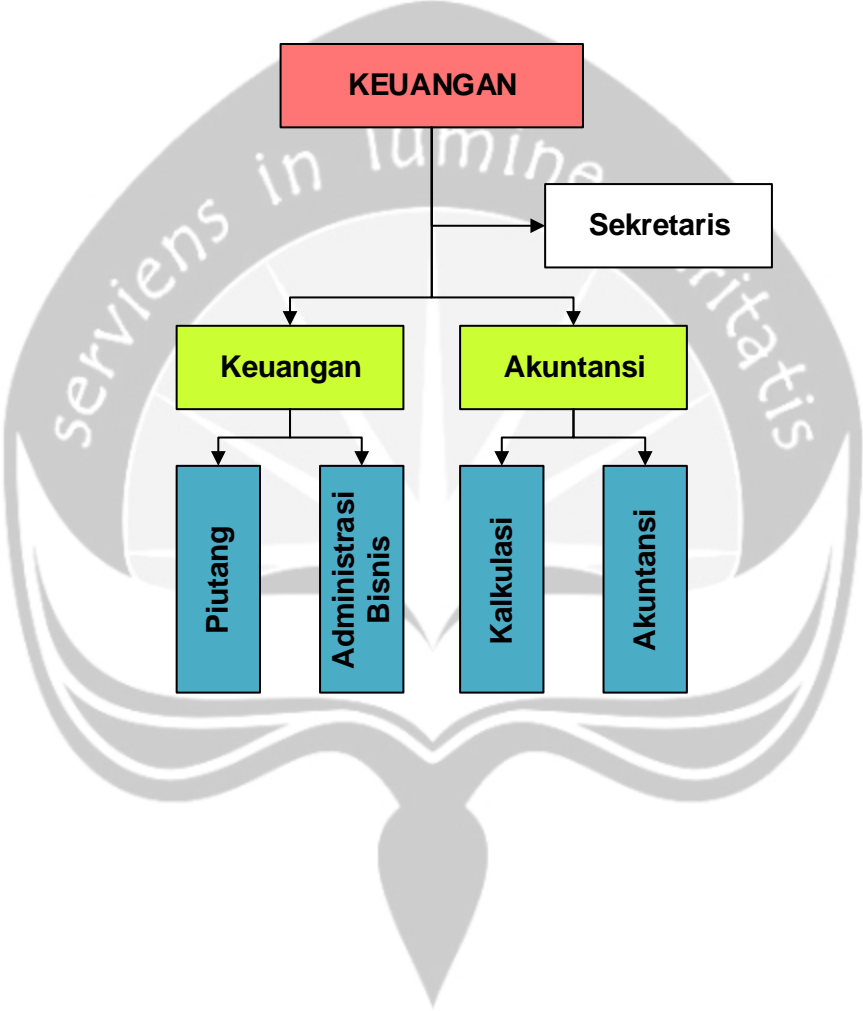
5.2. Suggestion

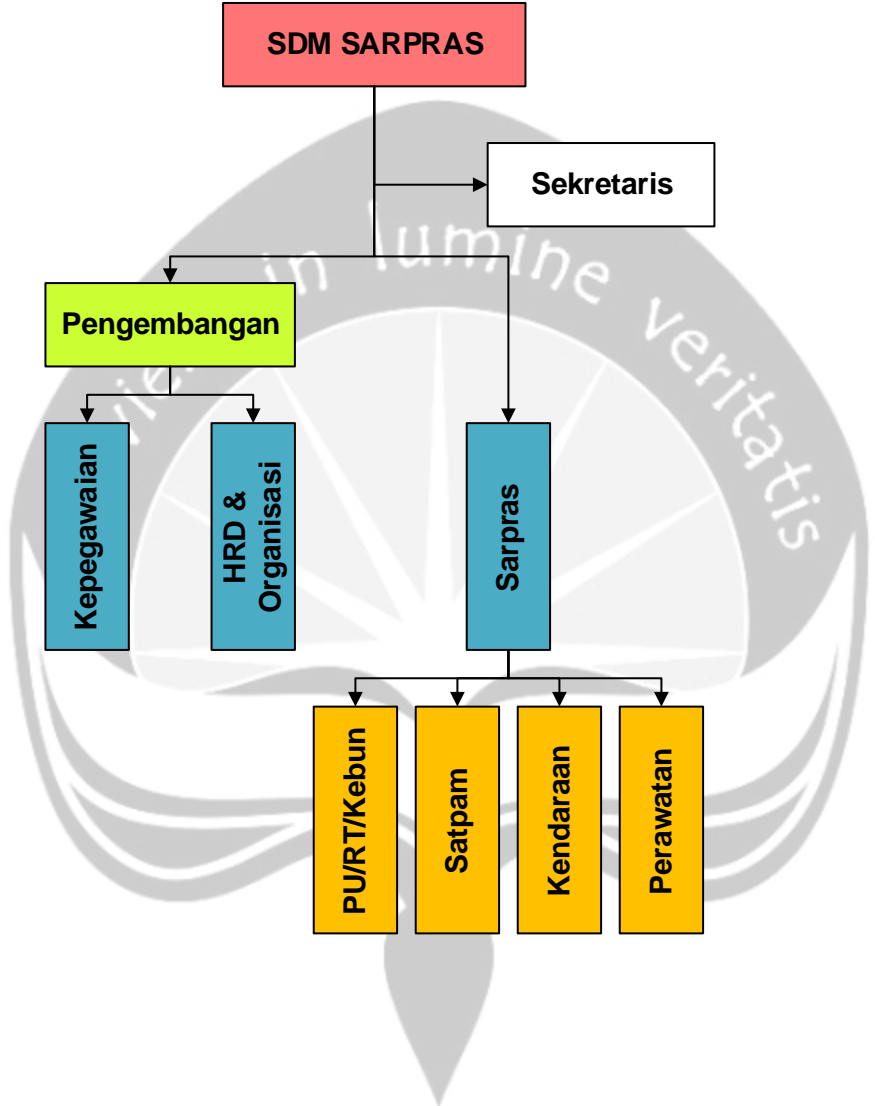
- a. Training for employees is very important to do, especially because in this modern era, we have no other choice but to catch up with the development of technology
- b. Employee qualifications must be upgraded to keep up with the printing and publishing business in Indonesia as seen from the number of similar businesses with good quality continues to grow.

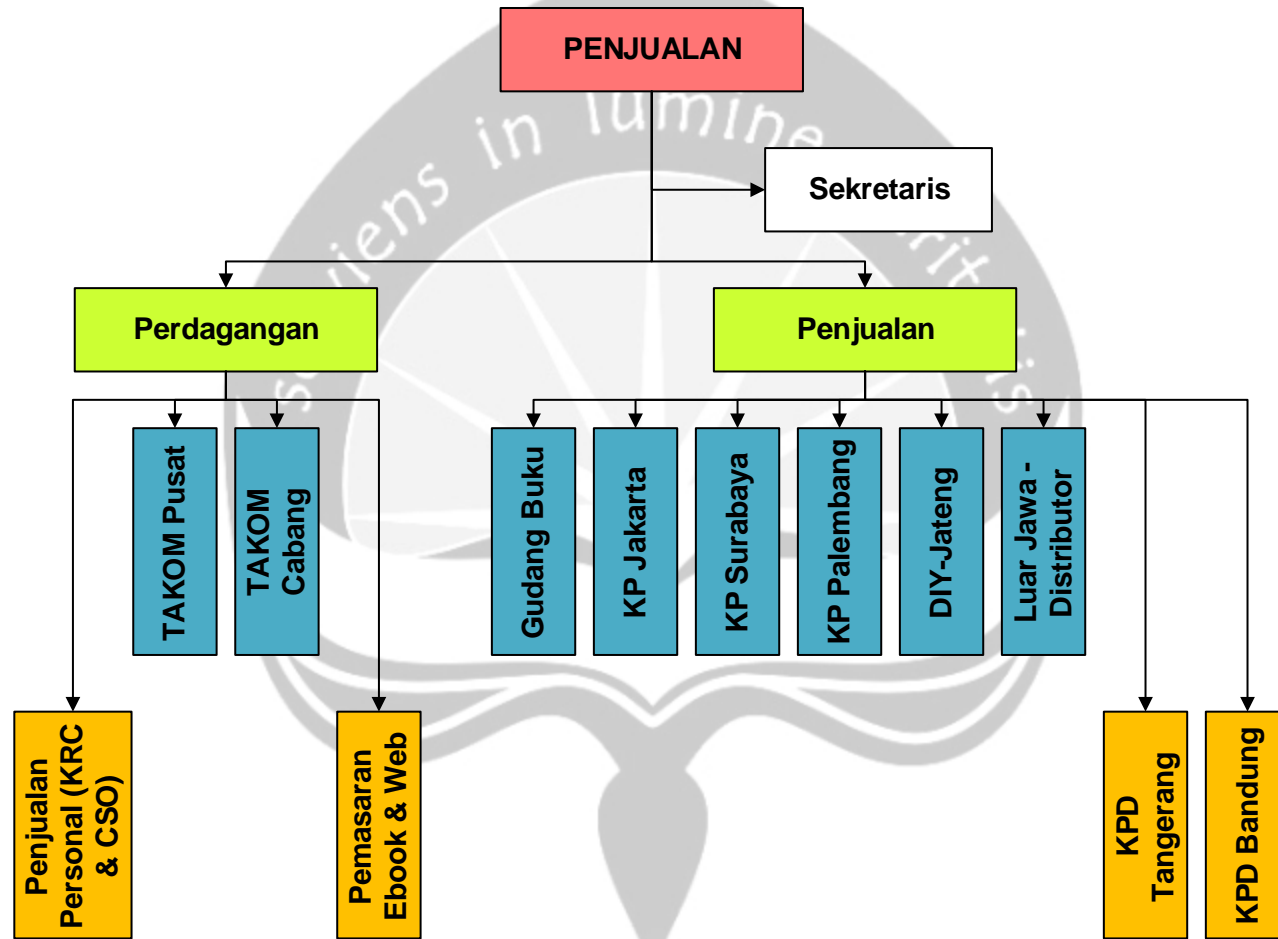


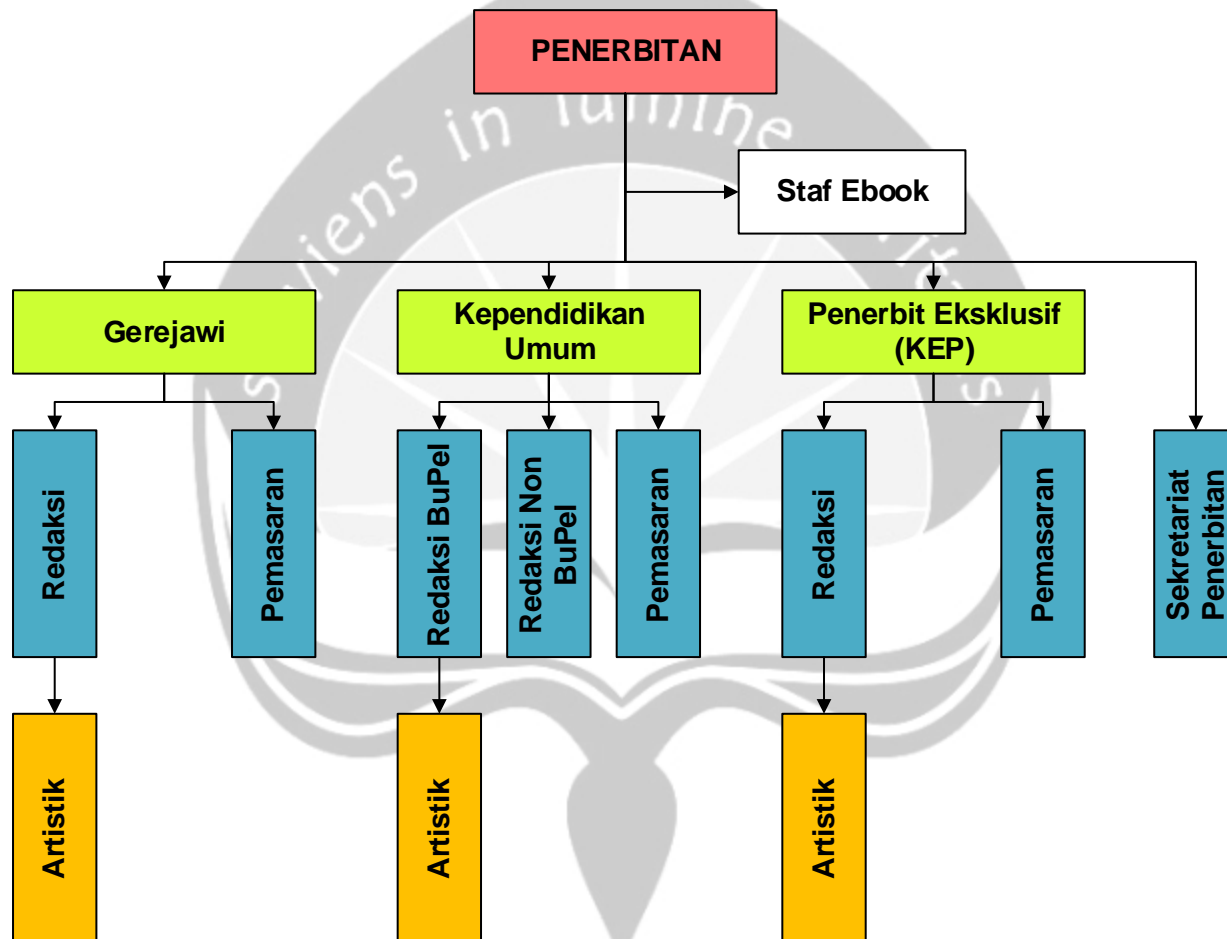


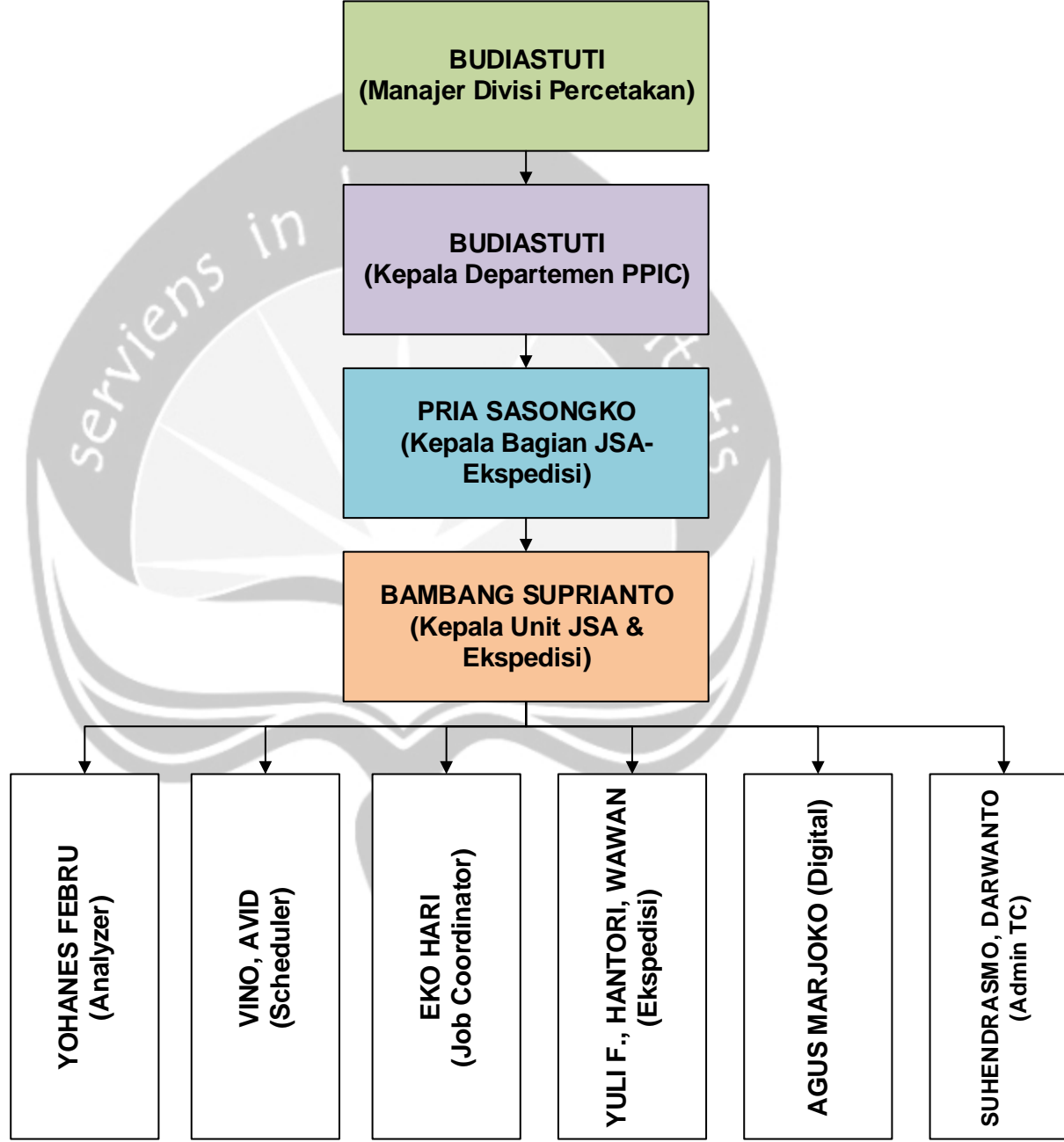




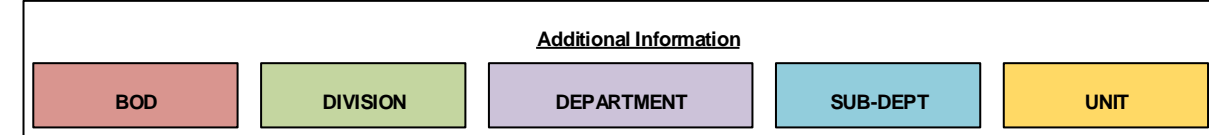
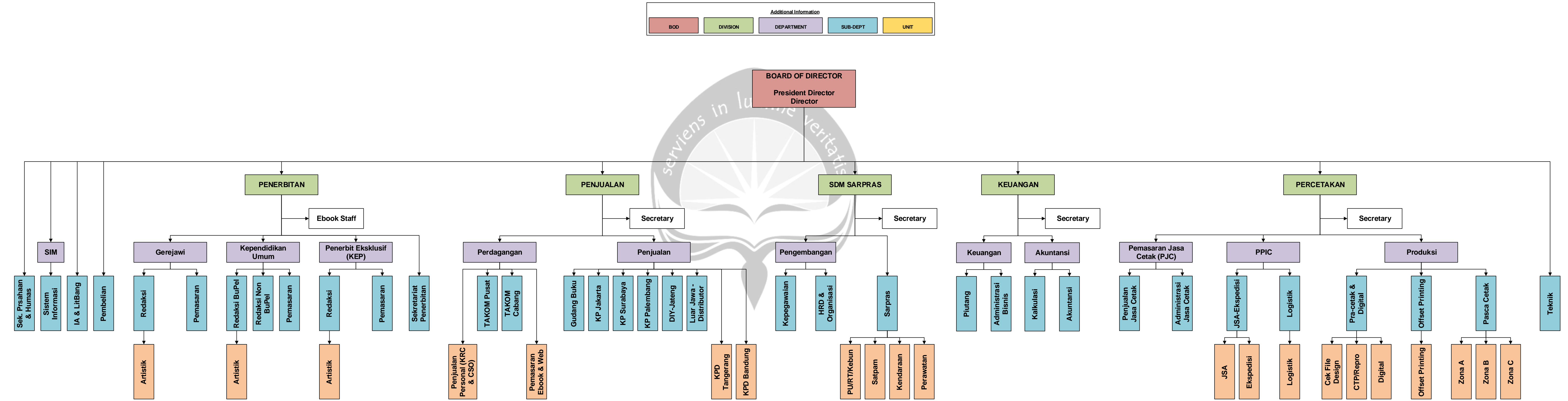








Appendix 1. Organizational Structure of PT. Kanisius



BUSINESS PROCESS MAPPING: ORDER COMPLETION PROCESS IN PT. KANISIUS

