CHAPTER 1
INTRODUCTION

The background, problem formulation, research purpose, and limitation of the research will be explained in this chapter.

1.1. Background

Business Process Management (BPM) is an approach to analyze and continually improve fundamental activities in an organization (Zairi, 1997). According to Barfield, et al.(2004),an activity is an organized set of action integrated in a network with another activities to comprise a process. Furthermore, Barfield et al.(2004) explained that activitiy can be divided into two categories: value-added and non-value-added activities. Value-added activity is described as an activity that improves the value of received output, and non-value-added activity is described as an activity that does not improve the value of received output.

In order to eliminate non-value-added activities in the system, Business Process Improvement (BPI) is needed. According to Harrington (1991), Business Process Improvement (BPI) is a method to increase both effectiveness and efficiency of business process to provide input to customers. By simplifying and streamlining an organization's business process, the fundamental activities can be continually improved in a long run (Lee & Chuah, 2001; Zellner, 2011).

To implement BPI, there are several steps to be conducted. In previous researches, a number of approaches were used for BPI implementation, such as Total Quality Management (TQM), Business Process Reengineering (BPR), SUPER methodology, Lean and Six Sigma. (Adesola & Baines, 2005; Buavaraporn & Tannock, 2013; Gowen & Johnson, 2011; Lee & Chuah, 2001; Mccuistonet al., 2010)

Even though there are a number of approaches to implement BPI, the previous researches have shown the steps taken to implement BPI can be grouped into five stages: initiation, specify, design, implementation, and evaluation (Adesola & Baines, 2005; Buavaraporn & Tannock, 2013; Gowen & Johnson, 2011; Islam & Ahmed, 2012; Kaygusuz, 2013; Lee & Chuah, 2001; Zellner, 2011). In BPI implementation, the aids of Information Technology (IT) will enable an organization to develop more coherent information architecture (Walt & Toit, 2007). IT is able to support functions in an organization such as production

planning, marketing, and accounting (Buckley, 2015; Moghaddam et al., 2014; Portougal, 2005). Software package such as Enterprise Resource Planning (ERP) software and Microsoft Office packages such as Microsoft Excel and Microsoft Access are often mentioned in previous researches as BPI aiding tools (Coskun, et al., 2008; Islam & Ahmed, 2012; Ravesteijn & Zoet, 2010; Seethamraju & Marjanovic, 2009; Walt & Toit, 2007).

The research was conducted in Production Control (PC) department of A Operation in a multinational electronic device manufacturer company. The company has distributed its products all over the world and became number one in the world in its product categories. There are two main operations in the production facilities, A Operation and B Operation.

The activities in PC department include planning, controlling, and monitoring production plan. Planning is the most fundamental activity in an organization, because the goal of an organization as well as the necessary resources for the targets implementation are determined in this stage (Verstinaet al., 2015). Alipour et al.(2013) stated that planning is not only about thinking and controlling the future, but also about the processes used to conduct these affairs. Planning has a number of advantages, namely: a means to achieve organization goals, as aids in decision-making process, implement systematic plans and fulfillment of goals, and increasing organizations efficiency.

There are two main components needed to assemble the electronic device, namely "X" and "Y", and the activities of PC department are divided in accordance to accommodate these two components. The "X" production plan or "X" build plan is a report about the estimated number of "X" that is going to be produced. Figure 1.1. shows how the summary of the build plan looks like.

X Build (k)	ww01	ww02	ww03	ww04	ww05	ww06	ww07	ww08	ww09	ww10	ww11	ww12	ww13
Site 1	1.637	980	1.913	1.526	1.402	1.621	1.269	1.713	2.243	2.134	855		
Site 2	1.637	980	1.913	1.526	1.402	1.621	1.269	1.713	2.243	2.134	855		
Total	3.274	1.959	3.826	3.052	2.803	3.242	2.538	3.426	4.486	4.269	1.710		
WDB	ww01	ww02	ww03	ww04	ww05	ww06	ww07	ww08	ww09	ww10	ww11	ww12	ww13
Total X build	ww01	ww02	ww03	ww04	ww05	ww06	ww07	ww08	ww09	ww10	ww11	ww12	ww13
A	1.577	1.183	2.736	1.847	1.563	1.741	825	2.220	2.672	2.480	785		
B	76		82	153	92		8		57				
C	1.621	776	1.008	1.052	1.148	1.502	1.705	1.206	1.757	1.789	926		
Total	3.274	1.959	3.826	3.052	2.803	3.242	2.538	3.426	4.486	4.269	1.710		

Figure 1.1. Build Plan Summary Report

The build plan summary is consists of the information of the total number of the items that are going to be produced on each site, the total number of items that are going to be produced for each product in each site, and the total number of items that are going to be produced for each product.

"X" build plan report is used to support the MPS demand that comes from buyer each week. "X" build plan is also used as the input for capacity planning in IE department and "Y" planner for "Y" build requirement. Any delay in delivering build plan report will result in the delay for the proceeding activities.

"X" planner realized that there are non-value-added activities in the process to create build plan. These activities mainly include manual inputs of the data because the data come from different files. The need to open-close-reopen files make the response time to request became slower and increase the chance for error to occur. When an error occurs, the planner needs to rework on the report and postpone another work, which ultimately affects the response time. In the previous research by Yehezkiel (2015), he suggested to make the build plan to be semi-computerized or semi-automated.

1.2. Problem Formulation

Based on the background above, the problem can be stated as: how to improve "X" build plan business process by removing non-value added activities related to the business process using IT.

1.3. Research Purpose

The purpose of this research is to improve "X" build planning business processby removing non-value-added activities in order to achieve a faster and more accurate result using the available software package.

1.4. Research Scope and Limitation

The scope of this research is limited only to the activities related to "X" build planning for three items process in PC department and to the practices applied during the period of research (Feb 2016 – Jul 2016). For the sake of adhereing to confidentiality agreement, some information regarding the project cannot be disclosed in this research.