

# CHAPTER I

## INTRODUCTION

### 1.1 BACKGROUND

In the past decade the modern retailers in Indonesia have expanded rapidly. According to the association of Indonesian retail companies (Aprindo) that retail business grew 10%-15% annually. In the current business environment, the retail industry faces two major challenges that threaten its profitability and the long-term survival prospects. The twin challenges are: market competition and regulatory pressure (DMS Retail, 2010). Therefore, a retail business would benefit immensely from an integrated Information System (IS) which continuously monitors and dispatches the necessary information of the flow of goods all the way from supplier to the cash register and then back to accounting as well as other functions of the retail organization.

IS is a critical success factor for retail companies. Sluggish sales markets and increasing competition in retailing make it essential for retail companies to optimize their internal process. In times of businesses, as well as global and inter organizational requirements of supply chain and customer relationship management companies are regularly forced to redesign their business process.

A combination of flexibility, process efficiency, reliable information and responsiveness is critical to a retail business and SAP packages have been introduced to tackle the elimination of IS complexity albeit with some implementation challenges to the line of business and IS management staff.

To keep up with the constantly growing demands of the market, every company must pay attention to the fundamental principles for success and take action accordingly. SAP helps its customers meet all of these challenges with innovative technology so they can operate as part of a complex economic network and respond effectively to market demand. (Rawe, 2008)

Modern system in retail respond to changing demand, which means they can do more than just control the flow of goods and reports sales figures to the head office. They also capable of complex process that forecast consumer demand while taking into account about space and capacity in the supply chain and automatic item planning. It also able to do price optimization, markdown management, assortment planning, procurement and distribution processes, goods control process such promotions or price reductions, and accounting for special forms of management such as consignment. Similarly also capable to do integration of all distribution channels and decentralized workforce management, both of which help companies meet the significant challenge of customer retention and thereby contribute to increased consumer satisfaction.

SAP cover the techniques and concepts employed for the integrated management of businesses as a whole, from the viewpoint of the effective use of management resources, to improve the efficiency of an enterprise. (Alexis Leon, 2000). It is facilitate distribution of information flow to business organization (Rajes Ray,2011) also a high technical cross-functional information system to improve organizational performance and competitiveness by streamlining business processes and eliminating duplication of work and data (Ayyub et all, 2011).

The implementation of SAP systems in retail organizations is an enormously complex undertaking and costly affair. There were a lot of success and failure stories implementation SAP in retail industries. At least more than 30 retail companies all over the world were success in implementing SAP partnership with IBM during last 5 years (IBM, 2010). Several world class retail that were also succeeded in implementing SAP. Carrefour Belgium have turned profitable helped by an aggressive pricing strategy, management supply chain and manage the franchise with implementing SAP. Coop Schweiz Swiss was success in implement SAP in areas of accounting, material management and sales. Migros Genossenschaftsbund A food retailer in Swiss helped by implement SAP in areas of managing supply chain and purchase management (SAP AG, 2006). Similarly Walmart Global Retailer succed in implementing SAP to support growth , navigate evolving business and regulatory landscape (SAP AG,2010). Harrods one of the world's largest department store succed in implement SAP to standardize core business process, implement automated and integrated solution, and optimize IS resources to reduce cost (SAP AG, 2012). Home Depot the world's largest home improvement retailer was completed implementation of SAP retail software solution to streamline business process, gain full visibility of inventory, and improve the customer experience in-store and online. Layby Services Australia is an online retailer platform that gives thousands of Australian consumers the option to pay for items in installments. (SAP AG,2012).

On the otherside the failure of implementing SAP were also reflecting a huge number. SAP software applications for retailers continue to be stung by a series of high-profile installation problems that many say illustrate the complexity of trying to fit an integrated suite of enterprise resource planning software into a retail operation. The latest example came late last month, when Canadian supermarket chain Sobeys

Inc. abandoned an \$89.1 million SAP Retail implementation. Sobeys isn't alone. Jo-Ann Stores Inc. in Hudson, Ohio and pet supply retailer Petsmart Inc. in Phoenix last fall both attributed low financial results to problems with their SAP Retail rollouts. In late 1998, Reebok International Ltd. was the first U.S. Company to go live with SAP Retail, which now supports 115 outlet stores run by the Stoughton, Massachusetts-based footwear maker. SAP system is producing "a very high level of stock accuracy" in the stores. But the yearlong development and installation process wasn't easy and required some adjustments as the project went along. Canada's second largest supermarket chain abandoned the \$89 million implementation of SAP AG's business applications for retailers after a five-day database and systems shutdown affected the company's business operations for nearly a month.

Jennifer Chew, an analyst at Forrester Research, found that 54 percent of respondents to her survey said that their SAP implementation project lasted more than two years. She pointed out that K-mart attempted to install an SAP system in the 1990s, but had to write off the entire \$130 million project that was never launched (Worthen 2002).

The above phenomena was interested being investigate what was the reason behind. For these reasons, finding the best implementation strategy of integrated enterprise systems is mandatory in order to maximize the benefits from integrated IS solutions in retail industries. Research was conduct in order to reveal what was the factors that triggering success and failure for SAP system implementation in retail industry.

## 1.2 PROBLEM STATEMENT

Main objective of problem being addressed by this research was to reveal what factors that triggering success and failure for SAP implementation in retail industry.

- 1) What are the factors affecting the success or failure of SAP implementation in retail industry?
  - a. What factors can lead users to use or intend to use SAP systems in retail industry?
  - b. What factors can make SAP implementation in retail industry projects successful?
  - c. What are the relationships between factors?
- 2) How can we define the success of SAP implementation in retail industry?
  - d. What are the indicators to evaluate SAP implementation in retail industry success?
  - e. What are the relationships between success indicators?
- 3) How do we approach SAP implementation in retail industry to avoid failure?
  - f. What are the relationships between factors and success indicators?
  - g. What factors should be considered most seriously to avoid failure?
  - h. What should companies do to make SAP implementation in retail industry projects successful?

### **1.3 RESEARCH OBJECTIVES**

Research objectives are :

- Resolving the factors that affecting success or failure of SAP implementation in retail industry
- Understanding and defining success criteria of SAP implementation in retail industry
- Defining approach SAP implementation in retail industry to avoid failure?

### **1.4 RESEARCH BENEFIT**

This research proposed to aim several benefit towards:

- Retail industry perspective : understanding of success and failure factors towards implementing SAP ,critical factors that should be avoid in implementing SAP and providing comprehensive strategic planning.
- Consultant perspective : Providing knowledge of success and failure factors towards SAP implementation.
- Academic perspective : Enhance theoritical analysis.

### **1.5 RESEARCH SCOPE**

Research scope limited on analysis of success and failure factors for implementation or adoption of SAP in retail industry in Indonesia.

## CHAPTER 2

### THEORITICAL FOUNDATION

#### 2.1 SAP System

##### 2.1.1 An Overview

The SAP name (pronounced "S-A-P" not "sap") is derived from German "Systeme, Anwendungen, Produkte in der Datenverarbeitung" , or in English "System, Applications, and Product in Data Processing". SAP AG the company behind the system, was founded in 1972 by five ex-IBM employees. Their headquarters is based in Walldorf, Germany and has subsidiaries in over 50 countries around the world. SAP AG is now the third largest software maker in the world with over 17,500 customers, including more than half of the world's 500 top companies. (Lawlor, 2004).

Today, SAP has installation in more than 170 countries. SAP Packages comes in two version : The mainframe version (SAP/R2) and the client/server version (SAP R/3). Most prominent among SAP's product range is the enterprise application suite R/3 for open client/server systems. With SAP system, customers can option to install the core system and one or more of the functional components, or purchase the software as a complete package. (Leon,2000).

SAP R/3 is the leading example of an Enterprise Resources Planning (ERP) system, used by medium to large companies to track and manage in real time, business information, such as sales, production, and financial data. The R/3 system is known simply as SAP. It consists of suites of major business applications, which can be

viewed as a tightly integrated collection of logical business modules. A Module is a set of programs (or transaction) that deal with the same area of business functionality, such as Financial Accounting, Material Management, and Human Resources Management. The software was developed with this idea of componentisation of business functions in mind. Each module, which is based on detailed analyses of industry best practices, implements a specific segment of enterprise operations and are in themselves, extremely complex. The modules work in close cooperation and this comprehensive integration offers complete harmonisation across all business functions. For example, when a vendor completes a purchase order, inventory levels are adjusted in Materials Management, and triggers the issuing of an invoice from Financial Accounting. (Lawlor, 2004).

During the 1980s, SAP controlled the ERP market. SAP R/3 was released in 1992 and soon dominated the US and world markets, with an estimated 44% of US companies using it by 1997. The SAP R/3 application is comprised of tightly integrated software solution that perform different functions for different areas within an organization. (Dale, 2006). There are 11 modules in SAP, usually referred to by a two letter acronym. All these modules need to be implemented in a company. The 11 modules are : Asset Management, Controlling, Financial Accounting, Human Resources, Materials Management, Plant Maintenance, Production Planning, Project System, Quality Management, Sales and Distribution, and Cross Application. (Lawlor, 2004)

SAP is delivered to customer with selected standard processes turned on and it is the process of configuration which gives SAP its great flexibility. This configuration is done by business analyst, people experienced in identifying and

mapping (or where necessary, changing) business processes. They customise the modules by adjusting the thousands of possible values within each module. This phase precedes going live and no programming is normally required at this stage.

The SAP R/2 system, that was released into German market in 1979, was designed purely to operate as a maintenance system, and was the first integrated, enterprise-wide computer system. In line with trends in technology towards the end of 1980s. SAP AG launched R/3 in 1992, which runs under the three-tier client/server paradigm. These tiers include Presentation server, Application Server and Database Server.

The software oriented client/server architecture of R/3 system enables real time enterprise wide information management and runs contrary to the central processing design of R/2. In mid 2001, there were approximately 644 installations of R/2. The number dropped to below 200 by 2002 and is expected to be close to zero by mid/end 2004. Maintenance for all remaining SAP R/2 systems ends by December 2004.

R/3 is hardware and operating system neutral, and operates in a wide variety of environment which has helped it to grow, in just 10 years, to over 44,500 installations with an estimated 10 million users in 120 countries. Today, SAP is available in 46 country-specific versions, incorporating 28 languages including Japanese Kanji and other double-byte character languages. With each release, the system has been developed to meet the increasing commercial and technological needs of organisations around the globe. Each release is assigned a version number and the higher the version number, the later the release. The current release of R/3 is 4.7, called "Enterprise". From version to version, bugs have been fixed and the scope of

the system has been expanded to include new functionality, however subsequent releases and revision are downward compatible. ( Lawlor,2004)

### **2.1.2 System Architecture**

The products feature a sophistication and robustness unmatched by other business software solutions. SAP has develop an extensive library of more than 800 predefined business process, spanning each functional software requiremen. There process may be selected from the SAP library and included within installed SAP applications, after tailoring the application solution to suit the user's exact requirements. New business processes and technologies become available regularly, enabling SAP customers to add state-of-the-art solutions to meet ever-changing business demands. (Leon,2000). SAP R/3 is a client server application. In client-server applications the servers stores all data and performs the processing data. The client requests the data and is the interface for users. In this environment, the application lives on the server. This architecture allows SAP R/3 to be very scalable. New clients can be added with little effort. Additionally, applicaton updates are simplified, as they are only necessary on the server inmost cases. (Dale, 2006)

SAP uses a three-tier architecture comprised of presentation layer, an application server layer, and a database layer. SAP runs on a smaller platforms and operating systems, including most popular favors of UNIX and Window NT. It is possible to mix and match operating systems at the client, the application server, and the database levels, making SAP architecture both flexible and scalable. SAP uses the Advanced Bussiness Application Programming (ABAP/4) language, along with ABAP/4 development workbench and tool set to configure and customize R/3. The other basic supporting R/3 include printing, security, and communication. In addition to these

services, R/3 allow to interplay of application, user interfaces, and data. The movement of this information is provided through the use of standard interface, application interfaces, and open data format. These services constitute the basis of SAP's ability to integrate application. (Linthicum, 2000).

The SAP R/3 application has several levels with it :

- The SAP presentation layer – The SAP GUI. The SAP client are very thin, very terminal like. The client communicates with the application server and presentation server and simply provides the interface to the end user.
- The SAP application server layer – The SAP modules. The application server is able to perform all of the application and interface processing, in addition to providing such rudimentary transaction processing features as load balancing and fail-over. The R/3 architecture allows the application tier to uncouple from the presentation and data tiers see Figure : 1.
- The SAP Database layer – Data storage. The database simply provides a location for data storage. It handles data access through the use of SAP SQL, which is, at its heart, a standard SQL called from within the ABAP/4 toolset. Because relational database systems offer different subsets of standard SQL functions, the ABAP/4 toolset supports SQL at two levels : SAP SQL and native SQL. The database interface translates SAP SQL into the native SQL dialect. It is possible to use either of these two levels. It should be noted that most relational databases such as Oracle, Informix, and SQL Server work with SAP R/3. (Linthicum, 2000).

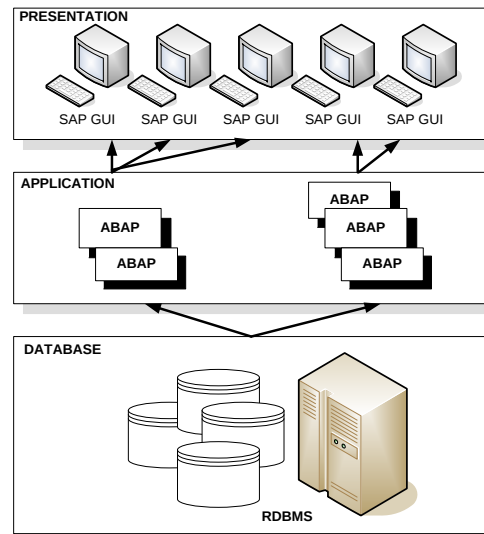


Figure 1 : SAP Architecture Three Tiers.

The GUI (Graphical User Interface) sits on the user's PCs and provides the interface for the users into SAP R/3 system. The application layer is comprised by the SAP R/3 application and lives on the SAP R/3 server. This is all the code that makes up the SAP R/3 application. The database layer is the data within SAP R/3. It is the database management system (DBMS). Access to the data and tables is controlled not only by the DBMS, but also by the application through to the data connectors and various transactions.

R/3 Software lets you integrate all your business operations in an overall system for planning, controlling and monitoring. You can choose from 800 plus ready-made business process and their number continues to grow. They include best business practices that reflect the experiences, suggestions, and requirements of leading companies in a host of industries. R/3 lets you profit directly from this wealth of business and organizational know-how. (Leon, 2000). Today companies compete fiercely for market share and work hard to operate profitably. R/3 is a major strategic tool for achieving the aims. R/3 gives enterprises of all sizes and from all

types of industries, a flexible software base for their business infrastructure. Moreover, they profit from the quality and powerful functionality R/3's applications, which meet the information management needs of both medium-sized and large multinational companies. This flexibility as regards enterprise size, is demonstrated by fact that over 50% of R/3 installation are in small and medium-size companies. (Leon,2000).

### **2.1.3 Integrated IS in Retail Industry**

The architecture of integrated information system in retail companies forms a pictograms of an H that represent principle tasks. The SAP retail system generally follows the retailing H-architecture, although not in the graphical preparation of the H. To derive the H, let us consider the principle tasks involved in retailing companies. The goods related requirements planning , logistical and billing functions ensure that goods flows from the supplier to the retailing company, and from the retailing company to the customer. The business-administrative tasks consider the value-related sphere of the company in the cost accounting from the internal viewpoint, the billing functions of the external accounting and all tasks associated with personnel accounting, employee information, career planning and employee administration. In addition to these tasks of the operative business, tasks arise from the tactical and strategical business, controlling and company planning. Interface to upstream and downstream operations in the same company, and to suppliers and customers, must ensure the complete, integrated, consistent and fast depends on the types of retailing business. The classical warehousing business covers more tasks and so also requires more functionality from the merchandise management system compared with the third-party business or the pooled payment business. Special sales promotions and service business provided in retailing require other functions.

## **The Merchandise Management System**

Greatly simplified, a retailing company must perform three principle tasks : procurement, storage and distribution of goods. The trading objects are goods, namely physical products. The terms service companies, brokers or agents are used when non-physical products are involved. The actual manufacturing of products does not belong to the task scope of retailing; in this case, the term industry company would be used. However, there are companies that perform functions beyond retailing in the functional sense (procurement, storage and distribution). Similarly, there are retailing companies that do not perform certain retailing tasks in the functional sense. An example of the former is retailer entering service business, examples of the latter are the third-party business and the pooled payment business. Merchandising thus covers the goods-oriented planning tasks, the logistical and the billing-related tasks that a retailing company needs to perform. The merchandise Management System is the information system that supports and controls the goods-oriented planning tasks, the logistical and the billing-related tasks of a retailing company using value and quantity goods transaction data. When we consider the central tasks of retailing in more detail, we can identify the merchandise management sub task as below :

### **Contracting**

Contracting makes the basic procurement decision and updates the relevant base data. Central tasks are determining the suppliers with which the retailing company will enter a business relationship, determining the goods to be obtained from these suppliers, negotiating the price and conditions framework for these goods (often in annual meeting) and possibly determining the value and quantity contracts or delivery schedules.

## **Purchasing**

Purchasing involves the placing of orders by determining the quadruple : supplier, article, quantity, time. It also includes as subtasks, the limit calculation, the requirements calculation, the purchase order quantity calculation, the stock allocation, the order transfare and the order monitoring.

## **Good Receipt**

Good receipt is the quantity related logistical equivalent to the purchasing order. The goods receipt must be planned; this requires notifying the supplier so that a ramp of assignment planning can be performed. Goods acceptance, sometimes also without having been ordered, and good control, both quantitative and qualitative, i.e, related to the state of the goods, follow. The goods receipt also covers the physical goods storage, the recording the goods receipt and the updating of the goods inventory, and possibly also the handling of returns to supplier. The administration of reusable packaging and goods on deposit are also tasks of the good receipt.

## **Invoice verification**

The value equivalent to the goods receipt are the invoice arrival and the invoice verification with the subtasks : invoice acquisition, invoice checking, invoice release, subsequent invoice processing and processing of seusequent conditions. On the one hand, the invoiced quantities must be compared with the order (the request to deliver), the delivery note (the delivered quantity from supplier's view point) and on the other hand, the invoiced values must be compared with the price and conditions scheme.

## **Creditor accounting**

The major task of the creditor accounting is handling payments, i.e, the payment for the open items resulting from the supplier's invoice. This requires updating the creditor master data. Unless the invoice is passed automatically from the invoice verification, an entry is made for the invoice (e,g material cost entry). Credit notes and subsequent billings may need to be booked. The payment can take place with an automatic payment run or through manual payment. If the creditor is also a debtor (e.g, for subsequent payments), the creditor accounting may also include reminder notices and interest calculation tasks.

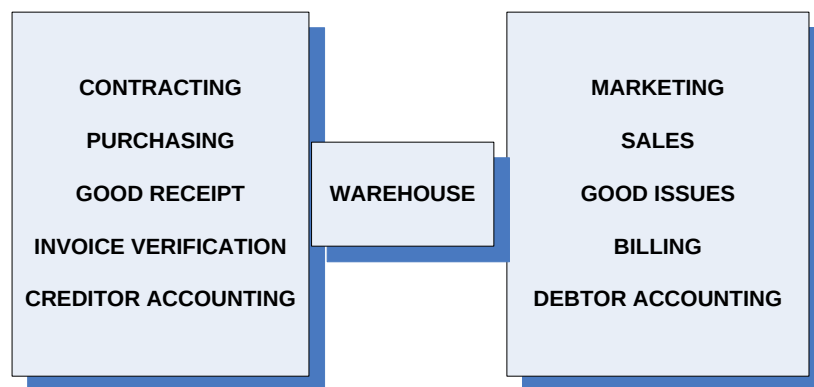


Figure 2 : Retailing H Structure

#### 2.1.4 Application Modules

The applications in R/3 are modules designed to tap the company's performance potential. The link operational steps to forge automated workflow chain, control the

flow of information from one department to another and connect the company with its customer and suppliers. Process-oriented operations increase productivity. Because R/3 process connects that belong together, every employee has fast, convenient access to all required information on the spot. Information is up-to-the minute and consistent. The integrate nature of the workflow management gives your staff a new understanding of the work environment. A team orientation replaces departmental thinking and strengthens individual initiative and motivation. (Leon,2000).

### **2.1.5 ASAP Project Management**

SAP implementation is the group of processes that define a complete method to implement SAP software in an organization. The two methodologies to implement SAP are conventional and ASAP. Conventional methodology also known as SAP Procedure Model was widely used initially. In recent past year SAP Procedure Model has been over shadowed by the ASAP methodology as implementations with later methodology are fast and provide flexibility. (Bhagwani, 2009). Most of the companies implementing SAP systems using ASAP methodology with the exception of very large companies with revenues in billion dollars. There fore in this project ASAP is used as the reference methodology.

In 1996, SAP AG introduced the ASAP (Accelerated SAP) methodology. This methodology provides an excellent tool for small and midsize companies to rapidly implement SAP and take advantage of its integrated bussiness processes. ASAP provides content, tools, and expertise based on thousands of successful implementations by SAP and its partners. The ASAP methodology consists of a roadmap that defines the five phases of SAP implementation process and supports these with a comprehensive project plan.

### ASAP IMPLEMENTATION ROADMAP



Figure 4 : SAP ASAP Roadmap Methodology

**Phase 1 : Project Preparation** – This provides initial planning and preparation for the implementation which includes project plan, project scope, and project team organization. In this phase the initiation of the SAP project, which includes the overall goals, detailed task plans, and processes is formally announced to the company. Main activities in the project preparation phase include a Kickoff meeting and Project team standard meeting which include the following tasks : define project mission, identify specific company objectives, identify business measurements and document the implementation goals, develop the change charter, assemble project charter components, approve project charter, kickoff meeting.

**Phase 2 : Business Blueprint** – In this phase the scope of the implementation are documented and defined and the business blueprint is created. The business blueprint is a detailed documentation of the company's requirements. Application consultants and the business process teams achieve a common understanding of how the enterprise intends to run its business within SAP systems, by carrying out

requirements-gathering workshop. The business blue print is created by detailed documentation of the results gathered during these requirements workshops. Furthermore, the business blueprint serves to document the business process requirements of the company. On this basis, a common understanding of how the company intends to run their business within the R/3 systems is achieved.

**Project 3 : Relalization** - In this phase, all business and process requirements gathered in the business blueprint are implemented. System configuration is done step by step in two work packages, baseline and final configuration. The consultants validate and update the configuration and demonstrate processes. The project team updates the work instructions (business process procedures, for example) and performs unit and integration tests.

**Phase 4 : Final Preparation** – In this phase, testing and end user training is completed with system management cutover activities to finalize the readiness to go live. Furthermore, the final preparation phase serves to resolve all critical open issues. Upon successful completion of this phase, you will be ready to run your business in your live SAP system.

**Phase 5 : Go Live and Support** – This phase achieves the transition a project oriented, pre-production environment to successful and live production operation. The going-live and support phase consists of two distinct sub phases. First, the project is productively in day-to-day operations, all issues and problems are resolved, transition to the production support team is finalized, knowledge transfer is completed, and project is sign off. Subsequently, the continuous improvement sub phase begins during which the production support team provides on-going support and assistance for post go-live. It covers solutions for those activities which are standard in a productive

environment : business changes, technology changes, or change in the user community.

## **CRITICAL SUCCESS FACTORS IN SAP IMPLEMENTATION**

Critical Success Factor are the limited number of areas in which results will ensure successful competitive performance. There is a plethora of research and data available for critical success factors contributing to a successful SAP implementation. Rockart (1979) was first to apply CSFs to SAP implementations. Since then Bancroft and Seip (1996); Clemons (1998) Holland et.al, (1999); Kale (2000); Par et.al.(1999); Sumner (1999); Nah et al (2001) ; Gargeya and Brady (2005) have presented studies on CSFs related to SAP implementations. The above mentioned literature was studied and CSF model for SAP implementation by Esteves and Pastor (2000). This model is explained in detail below based on organizational and technological perspective along the ASAP phases.

### **3 Organizational Perspective**

**4 Sustained Management Support.** Various studies on SAP implementations have shown that for any SAP implementation to succeed sustained support from top management is critical. An organization goes through a major transformation during SAP implementation, and the management of this change must be carefully planned (from a strategic viewpoint) and meticulously implemented. Sustained management support is more relevant at the beginning and at the end of the implementation. The reason is that at the beginning senior management should help in the rollout of the project, analyze the business benefits, define the mission and scope of the project and

provide the resources needed for the project. At the end, there is the need to encourage the system usage and help in the commitment of user involvement. The role of management to resolve conflicts and bring everybody to the same thinking, and to build cooperation among the diverse groups in the organization, often times across the national borders in case of companies having divisions in various countries should not be underestimated.

- 5     **Good project scope management.** Poorly defined specifications and lack of change control procedures are one of the prime causes of SAP project failure. Project scope management is more relevant at the beginning when managers define the scope and in the last two phases because the scope is usually revised and changed. Senior management must ensure project scope changes are managed and documented in a formal manner. This includes, but is not limited to, delays in the schedule or requests for additional money.
  
- 6     **Effective organizational change management and business process engineering.** Any organization implementing SAP software must consider the organizational, human resource and business process issues associated with an implementation. Whether implementing specific components or wall-to-wall functionality, it is certain that implementation will result in changes to some or all processes and potentially changes to job roles, responsibility, departmental boundaries, and organizational structure. Any initiative which requires or brings about change carries with it a risk that the change will not be accepted by the organization (for a variety of reasons) and as a result will prevent full realization of the planned benefits. Organizational change management and Business process reengineering are more relevant in the second phase. In this

phase the business blueprint is defined, and the business processes are documented. There is the need to understand how the organization intends to run its business within the SAP systems and the changes in the organization.

- 7 **Project team composition.** A typical SAP implementation team consists of Project Manager, Project Leads, and SAP consultants (number depends on number and size of modules being implemented, typically one to two consultants per module being implemented for a midsize company), technical team, and testing team. Project team composition is more relevant in the first phase because it is when the project team is established, although it can be re-structured along the implementation phases and according to the implementation needs.
  
- 8 **User involvement and testing** is reported as one of the most important CSF in SAP implementation by Bancroft et.al. (1996), Sharma & Godla (1999) ; Esteves & Pastor (2000) ; Kale (2000) ; Nah et.al (2001). User involvement is relevant in the phases where their know-how is important to achieve a good customization of the system to organizational needs. They participate in the defining of business requirements, help in the analysis of the SAP configuration and in conversion of data and testing of the system. Baronas and Louis stated that "by involving end-users in decisions relating to implementation, workers may become more invested in the success of the implementation and more satisfied with the system through the social-psychological mechanism of perceived control." Testing can be done by users or by a quality assurance team depending on the set up at the company.

- 9     **Project champion role** is the role of project sponsor and/or project manager. The project sponsor is devoted to promoting the SAP project and has the ownership and responsibility to obtain the project resources; the project manager is required to plan, lead and control the project on the run in its several tasks. The project champion role is relevant in all phases. It is less relevant in the third phase than in the others because this phase is dedicated to configuration tasks and here the role of the champion is to guarantee that everything goes according to the plan.
  
- 10    **Trust between partners.** During SAP implementation different parties involved are the client or the company implementing the SAP system, and the implementation which brings the SAP implementation knowledge (e.g., IBM, Accenture, Deloitte, etc) and, in some cases, some independent consultants. It is very important that trust is maintained between them through the implementation. Although it is more relevant at the beginning when all the stakeholders involved in the project should share their goals and knowledge and at the end when they have to analyze and again share their knowledge to finish the project with success.
  
- 11    **Strong communication inwards and outwards.** One of the reason behind SAP implementation failure is poor communication between the team members. Poor communication may include failure to announce the reason for the up and coming effort, and continuing to advise the organization of the progress and importance of the SAP implementation to the company. Poor communications prevent different parts of the organization from assessing how they will be impacted by changes in processes, policies, and procedures.

Communication is more relevant in the first two phases where there is a strong need of communication between senior management and the project team in the definition of project plan and scope, and in the final phase where there is the need of strong communication with the whole organization to start the go & live of the SAP system.

- 12     **Formalized plan and schedule.** Good planning and scheduling is the key to a successful SAP implementation. Planning starts with the feasibility study, identifying the goals and planning, an approach to implementation which includes software, hardware, and personnel. Scheduling is very important to be able to finish the implementation within a certain time frame without going out of the scope of the planned project. Also, scheduling can be used as a good monitoring tool to quantify the progress of the implementation. Planning and scheduling relevance decrease during the implementation project. A good project plan will ensure better monitoring and coordination of activities during the whole implementation phase.
  
- 13     **Adequate training program.** End users training is necessary to make sure business ownership is within business units, not the technology team. Some of the companies train the employees from within the company on SAP software. They do that to manage the systems themselves after the implementation partner has left. A training program becomes more relevant in final preparation phase because it is here where the training program of end users starts, but in the initial phases there are also training concerns related to project team training and to prepare end users.

- 14 **Preventive troubleshooting**, although not a very exciting part of implementation is important. Tracking and fixing problems before they go into production can save a lot of time and money. Preventive troubleshooting is more relevant in the last phases, especially in the fourth phase during which issues arise when the system is being tested.
- 15 **Usage of appropriate consultants** is important since the consultants should be well versed in the SAP modules being implemented and have knowledge/work experience in the industry in which company operates. This prevents costly mistakes from occurring which could have been avoided otherwise. This CSF is relevant especially in the first phase where managers have to decide the how and when, and the number of consultant that they will incorporate in the project team.
- 16 **Empowered decision makers** include a group of people with business and technical knowledge at an expert level. This group of people may be senior level project members from within the company or from the implementation partner. In real world situations, most companies expect that their provider will proactively suggest best practices based on what they've learned from projects with other clients. Empowered decision making is more relevant in the middle phases because there is the need to quickly decide things and thus accomplish project plan/schedule on time.
- 17 **Adequate SAP implementation strategy**. A good implementation strategy is required for a successful implementation. A poor implementation strategy will not result in higher implementation cost but may lead to a product that can break the company processes. Implementation strategy is more relevant in the

first phase because it is in this phase that the SAP implementation strategy should be decided.

## **18 Technology Perspective**

19 **Avoid customization.** SAP AG provides products that are industry specific and this eliminates the need for costly customization most of the time. These products are tested working solutions which are industry specific. Customization or any changes to the customized product is not supported by SAP AG. Avoiding customization has the same relevance along all the phases. Customization should always be taken into account when managers are making decisions.

20 **Adequate SAP Version.** As the new version comes out, SAP AG stops supporting the older version after certain period of time. Selection of SAP software version is very critical as a company may not want to select an older version which won't be supported by SAP AG or jump into a latest version which has not been tested in the market thoroughly. Adequate SAP version has the same relevance in all the phases. From the beginning until the end of the project implementation, SAP AG recommends that the project team follow the upgrade of SAP software releases and should consider the adoption of new ones.

21 **Adequate software configuration.** Software configuration should be geared towards creating a seamless and integrated value chain. This is more relevant in phase three, when the SAP system is configured and more than 8,000 tables

must be parameterized. The software configuration should follow the business requirements defined in the previous phase.

- 22     **Adequate legacy systems knowledge** is less relevant at the first phase because this phase is related to the preparation of project implementation. In the next phases the need of knowledge of legacy systems is more relevant in order to minimize the effort of configuration and help in conversion of data and the creation of interfaces.

23

### 23.1 IS Success Measurement

Since SAP Systems are considered an innovative information system, previous research on user acceptance models for Information System (IS) can be helpful to understand the success of SAP system adoption. This research deal with two prevalent models related to IS acceptance, which are The Technology Acceptance Model and DeLone & McLean (D&S) IS success model. In addition, the fundamental of he project management discipline are reviewed for identifying the factors affecting SAP implementation project.

### 23.1.1 Technology Acceptance Model (TAM)

With growing technology needs in 1970's, and increasing failures of systems adoption in organizations, predicting system use became an area of interest for many researchers. In 1985, Davis proposed the Technology Acceptance Model (TAM). He proposed that system used is a response that can be explained or predicted by user motivation, which in turn, is directly influenced by an external stimulus consisting of the actual system's features and capabilities. Based on Theory Reaction Action (TRA) which was formulated by Fishbein and Ajzen (1975) Davis refined his theory. In his proposal Davis suggested that user's motivation can be explained by three factors : *Perceived of Use, Perceived Usefulness, and Attitude Toward Using* the system.

Later development of TAM would include behavioral as a new variable that would be directly influenced by the perceived usefulness of a system. Davis et al. (1989) suggested that there would be cases when, given a system which was perceived useful, an individual might form a strong behavioral intention to use system without forming any attitude, thus giving rise to a modified version of the TAM model as illustrated in Figure 5.

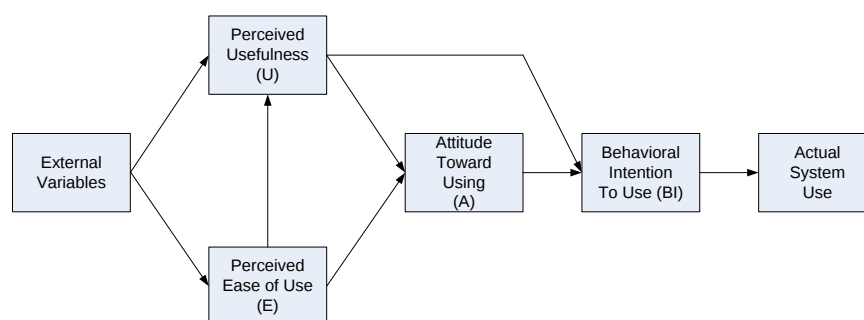


Figure 5 : First modified version of TAM (Davis, Bagozzi and Warshaw, 1989)

Davis, Bagozzi and Warshaw (1989) used the above model to conduct a longitudinal research and finally finding that both perceived usefulness and perceived ease of use

were found to have a direct influence on behavioral intention, thus eliminating the need for the attitude construct from the model shown in figure :XX

One of the important extensions brought to TAM is by Vekantesh and Davis (2000) who proposed the TAM2 model shown in Figure 6. Vekantesh and Davis identified that TAM had some limitations in explaining the reason for which a person would perceive a give system useful, and so they proposed that additional variables could added as antecedents to the perceived usefulness variable in TAM. They called this model, the TAM 2 model. Vekantesh and Davis were also interested in evaluating the performance of TAM 2 in a mandatory setting. Hence, they conducted a field study with 156 knowledge workers, who used four different systems, two of which were for voluntary use, and the other two were mandatory. The study also collected user perceptions and self-reported use at three points in time : pre-implementation, one month post-implementation, and three months post-implementation.

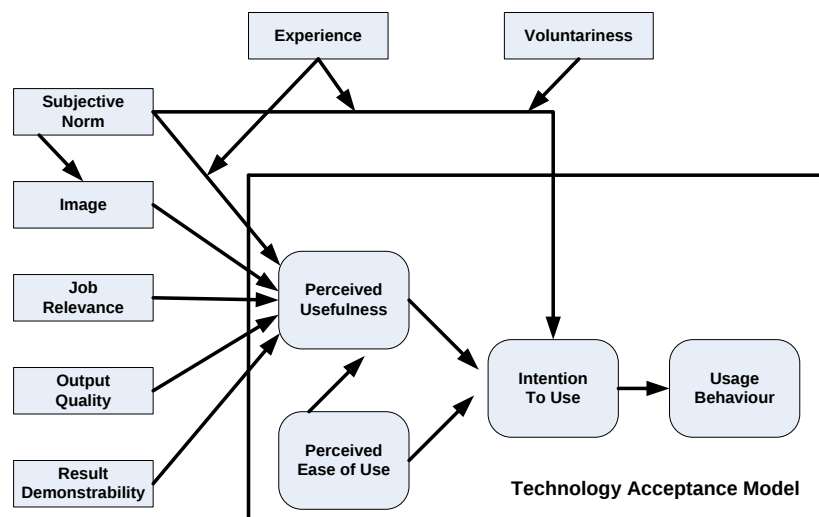


Figure 6 : TAM 2 (Vekantesh and Davis,2000)

Using the TAM2 model Vekantesh and Davis were able to provide more detailed explanations for the reasons participants found a given system useful. Their results

also indicated that TAM2 performed well in both voluntary and mandatory environments with the exception that subjective norm had no effect in voluntary settings but did in mandatory settings.

### 23.1.2 DeLone & McLean IS Success Model

The information systems success model which was introduced by DeLone and McLean (1992) is among the most influential theories in predicting and explaining system use, user satisfaction, and IS success (Halawi, McCarthy, & Aronson, 2008 ; Guimaraes, Armstrong, & Jones 2009). In recognition of the importance in defining the IS dependent variable and IS success measures, DeLone and McLean proposed a taxonomy and an interactive model as a framework for organizing the concept of IS success. The base ISS model consists of six constructs or dimensions : (1) system quality, (2) information quality, (3) system use, (4) user satisfaction, (5) individual impact and (6) organizational impact. DeLone and McLean (1992) suggested these six dimensions of success are interrelated rather than independent. Figure : 7.

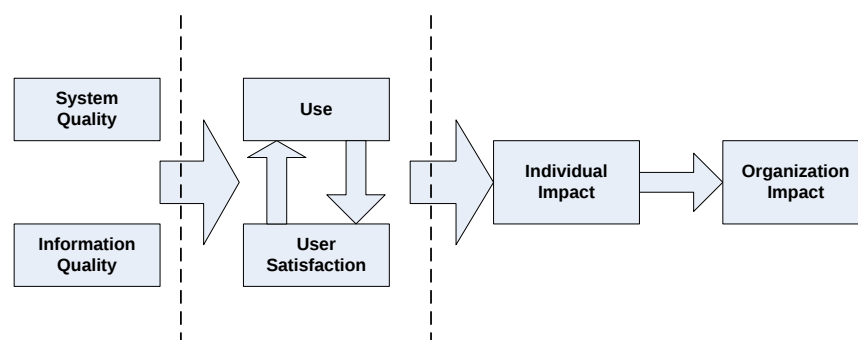


Figure 7 : DeLone & McLean IS Success Model

System quality and information quality separately and jointly affect both use and user satisfaction. Additionally, the amount of use can affect the degree of user satisfaction – positively or negatively – and vice versa. Use and user satisfaction are direct

antecedents of individual impact; and lastly, individual performance should eventually have some organizational impact. DeLone and McLean (2003) proposed and updated ISS model and evaluated its usefulness in light of the dramatic changes in IS practices, especially the emergence and consequent explosive growth of web-based applications. Based on prior studies, the ISS model was updated by adding "service quality" measures as a new dimension and by grouping all the "impact" measures into a single impact or benefit construct called "net benefit" (DeLone and McLean, 2003). Thus, the updated model consist of six dimensions : (1) information quality, (2) system quality, (3) service quality, (4) use/intention to use, (5) user satisfaction, and (6) net benefit as can be see from Figure : 8.

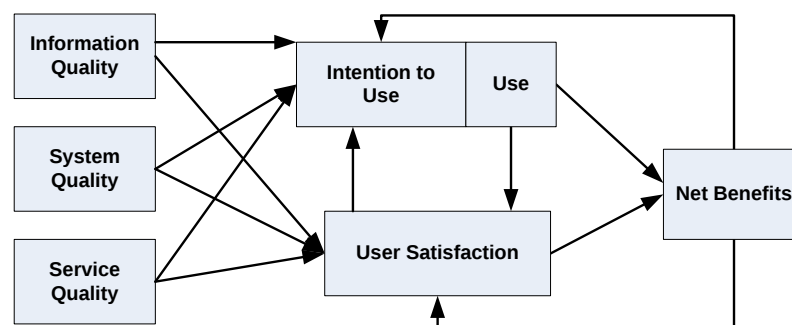


Figure 8 : Updated D&M IS Success Model (DeLone nd McLean 2003)

The choice of where the impacts should be measured, from individuals to national economics accounts, will depend on the systems and their purposes. DeLone and McLean grouped all the "impact" measures into a single impact category called "net benefits" rather than complicate the model with more success measures for the shake of parsimony.

## CHAPTER 3

### RESEARCH METHODOLOGY

Research is a process of collecting, analyzing and interpreting information to answer questions. But to qualify as a research, the process must have certain characteristics : it must, as far as possible, be controlled, rigorous, systematic, valid and verifiable, empirical and critical. There are several steps in reserach process such as formulating the research problem, extensive literature review, developing the objectives, preparing the research design including sample design, collecting the data, analysis of data, generalisation and interpretation and prepare of the report.

#### 3.1 Data Collection

##### 3.1.1 Population

Research population consist of retail industry in Indonesia who has been implementing SAP. Population including all retail industry sector such as Department store, Chain store, Specialty store, Concept store, Supermarket with representatives of several concept such as Fashion, Life Style, Sports, Leisure, Food and Bavarage, Book store, etc. Based on SAP Indonesia and Association of retail Indonesia (APRINDO) at least there are 30 retail companies who has been using SAP.

##### 3.1.2 Sampling

This research will apply sampling model which represent employees from retail industry who has been using SAP. In determining number of sampling will be based on Solvin model, with formula

$$n = \frac{N}{1 + N^e}$$

in which n=number of sample, N=number of population and e =Tolerate margin of error

Research sampling structure for retail industry can be seen on Figure. 9

### 3.1.3 Instrument

Questionnaire is being use as a research instrument. It measured based on Likert scale. It will distribute to respondent from sampling. Likert scale will consist of five criteria i.e : Strongly Disagreed, Disagreed, Neutral, Agreed, Strongly Agreed.

### 3.2 Framework

Research aiming to reveal the factors which suspected in trigerring success and failure of SAP usage and implementation in retail industry. It is begin by collecting the data through questionnaire methode. Data collection result is being process and analys. Analys will be approach based on theoritical framework.

- Technology Acceptance Model to analyses SAP user response
- DeLone & McLean Model to analyses SAP success factor
- Project Management to analyses SAP-ASAP implementation

Research frame work can be see on Figure 10.

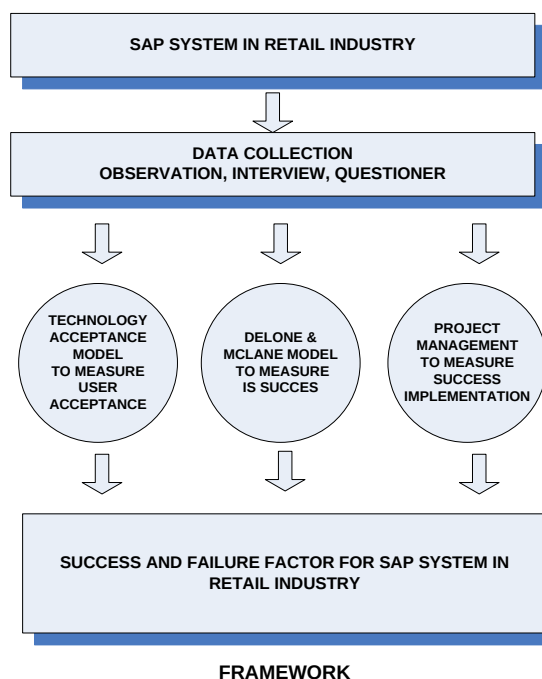


Figure 10 : Research framework.

### 3.3 Research Structure Model

Structure model being applied to the research are consist of Technology Acceptance Model, DeLone & McLean Model and Project management. Research structure model can be see on Figure 11.

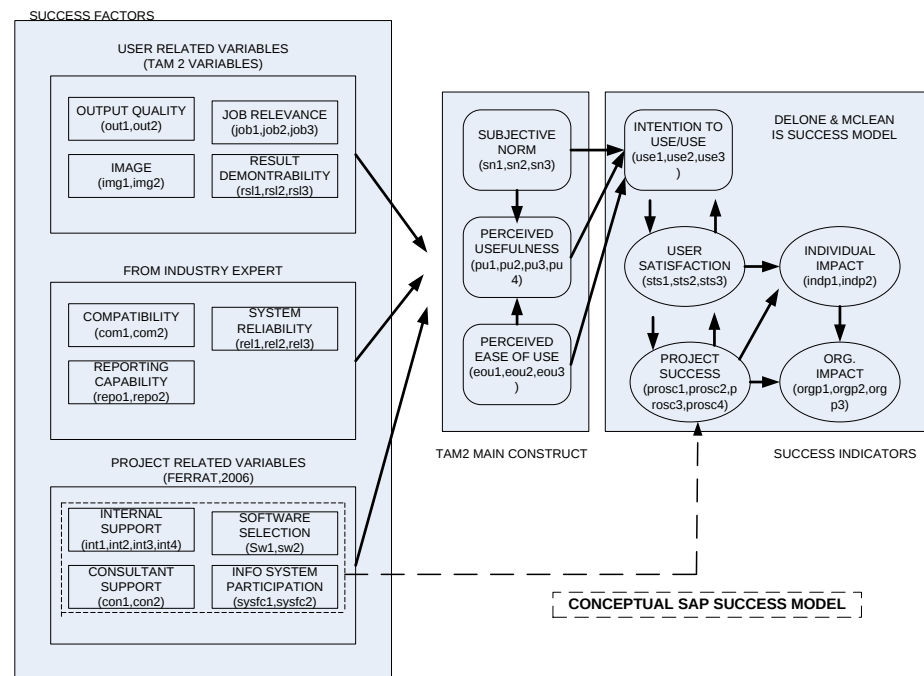


Figure 11: Conceptual SAP Success Model

### 3.4 Survey Items

3.5 In order to achieved the result, all variable will be examined. It based on the above structure model. Variables derives from questionnaire. There will be two group of variables that has influential relationship correlation, i.e success factors and success indicators are being examide. Seven variables related with user and four variable derived from TAM2 (output quality, job relevance, image, and result demonstrability). Meanwhile three variables from indeustry experts (compatibility, system reliability, and reporting capability). Rest variable related with Project management (internal support, software selection, consultant support and information system area participation). All variable being examined with hyphotesis test in order to prove relation amongst variables.

### 3.5.1 Success Factors

### 3.5.2 Success Indicators

## 3.6 Hypothesis

Hypothesis is an assumption or concession made for the shake of argument, also known as an interpretation of a practical situation or condition taken as the ground for action. Basically is just a tentative assumption made in order to draw out and test its logical or empirical consequences.

Here is the way a typical set of hypotheses are written:

$H_o: m_1 = m_2$  (The population means of the two groups are the same.)

$H_a: m_1 \neq m_2$  (The population means of the two groups are different.)

These particular hypotheses are for a two-sample t-test. The mathematical form of the null hypothesis is  $m_1 = m_2$ ). It is also common to express the null hypothesis in words, as shown above.

The alternative hypothesis is usually what the investigator wants to show or suspects is true. The alternative in the example above is called a two-tailed alternative (also called a two-sided alternative.)

Below is hypothesis based on survey items :

### Success factors related with user related variables (TAM2 variable)

1.  $H_o$  = There is no relation between output quality with perceived usefulness

$H_a$  = There is relation between output quality with perceived usefulness

2.  $H_o$  = There is no relation between job relevance with perceived usefulness

$H_a$  = There is relation between job relevance with perceived usefulness

3.  $H_o$  = There is no relation between image with perceived usefulness

$H_a$  = There is relation between image with perceived usefulness

4.  $H_o$  = There is no relation between result demonstrability with perceived usefulness

$H_a$  = There is relation between result demonstrability with perceived usefulness

#### **Success factors related with industry expert**

5.  $H_o$  = There is no relation between compatibility with perceived usefulness

$H_a$  = There is relation between compatibility with perceived usefulness

6.  $H_o$  = There is no relation between system reliability with perceived usefulness

$H_a$  = There is relation between system reliability with perceived usefulness

7.  $H_o$  = There is no relation between reporting capability with perceived usefulness

$H_a$  = There is relation between reporting capability with perceived usefulness

#### **Intermediary Variable (TAM2 Construct)**

8.  $H_o$  = There is no relation between subjective norm with perceived usefulness

$H_a$  = There is relation between subjective norm with perceived usefulness

9.  $H_o$  = There is no relation between perceived ease of use with perceived usefulness

$H_a$  = There is relation between perceived ease of use with perceived usefulness

10.  $H_o$  = There is no relation between subjective norm with intention to use/use

$H_a$  = There is relation between subjective norm with intention to use/use

11.  $H_o$  = There is no relation between perceived ease of use with intention to use/use

$H_a$  = There is rel. between perceived ease of use with intention to use/use

#### **Success Indicator Variable**

12.  $H_o$  = There is no rel. between intention to use/use with user satisfaction

$H_a$  = There is relation between intenton to use/use with user satisfaction

13.  $H_o$  = There is no relation between user satisfaction with project success

$H_a$  = There is relation between user satisfaction with project success

14.  $H_o$  = There is no relation between user satisfaction with individual impact

$H_a$  = There is relation between user satisfaction with individual impact

#### **Final Variable**

15.  $H_o$  = There is no relation between ind. impact with organization impact

$H_a$  = There is relation between individual impact with organization impact

16.  $H_o$  = There is no rel.between project success with organization impact

$H_a$  = There is relation between project success with organization impact

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## **Appendix A**

### **Item in the survey instrument**

Below is the item in the survey instrument. Response choices – 5 point scale from strongly disagree to strongly agree.

#### **SUCCESS FACTORS**

##### **User Related Variables**

##### **Output Quality**

**Output1** : The quality of the output I get from the SAP system is high.

**Output2** : I have no problem with the quality of the SAP system's output.

##### **Job Relevance**

**Job1** : In my job, usage of the SAP system is important

**Job2** : In my job, usage of the SAP system is relevant.

**Job3** : I have access to the SAP system, but I prefer to use non-SAP tools.

##### **Image**

**Image1** : People in my organization who use the SAP system have more prestige than those who do not.

**Image2** : People in my organization who use the SAP system have a high profile.

##### **Result Demonstrability**

**Result1** : I have no difficulty telling others about the results of using the SAP system.

**Result2** : I believe I could communicate to others the consequences of using the SAP system.

**Result3** : I would have difficulty explaining why using the SAP system may or may not be beneficial.

##### **Compatibility**

**Compa1** : I have no difficulty in exporting data from the SAP system to other systems or software I currently use.

**Compa2** : I have no difficulty in importing data to the SAP system from other systems or software I currently use.

##### **System Reliability**

**Reliabl1** : I think the SAP system is very reliable.

**Reliabl2** : I don't worry about data loss when I use the SAP system.

**Reliab13** : I don't find system errors very often when I use the SAP system.

### **Reporting Capability**

**Report1** : The management reports from the SAP system are very useful.

**Report2** : The measurement reports (CSF/KPI) from the SAP system are very useful.

### **Project Related Variables.**

(Menyusul).....

### **Internal Support**

**Interna1** : Our top management supported SAP implementation project well.

**Interna2** : Training for the SAP system was very helpful for me to understand and use it.

**Interna3** : Someone asked me some questions and opinions related to the SAP systems during its implementation

### **Software**

**Software1**: The SAP system our company is using can support our business processes well.

**Software2**: The functionality of the SAP system our company is using is very good.

### **Consultant Support**

**Consult1**: I think consultants led us to a right direction during SAP implementation.

**Consult2**: I think consultants can help us to have a successful SAP implementation.

### **Information System Area Participation**

**Sysfun1**: The business function of the SAP system are well defined.

**Sysfun2**: The SAP system covers our necessary business functions very well.

### **Intermediate Variables**

#### **Subjective Norm**

**Sn1**: Others in my work group strongly support my using the SAP system.

**Sn2**: I would like very much to use the SAP system because others in my work group think I should use it.

**Sn3**: Senior management strongly supports my using the SAP system.

**Sn4:** I would like very much to use the SAP system because senior management thinks I should use it.

#### **Perceived Usefulness**

**Pu1:** Using the SAP system improves my performance.

**Pu2:** Using the SAP system improves my productivity.

**Pu3:** Using the SAP system improves my effectiveness.

**Pu4:** Overall, using the SAP system is very useful in my job.

#### **Perceived Ease of Use**

**Eou1:** I find the SAP system easy to use.

**Eou2:** I find it easy to get the SAP system to do what I want it to do.

**Eou3:** My interaction with the SAP system is clear and understandable.

#### **SUCCESS INDICATORS**

##### **Intention to Use/Use**

**Use1:** Assuming I have access to the SAP system, I intend to use it.

**Use2:** I have access to the parts of the SAP system when I need to do my job.

**Use3:** I heavily use the SAP system whenever I need it.

**Usehour:** About how many hours a week do you use the SAP system?

**Usefunc:** What are the three functions of the SAP system you use the most?

##### **User Satisfaction**

**Satis1:** I am very satisfied with Information quality of the SAP system

**Satis2:** I am very satisfied with performance of the SAP system.

**Satis3:** Overall, I am very satisfied with the SAP system.

##### **Individual Impact**

**Indimpa1:** With the SAP system, I don't need to do "repetitive work" again.

**Indimpa2:** The SAP system can help me make effective decisions.

##### **Organizational Impact**

**Orgimpa1:** With the SAP system, my organization saves operating costs.

**Orgimpa2:** With the Sap system, my organization increase revenues.

**Orgimpa3:** After SAP implementation, the stock price of my organization went up.

##### **Project Success**

**Prosucc1:** The SAP implementation project was completed on time.

**Prosucc2:** The SAP implementation project was completed within the budget as initially planned.

**Prosucc3:** I think the quality of our SAP system is very good.

**Prosucc4:** The scope of our SAP system is well matched with our company's needs.

#### **USER INFORMATION**

1. What is your company's name?
2. What is your company's main business retail area?
3. How many years have you been working for the industry in which you are currently active?
4. What is your position in the company?
5. What business functions are you currently involved in?
6. Does your company use full SAP packages ?

## CURRICULUM VITAE

|                                                                                   |                                                                        |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------|
|  | <b>Name</b> : Eko Hardi Suryantoro                                     |
|                                                                                   | <b>Date of Birth</b> : 21 Oktober 1960                                 |
|                                                                                   | <b>Address</b> : Permata Puri Laguna Blok A6/No.3<br>Cimanggis – Depok |
|                                                                                   | <b>Phone</b> : 021-87757161                                            |
|                                                                                   | <b>Mobile</b> : 081616 31266                                           |

### Formal Education :

- Elementry : SD PAYAMAN 2 – Nganjuk – East Java 1967 - 1972.
- Secondary : SMP Negeri 7 – Malang – East Java 1973 - 1975.
- High School : STM Penerbangan - Jakarta 1975 – 1979
- Diploma III : STMIK “BUDI – LUHUR “ Majoring : Management Information System 1984 - 1987
- Under Graduate (S1) : Islamic University “AS’SYAFIIYAH” Jakarta, Majoring Islamic Communication 2006 – 2007
- Graduate (S2) : Islamic University " AS'SYAFIIYAH" Jakarta, Majoring Islamic Communication 2009
- Doctoral (S3) : On going . UIN-Jakarta, Cocentrare on Islamic Studies - Jakarta (2nd Semester) 2011
- Graduate (S2) :On going. "BINUS UNIVERSITY", concentrate on "Information System Management", (Term 3), 2011

### Non Formal Education :

- IEC English Course, Jakarta 1980 – 1982
- Retail & Barcode System Training, Singapore, 1996
- Retail & Management Training, Royal Sporting House Kuala Lumpur – Malaysia, 1996
- Retail Information System Training, Malaysia, Oct 1996
- Retail Modeling & Methodology Training , Singapore, June 1997
- Information for Retail Training, Singapore, November 1999
- Training Management for Asia Region , Singapore 1999
- Implementing Retail Application , Philipine, Feb 2000
- Implementing System Retail Management , RSH Philipine, April 2000.
- Implementing Retail, Philipine July 2000
- Retail Training, Singapore, June 2001
- Implementing System Retail , India, June 2001.
- Training Retail, Singapore, November 2004

- Overview & Implementing project Retail, Bangkok, Thailand, Feb 2005
- Implementing project Retail, Bangkok, Thailand, March 2005

### **Carrier Path/Job Histories**

- 1987 : Software House - Programmer
- 1989 : PT.Bahana Tugu Mas - Programmer
- 1990 : PT. Softex , Programmer
- 1990 : PT Mitra Prima , Programmer
- 1991 : PT MAP, EDP Supervisor
- 1993 : PT.MAP, EDP Coordinator
- 1995 : PT.MAP , Assisten Manager MIS
- 1997 : PT.MAP,MIS Manager
- 2000 : PT.MAP , IT Head of Development
- 2002 : PT.MAP GROUP , IT Head of Asia Pacific
- 2004 : PT.MAP GROUP, IT Head of System Development Front End System POS
- 2004 : PT.MAP GROUP, QA Manager on SAP Retail Implementation
- 2005: PT.MAP GROUP, In charge of Head of IT Retail group MAP
- 2006 : PT.MAP GROUP , IT Division Manager covering (IT Services , Support and Operational Retail)
- 2007: PT.MAP GROUP, IT Special Task Force.
- 2010: PT MAP GROUP, IT Division Manager covering (IT Project Manager, IT Audit Manager)
- 2011: PT MAP GROUP, IT Division Manager covering (IT Project Manager, IT Operation Support Manager, IT QA Manager, IT Training Manager)

### **Skill Set & Specialties**

- Business Process Re-engineering (Retail industry, Garment Industry)
- SAP Functionalities (MM,SD,PP,FI,CO)
- Project Management
- Front End Application (POS)
- IT Quality Assurance

## CHAPTER 4

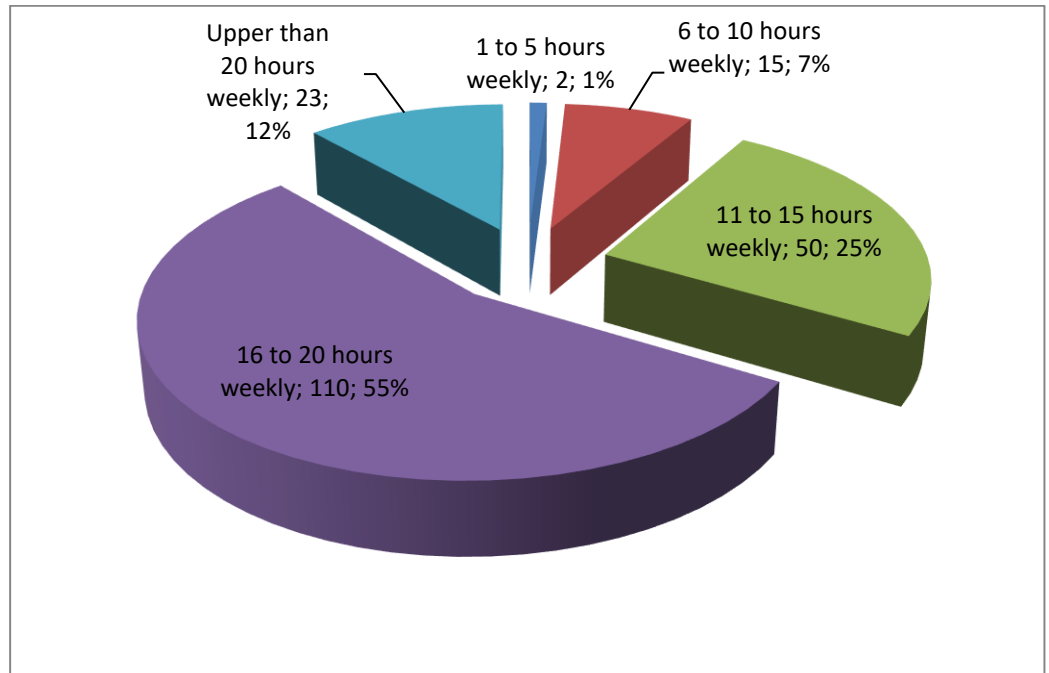
### RESEARCH FINDINGS AND ANALYSES

#### 4.1 DATA ANALYSES

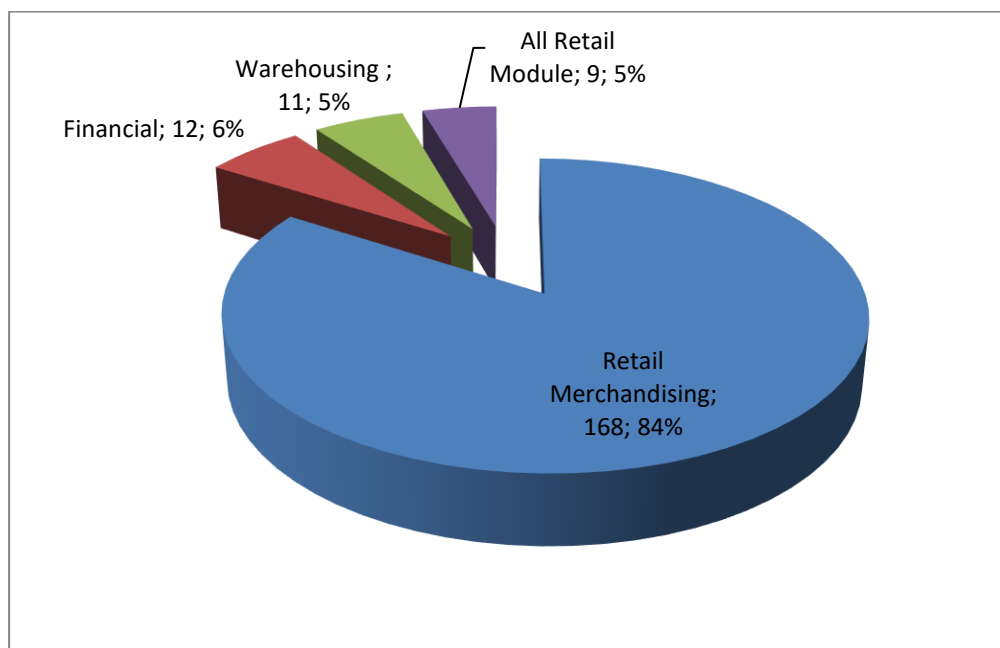
Relevant information was collected by survey company. Questionnaire has been distributed to all of respondent within the last three months from June 2012 to August 2012. Questionnaire hosted on <http://survey.globalstatistik.com> . Specific access given to responden who invited to give their opinion. Numbers of responden who joined was 200. The maximal ideal score was 1000. It was derived from  $200 \times 5$  (the highest score in questionnaire). Strongly Disagreed (1), Disagreed (2), Neutral (3), Agreed (4), Strongly Agreed (5)

Collected questionnaire data from responded then analyzed descriptively as below :

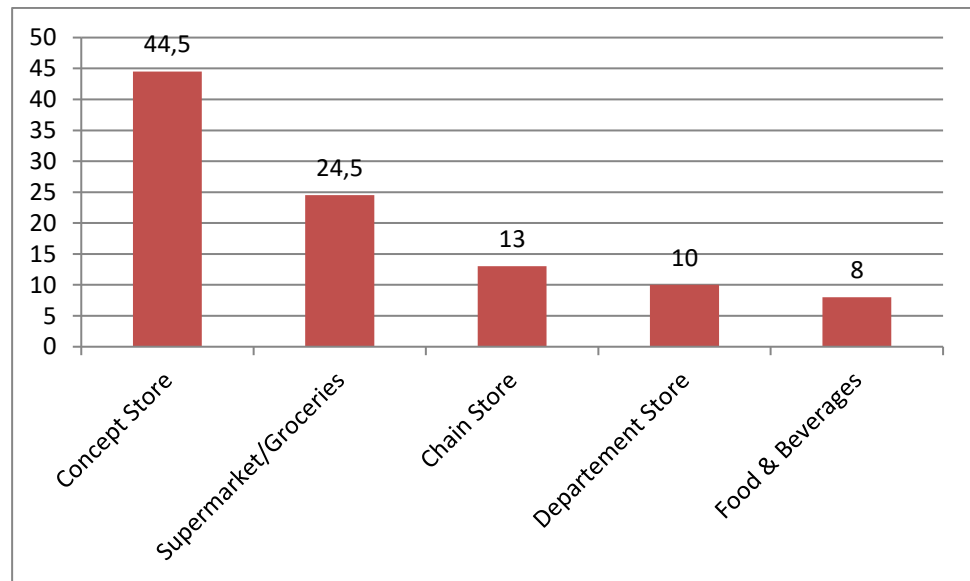
- SAP usage. 55% user is accessing SAP system in retail industry during 16 to 20 hours a week, 25% user is accessing SAP system for 11 to 15 hours a week, 12% user is accessing SAP system for more than 20 hours a week and 2% user is spending less than 5 hours per week. Complete chart as depicted on below  picture .X.X



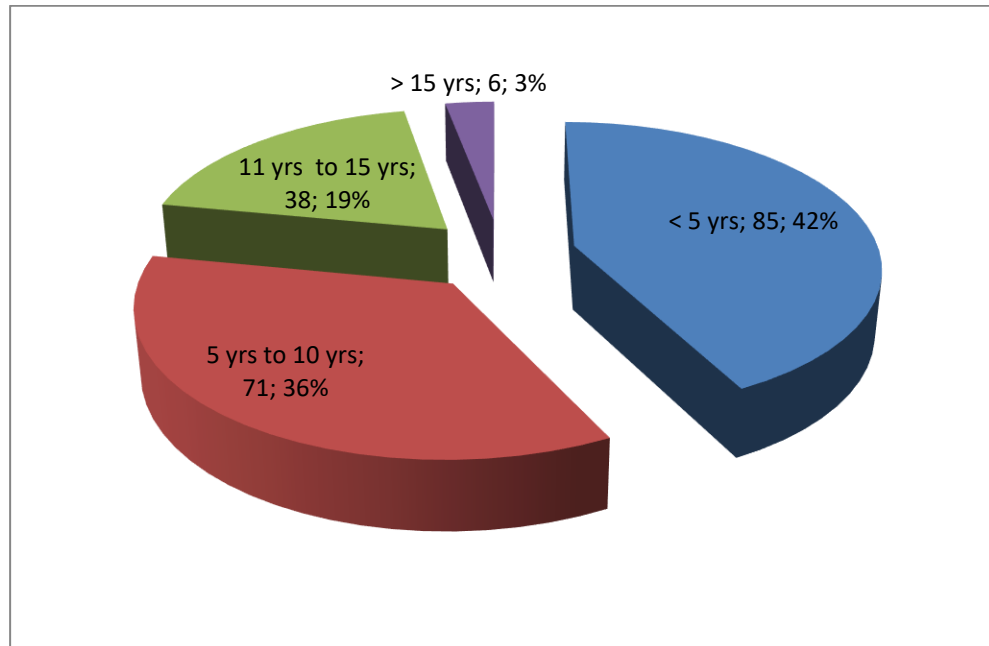
- On functionalities side. 84% retail industry using Retail Merchandising module, 6% using Financial module and 5% using Warehousing module. There are an organization that using complete SAP retail module with the number of 5%.



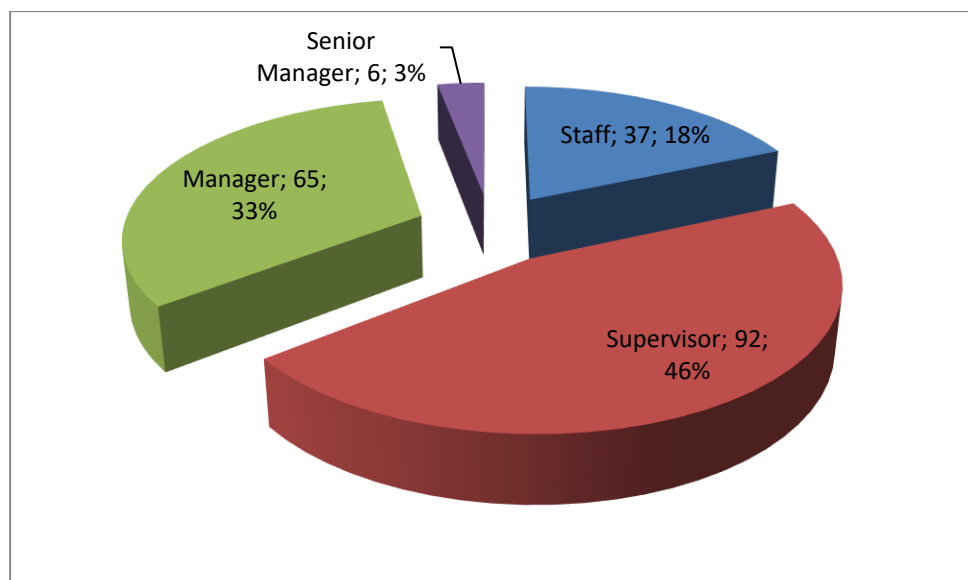
- Responden from retail industry who was participate in survey categorized as 44.5% from concept store, 24.5% from supermaket or groceries, 13% from chain store, 10% from Department store and 8% from Food & Bavarages industries.



- Years of experience of responden who work in retail industry and was joined survey can clustered as 42.5% have less than 5 years experience, 35.5% have experiences from 5 years to 10 years, 19% have experiences from 10 years to 15 years, and 3% have experience working more than 15 years in retail industry.

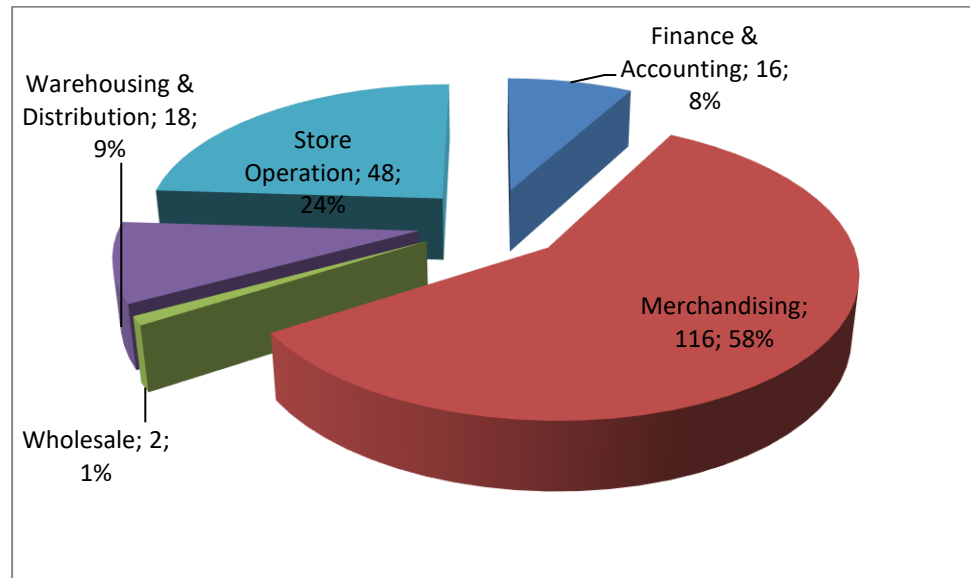


- Based on survey the responden position who was participated the survey grouped as 18.5% is staff, 46% is supervisor, 32.5% is manajer and 3% is senior manajer.

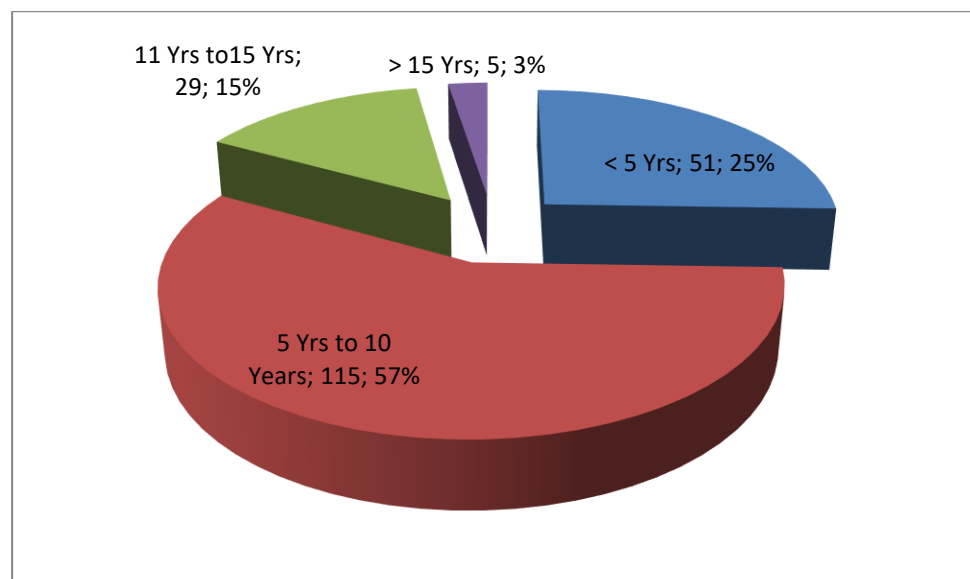


- From the Department perspectives, based on survey result, mostly repondent come from Merchandising Departmemt with 58%, followed by

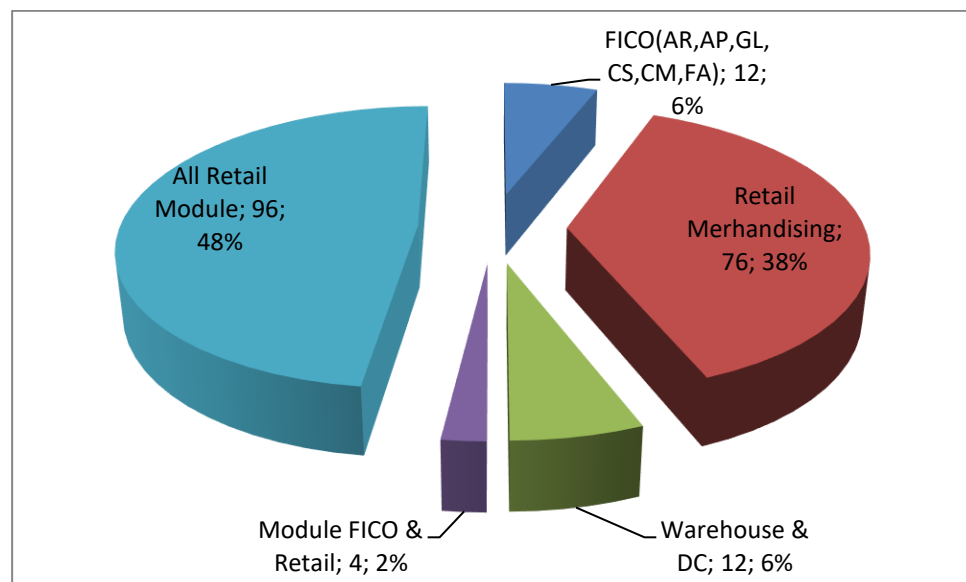
Store operation with 24%, Warehousing and Distribution 9% , Finance & Accounting 8% and Wholesales 1%.



- It is also can be identified years of SAP system implemented in an retail industries. Most organization has been implemented SAP system around 5 years to 10 years which is 57%, Less than 5 years is 25%, From 10 years to 15 years is 15%, and retail industry who implemented SAP System more than 15 years is 3 %.



- Finally from descriptive analytical data can be analyzed on SAP system module implementation. There are 3 modules in SAP system i.e : FICO, Retail Merchandising, Warehouse & DC. Based on survey data it can be see that most retail industries are implemented completed SAP system retail module with 48%, followed by Retail Merchandising module are 38%, 6% for module FICO and Warehousing and retail industries who implemented 2 modules FICO and Retail Merchandising is 2%.



## 4.2 VALIDITY AND RELIABILITY

### Instrument Validity Test.

Construct validity was used in this research. According to Jack.R.Fraenkel (Siregar 2010:163) construct validity is the most broad coverage compare with the others validity. This is due to a lot involvement of procedures. It was including content validity and criteria validity. Validity test was use corelation formula of product moment as on below :

$$r_{xy} = \frac{n(\sum XY) - (\sum X)(\sum Y)}{\sqrt{[n(\sum X^2) - (\sum X)^2][n(\sum Y^2) - (\sum Y)^2]}}$$

where:  $r_{xy}$  = correlation coefficient in each item

n = Number of subject

X = Item score

Y = Total score (Arikunto, 2005: 72)

Value of  $r$  being cross check with  $r_{tabel}$  ( $r_{critical}$ ) or using standard validity value

which is 0.3. In case  $r_{count}$  from the above formula greater than  $r_{tabel}$  or 0.3

means that the items was valid.

Complete result of test can be see on below detail explanation as below :

#### Validitas Summary and Reliability

| Question | R.Table | R.Count | Remark |
|----------|---------|---------|--------|
| P1       | 0.685   | 0.3     | Valid  |
| P2       | 0.613   | 0.3     | Valid  |
| P3       | 0.461   | 0.3     | Valid  |
| P4       | 0.639   | 0.3     | Valid  |
| P5       | 0.635   | 0.3     | Valid  |
| P6       | 0.591   | 0.3     | Valid  |
| P7       | 0.517   | 0.3     | Valid  |
| P8       | 0.618   | 0.3     | Valid  |
| P9       | 0.637   | 0.3     | Valid  |
| P10      | 0.618   | 0.3     | Valid  |
| P11      | 0.629   | 0.3     | Valid  |
| P12      | 0.438   | 0.3     | Valid  |
| P13      | 0.675   | 0.3     | Valid  |
| P14      | 0.643   | 0.3     | Valid  |
| P15      | 0.614   | 0.3     | Valid  |
| P16      | 0.748   | 0.3     | Valid  |
| P17      | 0.471   | 0.3     | Valid  |
| P18      | 0.677   | 0.3     | Valid  |
| P19      | 0.537   | 0.3     | Valid  |
| P20      | 0.699   | 0.3     | Valid  |

|     |       |     |       |
|-----|-------|-----|-------|
| P21 | 0.649 | 0.3 | Valid |
| P22 | 0.593 | 0.3 | Valid |
| P23 | 0.579 | 0.3 | Valid |
| P24 | 0.814 | 0.3 | Valid |
| P25 | 0.702 | 0.3 | Valid |
| P26 | 0.678 | 0.3 | Valid |
| P27 | 0.616 | 0.3 | Valid |
| P28 | 0.810 | 0.3 | Valid |
| P29 | 0.809 | 0.3 | Valid |
| P30 | 0.822 | 0.3 | Valid |
| P31 | 0.679 | 0.3 | Valid |
| P32 | 0.801 | 0.3 | Valid |
| P33 | 0.627 | 0.3 | Valid |
| P34 | 0.668 | 0.3 | Valid |
| P35 | 0.565 | 0.3 | Valid |
| P36 | 0.809 | 0.3 | Valid |
| P37 | 0.761 | 0.3 | Valid |
| P38 | 0.775 | 0.3 | Valid |
| P39 | 0.686 | 0.3 | Valid |
| P40 | 0.559 | 0.3 | Valid |
| P41 | 0.667 | 0.3 | Valid |
| P42 | 0.704 | 0.3 | Valid |
| P43 | 0.466 | 0.3 | Valid |
| P44 | 0.831 | 0.3 | Valid |
| P45 | 0.767 | 0.3 | Valid |
| P46 | 0.690 | 0.3 | Valid |
| P47 | 0.758 | 0.3 | Valid |
| P48 | 0.649 | 0.3 | Valid |
| P49 | 0.712 | 0.3 | Valid |
| P50 | 0.715 | 0.3 | Valid |
| P51 | 0.750 | 0.3 | Valid |
| P52 | 0.662 | 0.3 | Valid |
| P53 | 0.726 | 0.3 | Valid |
| P54 | 0.670 | 0.3 | Valid |
| P55 | 0.680 | 0.3 | Valid |
| P56 | 0.336 | 0.3 | Valid |
| P57 | 0.411 | 0.3 | Valid |
| P58 | 0.308 | 0.3 | Valid |
| P59 | 0.445 | 0.3 | Valid |
| P60 | 0.482 | 0.3 | Valid |
| P61 | 0.484 | 0.3 | Valid |

### Reliability

In conduct reliability test internal consistent test was used with *Alpha*

*Cronbach* formula as below :

$$r_{11} = \left[ \frac{k}{k-1} \right] \left[ 1 - \frac{\sum \sigma_b^2}{V_t^2} \right], \text{ (Arikunto, 1999: 193)}$$

Where:  $r_{11}$  = instrument reliability

k = number of question

$\sum \sigma_b^2$  = number variant per item

$V_t^2$  = total varian

Research instrument criteria is reliable when reliablity coefficient is ( $r_{11}$ ) > 0,6.

Summary of reliabilities test can be see on below table.

**Summary of Reliabilities**

| Variabel    | R.Tabel | R.Compute | Remark   |
|-------------|---------|-----------|----------|
| Variabel X1 | 0.873   | 0.6       | Reliabel |
| Variabel X2 | 0.840   | 0.6       | Reliabel |
| Variabel X3 | 0.899   | 0.6       | Reliabel |
| Variabel Y  | 0.935   | 0.6       | Reliabel |
| Variabel Z  | 0.929   | 0.6       | Reliabel |

### 4.3 Hyphotesis Test & Regression Analysis

Multiple regression analysis is the technique of developing predictive equations when there is more than one independent variable present. It is used to compute multiple correlations identifying the strength of relationship between several independent

variables and a single dependent variable. It should be noted that correlation does not imply causation. Although correlations can provide valuable clues with respect to causal relationships among variables, a high correlation between two variables does not represent adequate evidence that changing one variable may result from changes of other variables (George and Mallery 2007; Sirkin 1999).

In this research, there are four different dependent variables associated with identifying the ERP success : “Perceived Usefulness”, “Intention to Use / Use”, “Project Success”, and “ERP Benefits (Individual impact or Organization impact)”. This section investigates how the factors act together to affect these dependent variables and the relationships between these dependent variables by using multiple regression analysis.

Hypothesis test was conduct by analyzing significant of regression weight. Analyses was done to measure entire effect of variables that was give direct impact as well as indirect one variable to another. Significancy of regression weight based on below criterias :

- Incase  $p \text{ value} < \alpha 0,05$  hypothesis become 0 and  $H_0$  rejected. It means there is an impact between two variables statictically.
- Incase  $p \text{ value} > \alpha 0,05$  hypothesis become 0 and  $H_0$  accepted. It means there is no impact between two variables statictically.

Below is regression weight result :

**Tabel 4.**  
**Regression Weigh Result**

| <i>Path</i> | <i>Test #</i> | <i>Unstandardized<br/>beta</i> | <i>Standardized<br/>beta</i> | <i>P value</i> | <b>Decision</b>  |
|-------------|---------------|--------------------------------|------------------------------|----------------|------------------|
| OUT → PU    | 1             | 0.092                          | 0.136                        | 0.000          | Significance     |
| JOB → PU    | 2             | 0.093                          | 0.136                        | 0.000          | Significance     |
| IM → PU     | 3             | 0.073                          | 0.130                        | 0.000          | Significance     |
| RES → PU    | 4             | -0.125                         | -0.178                       | 0.000          | Significance     |
| COMP → PU   | 5             | 0.041                          | 0.055                        | 0.164          | Not Significance |
| REL → PU    | 6             | 0.147                          | 0.217                        | 0.000          | Significance     |
| RE → PU     | 7             | -0.164                         | -0.227                       | 0.000          | Significance     |
| INT → PU    | 8             | 0.272                          | 0.291                        | 0.000          | Significance     |
| CNS → PU    | 9             | -0.251                         | -0.335                       | 0.000          | Significance     |
| SYS → PU    | 10            | 0.113                          | 0.143                        | 0.000          | Significance     |
| SN → PU     | 11            | 0.396                          | 0.482                        | 0.000          | Significance     |
| EOU → PU    | 12            | -0.077                         | -0.105                       | 0.008          | Significance     |
| SN → USE    | 13            | 0.966                          | 1.298                        | 0.000          | Significance     |
| PU → USE    | 14            | 0.381                          | 0.420                        | 0.000          | Significance     |
| EOU → USE   | 15            | 0.685                          | 1.028                        | 0.000          | Significance     |
| USE → STS   | 16            | 1.538                          | 1.463                        | 0.000          | Significance     |
| STS → USE   | 17            | -1.390                         | -1.461                       | 0.000          | Significance     |
| STS → PRO   | 18            | 0.752                          | 0.628                        | 0.000          | Significance     |
| PRO → STS   | 19            | -.358                          | -0.429                       | 0.009          | Significance     |
| STS → IND   | 20            | 0.793                          | 0.737                        | 0.000          | Significance     |
| PRO → IND   | 21            | 0.061                          | 0.068                        | 0.202          | Not Significance |

|           |    |       |       |       |              |
|-----------|----|-------|-------|-------|--------------|
| PRO → ORG | 22 | 0.406 | 0.335 | 0.000 | Significance |
| IND → ORG | 23 | 0.744 | 0.552 | 0.000 | Significance |

Detail of hypothesis test result can be drawn in details as below :

### **Hypothesis Test 1 Output Quality Towards Perceived Usefulness**

H0 = There is no relation output quality with perceived usefulness.

H1 = There is relation output quality with perceived usefulness

Based on regression test proved that coefficient of OUT variable towards PU variable was positive with value of 0.136. Impact of OUT variable towards PU variable is statistically significance since 'p' value of OUT variable was  $0.000 < 0.005$ . Consequently H0 rejected and H1 accepted. It means that there was significance impact of output quality towards perceived usefulness. In measuring system output there was two question addressed. It indicated that user will perceive a system is useful by seeing qualified output.

### **Hypothesis Test 2 Job Relevance Towards Perceived Usefulness**

H0 = There is no relation job relevance with perceived usefulness

H1 = There is relation job relevance with perceived usefulness

Based on regression test proved that coefficient of JOB variable towards PU variable was positive with value of 0.136. Impact of JOB variable towards PU variable is statistically significance since 'p' value of OUT variable was  $0.000 < 0.005$ . Consequently H0 rejected and H1 accepted. It means that there was significance impact of job relevance towards perceived usefulness. At least there was three question addressed. Three question related with importance of SAP to assist job and relevance of SAP with job. Conclusion showing that user perception of system also

directed impacted by how far SAP was used by user in regards of assisting in their job.

### **Hypothesis Test 3 User Image Towards Perceived Usefulness**

H0 = There is no relation image with perceived usefulness

H1 = There is relation image with perceived usefulness

Based on regression test proved that coefficient of IM variable towards PU variable was positive with value of 0.130. Impact of IM variable towards PU variable is statistically significant since 'p' value of IM variable was  $0.000 < 0.005$ . Consequently H0 rejected and H1 accepted. It means that there was significant impact of user image towards perceived usefulness.

### **Hypothesis Test 4. Result Demonstrability Towards Perceived Usefulness.**

H0 = There is no relation result demonstrability with perceived usefulness

H1 = There is relation result demonstrability with perceived usefulness

Based on regression test proving that coefficient of RES variable towards PU variable was negative with value of -0.178. Impact of RES variable towards PU variable is statistically significant since 'p' value of RES variable was  $0.000 < 0.005$ . Consequently H0 rejected and H1 accepted. It means that there was significant impact of result demonstrability towards perceived usefulness.

### **Hypothesis Test 5. Compatibility Towards Perceived Usefulness.**

H0 = There is no relation compatibility with perceived usefulness

H1 = There is relation between compatibility with perceived usefulness

Based on regression test proving that coefficient of COMP variable towards PU variable was positive with value of 0.055. Impact of COMP variable towards PU

variable is statistically not significant since 'p' value of COMP variable was  $0.164 > 0.005$ . Consequently H0 accepted and H1 rejected. It means that there was no significant impact of system compatibility towards perceived usefulness.

#### **Hypothesis Test 6. System Reliability Towards Perceived Usefulness.**

H0 = There is no relation system reliability with perceived usefulness

H1 = There is relation between system reliability with perceived usefulness

Based on regression test proving that coefficient of REL variable towards PU variable was positive with value of 0.217. Impact of REL variable towards PU variable is statistically significant since p value of REL variable was  $0.000 < 0.05$ . Consequently H0 rejected and H1 accepted. It means that there was a significant impact of system reliability towards perceived usefulness. It can be understood that the system with high reliability will obviously increase perceived of usefulness.

#### **Hypothesis Test 7. Reporting Capability Towards Perceived Usefulness.**

H0 = There is no relation reporting capability with perceived usefulness

H1 = There is relation between reporting capability with perceived usefulness

Based on regression test proving that coefficient of RE variable towards PU variable was negative with value of - 0.227. Impact of RE variable towards PU variable is statistically significant since p value of RE variable was  $0.000 < 0.05$ . Consequently H0 rejected and H1 accepted. It means that there was a significant impact of reporting capability towards perceived usefulness.

**Hypothesis Test 8. Internal Support Internal Support Towards Perceived Usefulness.**

H0 = There is no relation internal support with perceived usefulness

H1 = There is relation internal support with perceived usefulness

Based on regression test proving that coefficient of INT variable towards PU variable was positive with value of 0.291. Impact of INT variable towards PU variable is statistically significant since p value of INT variable was  $0.000 < 0.05$ . Consequently H0 rejected and H1 accepted. It means that there was a significant impact of internal support towards perceived usefulness.

**Hypothesis Test 9. Consultant Support Towards Perceived Usefulness**

H0 = There is no relation consultant support with perceived usefulness

H1 = There is relation consultant support with perceived usefulness

Based on regression test proving that coefficient of CNS variable towards PU variable was negative with value of -0.335. Impact of CNS variable towards PU variable is statistically significant since "p" value of CNS variable was  $0.000 < 0.05$ . Consequently H0 rejected and H1 accepted. It means that there was a significant impact of consultant support towards perceived usefulness.

**Hypothesis Test 10. Info System Participation Towards Perceived Usefulness.**

H0 = There is no relation info system participation with perceived usefulness

H1 = There is relation info system participation with perceived usefulness

Based on regression test proving that coefficient of SYS variable towards PU variable was positive with value of 0.143. Impact of SYS variable towards PU variable is statistically significant since “p” value of SYS variable was  $0.000 < 0.05$ . Consequently H0 rejected and H1 accepted. It means that there was a significant impact of info system participation towards perceived usefulness.

#### **Hypothesis Test 11. Subjective Norm Towards Perceived Usefulness.**

H0 = There is no relation subjective norm with perceived usefulness

H1 = There is relation subjective norm with perceived usefulness

Based on regression test proving that coefficient of SN variable towards PU variable was positive with value of 0.482. Impact of SN variable towards PU variable is statistically significant since “p” value of SN variable was  $0.000 < 0.05$ . Consequently H0 rejected and H1 accepted. It means that there was a significant impact of info subjective norm towards perceived usefulness.

#### **Hypothesis Test 12. Perceived Ease of Use Towards Perceived Usefulness.**

H0 = There is no relation perceived ease of use with perceived usefulness

H1 = There is a relation perceived ease of use with perceived usefulness

Based on regression test proving that coefficient of EOU variable towards PU variable was negative with value of -0.105. Impact of EOU variable towards PU variable is statistically significant since “p” value of EOU variable was  $0.008 < 0.05$ . Consequently H0 rejected and H1 accepted. It means that there was a significant impact of ease of use towards perceived usefulness.

### **Hypothesis Test 13. Subjective Norm Towards Intention to use/Use**

H0 = There is no relation subjective norm with intention to use/use

H1 = There is a relation subjective norm with intention to use/use

Based on regression test proving that coefficient of SN variable towards USE variable was positive with value of 1.298. Impact of SN variable towards USE variable is statistically significant since “p” value of SN variable was  $0.000 < 0.05$ . Consequently H0 rejected and H1 accepted. It means that there was a significant impact of subjective norm towards intention to use/use.

### **Hypothesis Test 14. Perceived Usefulness Towards Intention to Use/Use.**

H0 = There is no relation perceived usefulness with intention to use/use

H1 = There is a relation perceived usefulness with intention to use/use

Based on regression test proving that coefficient of PU variable towards USE variable was positive with value of 0.420. Impact of PU variable towards USE variable is statistically significant since “p” value of PU variable was  $0.000 < 0.05$ . Consequently H0 rejected and H1 accepted. It means that there was a significant impact of perceived usefulness towards intention to use/use.

### **Hypothesis Test 15. Perceived Ease of Use Towards Intention to Use/Use**

H0 = There is no relation perceived ease of use with intention to use/use

H1 = There is a relation perceived ease of use with intention to use/use

Based on regression test proving that coefficient of EOU variable towards USE variable was positive with value of 1.028. Impact of EOU variable towards USE

variable is statistically significance since “p” value of EOU variable was  $0.000 < 0.05$ . Consequently  $H_0$  rejected and  $H_1$  accepted. It means that there was a significance impact of perceived ease of use towards intention to use/use.

#### **Hypothesis Test 16. Intention to use/Use Towards User Satisfaction.**

$H_0$  = There is no relation intention to use/use with user satisfaction

$H_1$  = There is a relation intention to use/use with user satisfaction

Based on regression test proving that coeffisien of USE variable towards STS variable was positive with value of 1.463. Impact of USE variable towards STS variable is statistically significance since “p” value of USE variable was  $0.000 < 0.05$ . Consequently  $H_0$  rejected and  $H_1$  accepted. It means that there was a significance impact of intention to use/use towards user satisfaction.

#### **Hypothesis Test 17. User Satisfaction Towards Intention to Use/Use**

$H_0$  = There is no relation user satisfaction with intention to use/use

$H_1$  = There is a relation user satisfaction with intention to use/use

Based on regression test proving that coeffisien of STS variable towards USE variable was negative with value of -1.461. Impact of STS variable towards USE variable is statistically significance since “p” value of STS variable was  $0.000 < 0.05$ . Consequently  $H_0$  rejected and  $H_1$  accepted. It means that there was a significance impact of user satisfaction to intention to use/use.

#### **Hypothesis Test 18. User Satisfaction Towards Project Success.**

$H_0$  = There is no relation user satisfaction with project success

H1 = There is a relation user satisfaction with project success

Based on regression test proving that coefficient of STS variable towards PRO variable was positive with value of 0.628. Impact of STS variable towards PRO variable is statistically significance since “p” value of STS variable was  $0.000 < 0.05$ . Consequently H0 rejected and H1 accepted. It means that there was a significance impact of user satisfaction to project success.

### **Hypothesis Test 19. Project Success Towards User Satisfaction.**

H0 = There is no relation project success with user satisfaction

H1 = There is a relation project success with user satisfaction

Based on regression test proving that coefficient of PRO variable towards STS variable was negative with value of -0.429. Impact of PRO variable towards STS variable is statistically significance since “p” value of PRO variable was  $0.009 < 0.05$ . Consequently H0 rejected and H1 accepted. It means that there was a significance impact of project success to user satisfaction.

### **Hypothesis Test 20. User satisfaction Towards Individual Impact.**

H0 = There is no relation user satisfaction with individual impact

H1 = There is a relation user satisfaction with individual impact

Based on regression test proving that coefficient of STS variable towards IND variable was positive with value of 0.737. Impact of STS variable towards IND variable is statistically significance since “p” value of STS variable was  $0.000 < 0.05$ . Consequently H0 rejected and H1 accepted. It means that there was a significance impact of user satisfaction to individual impact.

### **Hypothesis Test 21. Project Success Towards Individual Impact.**

H0 = There is no relation project success with individual impact

H1 = There is a relation project success with individual impact

Based on regression test proving that coefficient of PRO variable towards IND variable was positive with value of 0.068. Impact of PRO variable towards IND variable is statistically not significance since “p” value of PRO variable was  $0.202 > 0.05$ . Consequently H0 accepted and H1 rejected. It means that there was no significance impact of project success to individual impact.

### **Hypothesis Test 22. Project Success Towards Organization Impact.**

H0 = There is no relation project success with organization impact

H1 = There is a relation project success with organization impact

Based on regression test proving that coefficient of PRO variable towards ORG variable was positive with value of 0.335. Impact of PRO variable towards ORG variable is statistically significance since “p” value of PRO variable was  $0.000 < 0.05$ . Consequently H0 rejected and H1 accepted. It means that there was significance impact of project success to organization impact.

### **Hypothesis Test 23. Individual Impact Towards Organization Impact.**

H0 = There is no relation individual impact with organization impact

H1 = There is a relation individual impact with organization impact

Based on regression test proving that coefficient of IND variable towards ORG variable was positive with value of 0.552. Impact of IND variable towards ORG

variable is statistically significance since “p” value of IND variable was  $0.000 < 0.05$ . Consequently H0 rejected and H1 accepted. It means that there was significance impact of individual impact to organization impact.

### **Model Interpretation**

Result model from Amos ver.18 as depicted on the above picture it was reflected normal distribution with zero (0) average based on one (1) standardization since  $X \rightarrow X^1 \sim N(0,1)$  in which 0 is  $\mu$  and 1 is  $\sigma$ . In case average figure equal to zero, unit measurement in each variable can be differentiate. Based on the above figure it can identified path coefficient figure using standardized beta. It derived from relation between observed variables. This path coefficient was standardized and it showed direct impact from independent variables towards dependent variables. Path coefficient can be used to explain correlation in path model. Based on path coefficient value that has been standardized, relation path diagram can be interpreted as below :

1. Coefficient value of OUT toward PU is 0.136. This value indicated that OUT has influencing PU with the value of 13.6 %. This value is significant . It represent that OUT has an impact towards PU. Path coefficient direction is positive, means that more value of OUT will be more increasing of PU.
2. Coefficient value of JOB toward PU is 0.136. This value indicated that JOB has influencing PU with the value of 13.6 %. This value is significant . It represent that JOB has an impact towards PU. Path coefficient direction is positive, means that more value of JOB will be more increasing of PU.
3. Coefficient value of IM toward PU is 0.130. This value indicated that IM has influencing PU with the value of 13.0 %. This value is significant . It represent

that IM has an impact towards PU. Path coefficient direction is positive, means that more value of IM will be more increasing of PU.

4. Coefficient value of RES toward PU is -0.178. This value indicated that RES has influencing PU with the value of 17.8%. This value is significant. It represent that RES has an impact towards PU. Direction of path coefficient is negative, means that more value of RES will be more decreasing of PU.
5. Coefficient value of COMP toward PU is 0.055. This value indicated that COMP has influencing PU with the value of 5.5 %. This value is not significant . It represent that COMP has an impact towards PU. Path coefficient direction is positive, means that more value of COMP will be more increasing of PU.
6. Coefficient value of REL toward PU is 0.217. This value indicated that REL has influencing PU with the value of 21.7%. This value represent that system reliability has an impact towards perceived usefulness. Direction of path coefficient direction is positive, means that more value of system reliability will be more increasing of perceived usefulness.
7. Coefficient value of RE toward PU is -0.227. This value indicated that RE has influencing PU with the value of 22.7%. This value represent that reporting capability has an impact towards perceived usefulness. Direction of path coefficient is negative, means that more value of reporting capability will be more decreasing of perceived usefulness.
8. Coefficient value of INT toward PU is 0.291. This value indicated that INT has influencing PU with the value of 29.1%. This value represent that INT has an impact towards PU. Direction of path coefficient is positive, means that more value of INT will be more increasing of PU.

9. Coeffisien value of CNS toward PU is -0.335. This value indicated that CNS has influencing PU with the value of 33.5 %. This value is significant . It represent that CNS has an impact towards PU. Path coeffisien direction is negative, means that more value of CNS will be more increasing of PU.
10. Coeffisien value of SYS toward PU is 0.143. This value indicated that SYS has influencing PU with the value of 14.3 %. This value is significant . It represent that SYS has an impact towards PU. Path coeffisien direction is positive, means that more value of SYS will be more increasing of PU.
11. Coeffisien value of SN toward PU is 0.482. This value indicated that SN has influencing PU with the value of 48.2 %. This value is significant . It represent that SN has an impact towards PU. Path coeffisien direction is positive, means that more value of SN will be more increasing of PU.
12. Coeffisien value of EOU toward PU is -0.105. This value indicated that EOU has influencing PU with the value of 10.5 %. This value is significant . It represent that EOU has an impact towards PU. Path coeffisien direction is negative, means that more value of EOU will be more decreasing of PU.
13. Coeffisien value of SN toward USE is 1.298. This value indicated that SN has influencing USE with the value of 129.8 %. This value is significant . It represent that SN has an impact towards USE. Path coeffisien direction is positive, means that more value of SN will be more increasing of USE.
14. Coeffisien value of PU toward USE is 0.420. This value indicated that PU has influencing USE with the value of 42.0 %. This value is significant . It represent that PU has an impact towards USE. Path coeffisien direction is positive, means that more value of PU will be more increasing of USE.

15. Coeffisien value of EOU toward USE is 1.028. This value indicated that EOU has influencing USE with the value of 102.8 %. This value is significant . It represent that EOU has an impact towards USE. Path coefferisien direction is positive, means that more value of EOU will be more increasing of USE.
16. Coeffisien value of USE toward STS is 1.463. This value indicated that USE has influencing STS with the value of 146.3 %. This value is significant . It represent that USE has an impact towards STS. Path coefferisien direction is positive, means that more value of USE will be more increasing of STS.
17. Coeffisien value of STS toward USE is -1.461. This value indicated that STS has influencing USE with the value of 146.1 %. This value is significant . It represent that STS has an impact towards USE. Path coefferisien direction is negative, means that more value of STS will be more decreasing of USE.
18. Coeffisien value of STS toward PRO is 0.628. This value indicated that STS has influencing PRO with the value of 62.8 %. This value is significant . It represent that STS has an impact towards PRO. Path coefferisien direction is positive, means that more value of STS will be more increasing of PRO.
19. Coeffisien value of PRO toward STS is -0.429. This value indicated that PRO has influencing STS with the value of 42.9 %. This value is significant . It represent that PRO has an impact towards STS. Path coefferisien direction is positive, means that more value of PRO will be more increasing of STS.
20. Coeffisien value of STS toward IND is 0.737. This value indicated that STS has influencing IND with the value of 73.7 %. This value is significant . It represent that STS has an impact towards IND. Path coefferisien direction is positive, means that more value of STS will be more increasing of IND.

21. Coeffisien value of PRO toward IND is 0.068. This value indicated that PRO has influencing IND with the value of 6.8 %. This value is significant . It represent that PRO has an impact towards IND. Path coeffisien direction is positive, means that more value of PRO will be more increasing of IND.
22. Coeffisien value of PRO toward ORG is 0.335. This value indicated that PRO has influencing ORG with the value of 33.5 %. This value is significant . It represent that PRO has an impact towards ORG. Path coeffisien direction is positive, means that more value of PRO will be more increasing of ORG.
23. Coeffisien value of IND toward ORG is 0.552. This value indicated that IND has influencing ORG with the value of 55.2 %. This value is significant . It represent that IND has an impact towards ORG. Path coeffisien direction is positive, means that more value of IND will be more increasing of ORG.

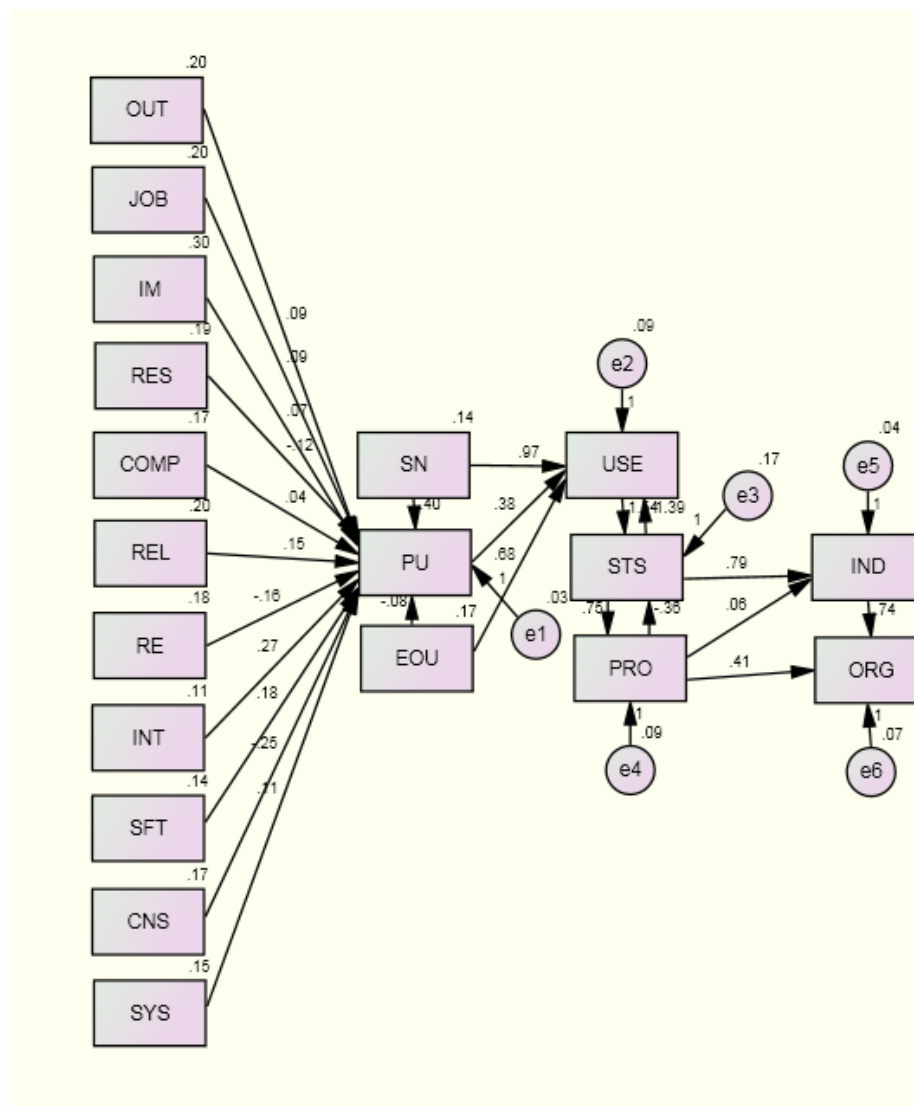
#### **4.4 STRUCTURE EQUATION MODEL (SEM) ANALYSES**

This research conducted Structural Equation Modeling (SEM) to examine the validity of the proposed research model as a complementary analysis. The results using SEM are compared with those of regression analysis provided in the previous section to see if there are any differences or additional findings with respect to the research model.

This part explained data analyses result based on data processing using AMOS ver. 18. It observed latent exogen variable OUT, JOB, IM, RES, COMP, REL, RE, INT, CNS and SYS. This variable is an independent variable that have influence to PU as a latent endogen variable. PU is an intervening variable that have impact to dependent latent endogen variables : USE, IND and ORG. Better result of OUT, JOB, IM, RES, COMP, REL, RE, INT,CNS and SYS variables and better PU variable will increasing value of USE, IND and ORG variables.

## PATH DIAGRAM AND RESULT ESTIMATION

Result of 200 sampling data was keyed and proceed by using AMOS™ ver 18.0 software. Once model was build, it can be see the path diagram relation amongst latent variables in structure equation model. By using path diagram will make easier to see causality relationship. Path diagram result as depicted on below picture.



Picture x.x

### Path Diagram

Based on the above path diagram, relation amongst variables can be tabulated as below :

Tabel xx

**Relation amongst variables**

| Variables |   |     | Coeffisien | Relationship |
|-----------|---|-----|------------|--------------|
| OUT       | → | PU  | 0.092      | Direct       |
| JOB       | → | PU  | 0.093      | Direct       |
| IM        | → | PU  | 0.073      | Direct       |
| RES       | → | PU  | -0.125     | Direct       |
| COMP      | → | PU  | 0.041      | Direct       |
| REL       | → | PU  | 0.147      | Direct       |
| RE        | → | PU  | -0.164     | Direct       |
| INT       | → | PU  | 0.272      | Direct       |
| SFT       | → | PU  | 0.175      | Direct       |
| CNS       | → | PU  | -0.251     | Direct       |
| SYS       | → | PU  | 0.113      | Direct       |
| SN        | → | PU  | 0.396      | Direct       |
| EOU       | → | PU  | -0.077     | Direct       |
| SN        | → | USE | 0.966      | Direct       |
| PU        | → | USE | 0.381      | Direct       |
| EOU       | → | USE | 0.685      | Direct       |
| USE       | → | STS | 1.538      | Direct       |
| STS       | → | USE | -1.390     | Direct       |
| STS       | → | PRO | 0.752      | Direct       |
| PRO       | → | STS | -0.358     | Direct       |
| PRO       | → | IND | 0.061      | Direct       |
| STS       | → | IND | 0.793      | Direct       |
| PRO       | → | ORG | 0.406      | Direct       |
| IND       | → | ORG | 0.744      | Direct       |

The above table reflected causality relationship between OUT, JOB, IM, RES, COMP, REL, RE, INT, SFT, CNS, SYS, EOU and SN variables towards PU. Variables SN, PU and EOU towards USE. Variable USE towards STS and vice versa. Variable STS towards PRO and vice versa. Final test is the relation variable of PRO and STS towards IND, and IND at the end towards ORG. Relation between exogen variables towards endogen variable is direct. None of relation is indirect.

Relation impact amongst variables indicated by number of coefficient. Coefficient with higher value will reflect greater impact relation between variables. Sign in coefficient will reflected impact of each relation. Positive sign (+) means is one way relation. Higher value independent variables, it will followed by increasing of related variables. Negative sign (-) indicated opposite relation. Means at that time of increasing in independent variables then it will reduce related variables.

### **BEST FIT MODEL WITH GOODNESS OF FIT TEST**

One type of covariance based SEM software, AMOS™ ver 18.0, was used in this research because of its compatibility with SPSS® and graphical interface. The good thing of AMOS™ 18.0 is user can build and test a model using AMOS Graphics which does not require any specific programming language. **Figure X.X** shows the path diagram of SAP success model. Since all the variables in the model are observed variables (i.e. directly measured from survey items), they are represented by boxes shapes.

Based on path diagram can be formulated equation simulation. The equation simulation then being tested using goodness of fit test and hypothesis test. Goodness of fit test based on below table :

| Goodness of fit to be measurement | Goodness of fit acceptable   | Result   |
|-----------------------------------|------------------------------|----------|
| Chi square                        | Smaller number is better     | 2563.784 |
| Adjusted Rsquare                  | < 5                          | 17.441   |
| RMSEA                             | $0,05 < \text{RMSEA} < 0,08$ | 0.287    |
| TLI                               | $0,8 < \text{TLI} < 1$       | 0.238    |
| CFI                               | $0,8 < \text{CFI} < 1$       | 0.345    |
| NFI                               | $0,8 < \text{NFI} < 1$       | 0.336    |

Based on data processing and acceptable criteria of goodness of fit test model it was showed a good result. With chi square value of 2563.784 is still reflected quite huge number above standarization. This probably was caused by small number of sampling data taken. Result the model was not acceptable and obviously required another parameter to measure goodness of fit test. Parameter of Root Mean Square approximation (RSME) was also not fit with 0.287 since greater than 0.08. Another parameter that can be see is Normed Fit Index (NFI). It has value 0.336. Based on acceptability standard reflected that this number on the range between  $0,8 < \text{NFI} < 1$ . It mean that this model is fit enough. Similary with other parameter such as Tucker Lewis Index (TLI) with value of 0.238 also in the range of  $0,8 < \text{TLI} < 1$ . Finally ,the complete model of structure equation model was acceptable and hyphotesis can be further observed.

## **4.5 RELATION BETWEEN SUCCESS FACTORS AND SUCCESS INDICATORS**

This section discusses relationship between success factors and indicators in more detail. It was describing the reason behind their relationships. Each subsection was present an interpretations of the results about each dependent variable along with its independent variables based on its regression analysis as well as structure equation model and other relevant data from the survey.

### **4.5.1 Perceived Usefulness**

According to the regression analysis on “Perceived Usefulness (PU)”, most factors have impact at the .05 or higher. Only one variable “compatibility (COMP)” which was not significant impact since the “p” value was 0.164 greather than .05. This can be understood since system compatibility is not really effected SAP system.

System compatibility was a level of easyness data conversion from SAP to spreadsheet and vice versa. It looks was not really important.

The main research finding here is that the new factor postulated from this research, “subjective norm” is the most important factor to be positively associated with perceived usefulness. It can be interpreted that most users believe that if support of using SAP system in organization is the important part. Either from management or from other employees. Another founding factor that influence perceived usefulness was internal perceptian. It is so, due to factors of support from top management, training and success of implementation. Another interest founding was that consultant factor. It interpreted that involvement of consultant in driving the project was the important part.

System reliability was also important factors that influence perceived usefulness. User perspective on the system reliability, unlossed data, and no error during using the system was the parameter in measuring system reliability.

Other factors that also influence perceived usefulness eventhough not so significant was that output of the system as well as perception that system can obtain and assist in job relevancy. Similarly factor of image to use the system also contribute in influencing user perceiveness eventhough not significant.

#### **4.5.2 Intention to Use / Use**

All three predictors have a significant impact on “Intention to Use / Use” as initially expected. Among them, “Perceived Usefulness” is the main predictor on “Use”, which means that users like to use SAP systems because they think SAP systems are useful. It can be concluded that in order to encourage users to use the SAP system more, we should make the SAP system more useful. In other words, if we want to have the success of SAP system adoption, we should focus on increasing the usefulness of the SAP system. With its degree of significance, “Perceived Usefulness” fully mediates the effects of its determinants on “Intention to Use / Use”. “Perceived Ease of Use” also has a significant impact on “Intention to Use / Use” both directly and indirectly via “Perceived Usefulness”. Therefore, the proposed model in this research supports TAM quite well.

Another major finding is that “Subjective Norm” is also significant on “Intention to Use / Use” in the setting of SAP system use. It was initially assumed that SAP systems are usually used in mandatory settings, so “Subjective Norm” was involved in the research model as a predictor of use, just at it was in TAM2. Since “Subjective Norm” is significant on use at the .000 level, it indicates that SAP system use is more

mandatory than voluntary. It does not make sense if a several million dollar system is used in a voluntary setting. For this reason, users may feel some pressure that they should use their SAP system because their peers or boss think that they should use it. Decision makers should pay more attention to “Subjective Norm” to encourage the use of SAP systems.

#### **4.5.3 SAP System Benefits**

It was assumed that the success indicator of SAP System adoption (i.e. “Intention to Use / Use”) and two project success indicators (i.e. “Progress” and “Quality”) have a positive impact on the final dependent variable, “SAP Benefits”. The results indicate that more use and better quality of SAP systems can increase the benefits of SAP. Both of two predictors are significant at the .000 level, so their relationships with “SAP Benefits” have been validated without any problem.

However, the interesting finding here is that the progress of SAP implementation project has no impact on SAP system benefits even though it is correlated with SAP system benefits. This indicates that although an SAP system implementation project was not completed on time and within budget, a company still has a chance to get the full benefits from the SAP system if its quality and scope are satisfactory. The best case scenario is if an implementation project is completed on time, within budget, with good quality and matching the scope, but realistically, this may not happen frequently. If the progress of the SAP system project is good, but the quality is bad, it will eventually fail because users may be reluctant to use it. If both progress and quality of the project are bad, it will be abandoned, even before the system is materialized. Therefore, to minimize the risk of SAP system implementation, we

should focus more on improving the quality and scope of the SAP system than the progress of the SAP system project.

#### **4.5.4 Project Success**

The progress and quality of the SAP system implementation project are the main indicators of SAP system project success in this research. As a result, “Internal Support” , “Info System Participation” and “Consultant Support” are direct determinants of the progress of the SAP system project, and have a significant impact on it. The vast literature has identified the importance of these predictors on project success. This result can be interpreted that in order to complete the SAP system project on time and within the budget as initially planned, internal support including top management commitment, good project planning, and training would be mandatory as well as high-quality consultant support.

Another finding should be noted; “Consultant Support” has a significant impact on both “Progress” and “Quality” for the project success. This result confirms the importance of the role of consultants in successful SAP system implementation. Decision makers in the company should pay attention to choosing the right consultant when they consider implementing or upgrading their SAP system.

## **4.6 IMPLICATION FOR SUCCESSFUL SAP SYSTEM IMPLEMENTATION**

The structured SAP system success model is provided to identify and analyze the relationships between success factors and indicators in this research. The model has a hierarchical structure in which success factors impact indirectly on the final dependent variable, “SAP Benefits” (Individual impact & Organization impact),

by influencing intermediate success indicators. The main structure of their relationships is identified as follows: Success Factors – Perceived Usefulness – Intention to Use / Use – Project Success - Individual & Organization Impact.

This research considers individual impact and organization impact as a final measure of SAP system success, which means that the more successful the SAP system, the more SAP system benefits the company can gain. It is true that the main reason companies want to use SAP systems is to increase their business value so that they can improve their efficiency and eliminate waste factors. Without a doubt, these benefits can only be achieved by successful SAP system implementation and adoption. The research identifies that “Intention to Use / Use” and “Quality” are main determinants of “SAP system Benefits”. It indicates that more use and better quality is the sign of SAP system success which can increase SAP system benefits.

The SAP system should be useful, so decision makers should consider the factors affecting usefulness, which finally leads to SAP system success. The research suggests some recommendations to improve usefulness of the SAP system as described below:

- 1) The company should clearly define what positive results can be expected from the use of the SAP system before or during SAP system implementation.
- 2) The functions of the SAP system should be well defined to cover the company's necessary business functions.
- 3) All the members in the company should be encouraged to use the SAP system because their use can increase the company's business value.
- 4) The SAP system should be easy to use.

5) To make the SAP system more useful, the company should focus more on enhancing the quality of output during its implementation, especially in regard to the management reports and measurement reports.

Another main finding of the research is about the SAP system project success. Project success is generally evaluated in terms of time, cost, quality and scope. The research found that the progress of the SAP system implementation project does not have an impact on SAP system benefits while the quality and scope of the SAP system has a significant impact. It does not mean that the progress of the project is not important to the company. It really means that the progress should not hurt the quality of the project because “Quality” is one of the main predictors of SAP system benefits. The research proposes recommendations to achieve the SAP project success as described below:

- 1) Internal support is the main determinant of the progress of the SAP system project. To complete the project on time and within the budget as initially planned, top management support, training and good project planning are required during SAP system implementation.
- 2) Choosing strong consulting partners is required for SAP system project success. They can lead the company in the right direction to have a successful SAP implementation in both progress and quality.
- 3) To maximize SAP system benefits, the company should focus more on the quality and scope of the SAP system matching with the company’s needs.
- 4) A more realistic schedule and budget should be planned to minimize the negative effects on the quality of the system. This method can satisfy the company in both progress and quality of the SAP system project.

## CHAPTER 5

### CONCLUSION

#### 5.1 Conclusion

This chapter presents contributions of this study to the existing body of knowledge in the area of IS research. Limitations of the research are also discussed.

#### 5.2 Contribution and Limitation

Most IT related research in the area of retail industries generally proposes research models without theories. Furthermore, since this type of research is still relatively new to retail industries related research, many surveys have been developed without sound theoretical background. They usually identify the importance of factors simply comparing the mean values of factors, and rank factors in accordance with their importance showing the higher mean value as the more important factor. However, the relationships cannot be defined through such an analysis. Regression analysis should be used in analyzing the relationships of variables and finding the significance of each factor associated with the dependent variable. Another problem is that researchers in the area of retail industries usually try to identify only direct relationships between independent and dependent variables, e.g. success factors – success indicators, due to the lack of theoretical background. However, realistically, this is not possible. Chances are most factors indirectly impact on a given dependent variable by directly influencing mediating variables instead of directly affecting the dependent variable. For this reason, in most social science and IS related research, theories must be used in formulating the research model. This research is the first study identifying the factors affecting SAP system success with strong background

theories in retail industries related research. The proposed model adapted three theoretically validated models including TAM, D&M IS Success Model, and the fundamentals of ASAP project management in SAP system implementation. Therefore, the academic contribution of the research can be found in a deliberate attempt to formulate the SAP system success model.

There have been few studies attempting to validate empirically the factors affecting both SAP system implementation and user adoption. The factors identified in literature were mostly based on the experiences of IT professionals or senior managers involved in SAP system implementation projects. For these reasons, this research focused on identifying the factors for the SAP system success from both implementation project and user adoption perspectives. Then, identified factors were examined to verify their relationships with success indicators associated with the redefined SAP system success, i.e. the success of the project and the success of use. Furthermore, the research suggested recommendations for the SAP system success showing how to approach SAP system implementation to avoid failure and what we should do considering the significance of each factor to a given dependent variable based on the findings of the study. These recommendations can provide helpful information to retail industries when they consider implementing or upgrading their SAP systems. This information should help companies reduce tremendous SAP system implementation risks so that companies can have more chances to improve their business value with the success of SAP systems. Such practical implications can be applied to most retail industries for a better understanding about the factors that can lead to the success of SAP systems. This approach should be valuable information for decision makers of companies before or during their SAP system implementation.

Although the research delivered valid conclusions and findings, there are several limitations associated with data collection and analysis. The main limitations are as follows: The respondent was only 200 participants which can mislead the results in the other way. Finding targeted respondents was not easy since retail industries in Indonesia is a new industries and not so many company in retail industries implemented SAP system. Another limitation related to data collection was missing data in the responses. Items related to the SAP implementation project have relatively low response rates since some respondents who were not involved in the implementation project may not be familiar with the relevant facts, especially for items about the progress of the project. The sample size of the responses was large enough to verify the proposed SAP system success model statistically, but more data points are required for better results. As a rule of thumb, at least 10 responses per variable are required to verify the research model properly but, realistically, more data were needed to have better results for this study.

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**Appendix A**  
**Item in the survey instrument**



**Pogram Pasca Sarjana Magister Manajemen Sistem Informasi**  
**Universitas Bina Nusantara Jakarta**  
**2012**

=====

Nomor : 001/06/2012

Lampiran : 1 (satu)

Perihal : Jajak pendapat penggunaan SAP pada industri retail di Indonesia

Yth : Bapak/Ibu Responden

Dengan hormat,

Sebagaimana diketahui bahwa industri retail di Indonesia selama dekade terakhir ini menunjukkan pertumbuhan yang signifikan. Menurut data Asosiasi Retail Indonesia setidaknya pertumbuhan berkisar 10% - 15% pertahunya. Perubahan yang cepat pada lingkungan industri ritel dan ketatnya persaingan saat ini menuntut pengusaha untuk lebih cepat dan tanggap terhadap perubahan tersebut. Peranan sistem informasi dalam industri retail sangat berarti dalam mengintegrasikan seluruh aspek kegiatan bisnis mulai dari proses pengadaan barang, penjualan di lini depan hingga ke pencatatan dan pelaporan. SAP sebagai salah satu produk aplikasi ERP saat ini telah banyak diimplementasikan pada industri retail dalam rangka membantu proses binisnya.

Berbagai keberhasilan dan kegagalan SAP baik dalam tahap implementasi maupun adopsi menarik perhatian untuk diteliti. Oleh karenanya bersama kuesioner jajak pendapat ini kami sangat mengharapkan Bapak/Ibu responden selaku pengguna aplikasi SAP untuk dapat memberikan masukan guna mendukung penelitian ini. Kami berharap bahwa kesimpulan dari hasil penelitian ini akan sangat berguna bukan hanya dalam lingkup akademisi dalam pengembangan disiplin keilmuan, namun lebih jauh lagi juga bermanfaat bagi para praktisi di industri retail ketika hendak mengimplementasi SAP, adopsi SAP atau melakukan perubahan SAP.

Kami sangat berterima kasih atas peran serta Bapak/Ibu responden dengan memberikan warna jajak pendapat bagi sumbangsih perkembangan keilmuan sistem informasi di dunia retail.

Jakarta, 1 Juni 2012

Hormat kami,

**Eko Hardi**

**Mahasiswa Pasca Sarjana Universitas Bina Nusantara NIM : 111 2200 264**

## KUESIONER

### TOPIK : “KAJIAN FAKTOR KEBERHASILAN DAN KEGAGALAN IMPLEMENTASI SISTEM SAP DALAM INDUSTRI RETAIL DI INDONESIA”

**Petunjuk :**

- *Setiap satu pertanyaan hanya terdiri dari satu jawaban*
- *Pilih salah satu jawaban anda dengan hanya menuliskan nomor pilihan anda di kolom “Jawaban anda: .....*

|                                                                                                                                                                                                                                                  |                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <i>Output1 (out)</i><br>1.Sistem SAP yang dipergunakan di perusahaan saya dapat memberikan informasi sangat berkualitas, akurat dan terpercaya<br>Jawaban Anda :.....                                                                            | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS) |
| <i>Output2 (out)</i><br>2.Saya tidak mempunyai masalah dengan kualitas informasi yang dihasilkan oleh sistem SAP<br>Jawaban Anda :.....                                                                                                          | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS) |
| <i>Report1 (re)</i><br>3.Laporan manajerial yang dihasilkan oleh sistem SAP sangat bermanfaat.<br>Jawaban Anda :.....                                                                                                                            | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS) |
| <i>Report2: (re)</i><br>4.Laporan untuk mengukur unjuk kinerja karyawan atau departemen seperti ” <i>Critical Success Factor</i> ” atau ” <i>Key Performance Indicator</i> ” yang dihasilkan sistem SAP sangat bermanfaat<br>Jawaban Anda :..... | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS) |
| <i>Job1 (job)</i><br>5.Dalam lingkup pekerjaan saya, penggunaan sistem SAP merupakan hal yang sangat penting<br>Jawaban Anda :.....                                                                                                              | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS) |
| <i>Job2 (job)</i><br>6.Dalam lingkup pekerjaan saya, penggunaan sistem SAP ada relevansinya dengan pekerjaan.<br>Jawaban Anda :.....                                                                                                             | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS) |
| <i>Job3 :(job)</i><br>7.Saya mempunyai akses untuk menggunakan sistem SAP, namun saya lebih memilih untuk menggunakan sistem atau <i>tools</i> lainya (contoh : MS.Excell, MS.Word,etc)                                                          | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS) |

|                                                                                                                                                                                                         |                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Jawaban Anda :.....                                                                                                                                                                                     |                                                                                                                 |
| <i>Image1 : (im)</i><br>8.Karyawan yang menggunakan sistem SAP di perusahaan saya, mempunyai prestise (kebanggaan) lebih dibandingkan dengan mereka yang tidak menggunakan SAP<br>Jawaban Anda :.....   | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS) |
| <i>Image2 : (im)</i><br>9.Karyawan di perusahaan saya yang menggunakan sistem SAP mempunyai profile yang tinggi dibandingkan dengan karyawan lainnya.<br>Jawaban Anda :.....                            | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS) |
| <i>Result1 : (res)</i><br>10.Saya tidak sulit menceritakan manfaat penggunaan SAP kepada orang lain<br>Jawaban Anda :.....                                                                              | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS) |
| <i>Result2 : (res)</i><br>11.Saya percaya bahwa saya dapat memberikan informasi kepada orang lain atas konsekuensi menggunakan sistem SAP<br>Jawaban Anda :.....                                        | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS) |
| <i>Result3 : (res)</i><br>12.Saya mempunyai kesulitan untuk menjelaskan mengapa menggunakan sistem SAP yang mungkin dapat memberikan manfaat atau tidak.<br>Jawaban Anda :.....                         | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS) |
| <i>Comp1 : (comp)</i><br>13.Saya tidak mempunyai kesulitan dalam memindahkan data (meng-export) dari sistem SAP ke sistem lain yang saat ini saya pergunakan.<br>Jawaban Anda :.....                    | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS) |
| <i>Comp2 : (comp)</i><br>14.Saya tidak mempunyai kesulitan dalam mengambil (meng-import) data untuk dimasukkan kedalam sistem SAP dari sistem lain yang saat ini saya pergunakan<br>Jawaban Anda :..... | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS) |
| <i>Reliabl1 : (sys)</i><br>15.Saya merasa bahwa sistem SAP dapat dipercaya<br>Jawaban Anda :.....                                                                                                       | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS) |

|                                                                                                                                                                                                       |                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <p><i>Reliabl2 : (sys)</i><br/> 16.Saya yakin tidak akan terjadi kehilangan data jika saya menggunakan sistem SAP<br/> Jawaban Anda :.....</p>                                                        | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS) |
| <p><i>Reliabl3 : (sys)</i><br/> 17.Saya tidak sering menemukan "<i>sistem error</i>" ketika saya menggunakan sistem SAP<br/> Jawaban Anda :.....</p>                                                  | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS) |
| <p><i>Interna1 (int)</i><br/> 18.Pucuk pimpinan saya memberikan dukungan penuh terhadap implementasi proyek SAP<br/> Jawaban Anda :.....</p>                                                          | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS) |
| <p><i>Interna2 : (int)</i><br/> 19.Pengadaan <i>training</i> tentang cara menggunakan sistem SAP sangat membantu saya dalam memahami sistem tersebut.<br/> Jawaban Anda :.....</p>                    | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS) |
| <p><i>Interna3 : (int)</i><br/> 20.Karyawan lain ada yang bertanya kepada saya dan meminta pendapat saya terkait dengan sistem SAP ketika sistem ini di implementasikan.<br/> Jawaban Anda :.....</p> | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS) |
| <p><i>Interna4 : (int)</i><br/> 21.Progres kemajuan implementasi sistem SAP di perusahaan saya berjalan sesuai dengan yang direncanakan.<br/> Jawaban Anda :.....</p>                                 | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS) |
| <p><i>Software1 :</i><br/> 22.Sistem SAP yang dipergunakan di perusahaan saya dapat memberikan dukungan bagi proses bisnis.<br/> Jawaban Anda :.....</p>                                              | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS) |
| <p><i>Software2 :</i><br/> 23.Sistem SAP yang dipergunakan di perusahaan saya, <i>feature dan functionalitiesnya</i> sangat bagus dan lengkap.<br/> Jawaban Anda :.....</p>                           | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS) |
| <p><i>Consult1 : (cns)</i><br/> 24.Menurut pendapat saya konsultan sudah memberikan arahan yang tepat selama dilakukannya implementasi SAP di perusahaan saya.<br/> Jawaban Anda :.....</p>           | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS) |

|                                                                                                                                                                                                                            |                                                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><i>Consult2 : (cns)</i></p> <p>25. Menurut pendapat saya konsultan dapat membantu saya agar implementasi sistem SAP sukses.</p> <p>Jawaban Anda : .....</p>                                                             | <ol style="list-style-type: none"> <li>1. Sangat Tidak Setuju (STS)</li> <li>2. Tidak Setuju (TS)</li> <li>3. Netral (N)</li> <li>4. Setuju (S)</li> <li>5. Sangat Setuju (SS)</li> </ol> |
| <p><i>Sysfun1 :</i></p> <p>26. Fungsi bisnis dari sistem SAP telah didefinisikan dengan benar dan tepat.</p> <p>Jawaban Anda : .....</p>                                                                                   | <ol style="list-style-type: none"> <li>1. Sangat Tidak Setuju (STS)</li> <li>2. Tidak Setuju (TS)</li> <li>3. Netral (N)</li> <li>4. Setuju (S)</li> <li>5. Sangat Setuju (SS)</li> </ol> |
| <p><i>Sysfun2 :</i></p> <p>27. Sistem SAP telah mampu meng-cover seluruh kebutuhan bisnis di perusahaan saya</p> <p>Jawaban Anda : .....</p>                                                                               | <ol style="list-style-type: none"> <li>1. Sangat Tidak Setuju (STS)</li> <li>2. Tidak Setuju (TS)</li> <li>3. Netral (N)</li> <li>4. Setuju (S)</li> <li>5. Sangat Setuju (SS)</li> </ol> |
| <p><i>Sn1 : (sn)</i></p> <p>28. Karyawan lain dalam kelompok saya senantiasa memberikan dukungan penuh terhadap kegiatan saya selama menggunakan sistem SAP</p> <p>Jawaban Anda : .....</p>                                | <ol style="list-style-type: none"> <li>1. Sangat Tidak Setuju (STS)</li> <li>2. Tidak Setuju (TS)</li> <li>3. Netral (N)</li> <li>4. Setuju (S)</li> <li>5. Sangat Setuju (SS)</li> </ol> |
| <p><i>Sn2 (sn)</i></p> <p>29. Saya menggunakan sistem SAP dengan senang hati, karena karyawan lain dalam kelompok kerja saya berpendapat bahwa saya harus menggunakan sistem SAP tersebut.</p> <p>Jawaban Anda : .....</p> | <ol style="list-style-type: none"> <li>1. Sangat Tidak Setuju (STS)</li> <li>2. Tidak Setuju (TS)</li> <li>3. Netral (N)</li> <li>4. Setuju (S)</li> <li>5. Sangat Setuju (SS)</li> </ol> |
| <p><i>Sn3 : (sn)</i></p> <p>30. Manajemen senior memberikan dukungan penuh kepada saya untuk menggunakan sistem SAP</p> <p>Jawaban Anda : .....</p>                                                                        | <ol style="list-style-type: none"> <li>1. Sangat Tidak Setuju (STS)</li> <li>2. Tidak Setuju (TS)</li> <li>3. Netral (N)</li> <li>4. Setuju (S)</li> <li>5. Sangat Setuju (SS)</li> </ol> |
| <p><i>Sn4 : (sn)</i></p> <p>31. Saya dengan senang hati menggunakan sistem SAP karena manajemen senior berpendapat bahwa saya harus menggunakan sistem SAP tersebut.</p> <p>Jawaban Anda : .....</p>                       | <ol style="list-style-type: none"> <li>1. Sangat Tidak Setuju (STS)</li> <li>2. Tidak Setuju (TS)</li> <li>3. Netral (N)</li> <li>4. Setuju (S)</li> <li>5. Sangat Setuju (SS)</li> </ol> |
| <p><i>Pu1 : (pu)</i></p> <p>32. Dengan menggunakan sistem SAP akan meningkatkan unjuk kinerja saya</p> <p>Jawaban Anda : .....</p>                                                                                         | <ol style="list-style-type: none"> <li>1. Sangat Tidak Setuju (STS)</li> <li>2. Tidak Setuju (TS)</li> <li>3. Netral (N)</li> <li>4. Setuju (S)</li> <li>5. Sangat Setuju (SS)</li> </ol> |
| <p><i>Pu2 : (pu)</i></p> <p>33. Dengan menggunakan sistem SAP akan meningkatkan produktivitas kerja saya</p>                                                                                                               | <ol style="list-style-type: none"> <li>1. Sangat Tidak Setuju (STS)</li> <li>2. Tidak Setuju (TS)</li> <li>3. Netral (N)</li> <li>4. Setuju (S)</li> </ol>                                |

|                                                                                                                                                                       |                                                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Jawaban Anda :.....                                                                                                                                                   | 5. Sangat Setuju (SS)                                                                                                                                |
| Pu3 : (pu)<br>34.Dengan menggunakan sistem SAP akan meningkatkan efektifitas kerja saya<br>Jawaban Anda :.....                                                        | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS)                                      |
| Pu4 : (pu)<br>35.Secara keseluruhan, dengan menggunakan sistem SAP sangat bermanfaat dalam membantu pekerjaan saya.<br>Jawaban Anda :.....                            | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS)                                      |
| Eou1 : (eou)<br>36.Saya merasakan bahwa sistem SAP mudah dalam pengoperasiannya.<br>Jawaban Anda :.....                                                               | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS)                                      |
| Eou2 : (eou)<br>37.Saya merasakan bahwa sistem SAP dengan sangat mudahnya dapat membantu saya dalam mengerjakan apa yang hendak saya kerjakan.<br>Jawaban Anda :..... | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS)                                      |
| Eou3 : (eou)<br>38.Interaksi saya dengan sistem SAP sangat jelas dan dapat dimengerti<br>Jawaban Anda :.....                                                          | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS)                                      |
| Use1 : (use)<br>39.Jika saya diberikan akses untuk menggunakan sistem SAP, maka saya akan berniat untuk menggunakannya.<br>Jawaban Anda :.....                        | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS)                                      |
| Use2 : (use)<br>40.Ketika saya berniat untuk mengerjakan pekerjaan saya, maka akses ke beberapa modul/fungsi sistem ERP sudah disediakan<br>Jawaban Anda :.....       | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS)                                      |
| Use3 : (use)<br>41.Dengan mudah saya dapat menggunakan sistem SAP kapan saja saya berminat.<br>Jawaban Anda :.....                                                    | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS)                                      |
| Usehour :<br>41.Berapa jam dalam satu minggu anda menggunakan akses sistem SAP<br>Jawaban Anda :.....                                                                 | 1. 1 s/d 5 jam per minggu<br>2. 6 s/d 10 jam per minggu<br>3. 11 s/d 15 jam per minggu<br>4. 16 s/d 20 jam per minggu<br>5. Diatas 20 jam per minggu |
|                                                                                                                                                                       |                                                                                                                                                      |

|                                                                                                                                                         |                                                                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Usefunc :</p> <p>42. Sebutkan modul/fungsi sistem SAP yang paling sering anda gunakan.</p> <p>Jawaban Anda : .....</p>                               | <p>1. Retail Merchandising (Article, PO, Allocation, Pricing, Promotion)</p> <p>2. Financial (AR, AP, GL, FA, CM).</p> <p>3. Warehouse Mgmt (Receipt, Pick, Pack, Despatch)</p> <p>4. Ketiga tiganya</p> <p>5. ....</p> |
| <p>Satis1 : (sts)</p> <p>44. Saya sangat puas dengan kualitas informasi yang dihasilkan sistem SAP</p> <p>Jawaban Anda : .....</p>                      | <p>1. Sangat Tidak Setuju (STS)</p> <p>2. Tidak Setuju (TS)</p> <p>3. Netral (N)</p> <p>4. Setuju (S)</p> <p>5. Sangat Setuju (SS)</p>                                                                                  |
| <p>Satis2 : (sts)</p> <p>45. Saya sangat puas dengan unjuk kinerja sistem SAP</p> <p>Jawaban Anda : .....</p>                                           | <p>1. Sangat Tidak Setuju (STS)</p> <p>2. Tidak Setuju (TS)</p> <p>3. Netral (N)</p> <p>4. Setuju (S)</p> <p>5. Sangat Setuju (SS)</p>                                                                                  |
| <p>Satis3 : (sts)</p> <p>46. Secara keseluruhan, saya sangat puas dengan sistem SAP</p> <p>Jawaban Anda : .....</p>                                     | <p>1. Sangat Tidak Setuju (STS)</p> <p>2. Tidak Setuju (TS)</p> <p>3. Netral (N)</p> <p>4. Setuju (S)</p> <p>5. Sangat Setuju (SS)</p>                                                                                  |
| <p>Indimpa1 : (ind)</p> <p>47. Dengan sistem SAP, saya tidak perlu untuk mengerjakan pekerjaan yang sama berulang-ulang</p> <p>Jawaban Anda : .....</p> | <p>1. Sangat Tidak Setuju (STS)</p> <p>2. Tidak Setuju (TS)</p> <p>3. Netral (N)</p> <p>4. Setuju (S)</p> <p>5. Sangat Setuju (SS)</p>                                                                                  |
| <p>Indimpa2 : (ind)</p> <p>48. Sistem SAP dapat membantu saya membuat keputusan secara efektif.</p> <p>Jawaban Anda : .....</p>                         | <p>1. Sangat Tidak Setuju (STS)</p> <p>2. Tidak Setuju (TS)</p> <p>3. Netral (N)</p> <p>4. Setuju (S)</p> <p>5. Sangat Setuju (SS)</p>                                                                                  |
| <p>Orgimpa1 : (org)</p> <p>49. Dengan sistem SAP, perusahaan kami dapat menekan biaya operasional.</p> <p>Jawaban Anda : .....</p>                      | <p>1. Sangat Tidak Setuju (STS)</p> <p>2. Tidak Setuju (TS)</p> <p>3. Netral (N)</p> <p>4. Setuju (S)</p> <p>5. Sangat Setuju (SS)</p>                                                                                  |
| <p>Orgimpa2 : (org)</p> <p>50. Dengan sistem SAP, perusahaan kami dapat meningkatkan pendapatan.</p> <p>Jawaban Anda : .....</p>                        | <p>1. Sangat Tidak Setuju (STS)</p> <p>2. Tidak Setuju (TS)</p> <p>3. Netral (N)</p> <p>4. Setuju (S)</p> <p>5. Sangat Setuju (SS)</p>                                                                                  |
| <p>Orgimpa3 : (org)</p> <p>51. Setelah mengimplementasikan sistem SAP, nilai saham perusahaan kami meningkat.</p> <p>Jawaban Anda : .....</p>           | <p>1. Sangat Tidak Setuju (STS)</p> <p>2. Tidak Setuju (TS)</p> <p>3. Netral (N)</p> <p>4. Setuju (S)</p> <p>5. Sangat Setuju (SS)</p>                                                                                  |
| <p>Prosucc1 : (pro)</p> <p>52. Proyek implementasi sistem SAP dapat</p>                                                                                 | <p>1. Sangat Tidak Setuju (STS)</p> <p>2. Tidak Setuju (TS)</p>                                                                                                                                                         |

|                                                                                                                                               |                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| diselesaikan dengan tepat waktu.<br>Jawaban Anda :.....                                                                                       | 3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS)                                                                                                                           |
| Prosucc2 : (pro)<br>53. Proyek implementasi sistem SAP dapat diselesaikan sesuai dengan budget yang telah dianggarkan.<br>Jawaban Anda :..... | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS)                                                                   |
| Prosucc3 : (pro)<br>54. Menurut pendapat saya, kualitas sistem SAP sangat bagus sekali.<br>Jawaban Anda :.....                                | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS)                                                                   |
| Prosucc4 : (pro)<br>55. Scope sistem SAP sesuai dengan kebutuhan perusahaan<br>Jawaban Anda :.....                                            | 1. Sangat Tidak Setuju (STS)<br>2. Tidak Setuju (TS)<br>3. Netral (N)<br>4. Setuju (S)<br>5. Sangat Setuju (SS)                                                                   |
| 56. Apakah model bisnis perusahaan retail anda.<br>Pilih salah satu                                                                           | 1. Departemen store<br>2. Chain store<br>3. Concept store<br>4. Supermarket/Groceries<br>5. Foob & Bavarages                                                                      |
| 57. Sudah berapa lama anda bekerja di perusahaan anda                                                                                         | 1. < 5th<br>2. 5th sd 10 th<br>3. 10th sd 15 th<br>4. > 15th                                                                                                                      |
| 58. Apakah posisi/jabatan anda saat ini                                                                                                       | 1. Staff<br>2. Supervisor<br>3. Manajer<br>4. senior manajer                                                                                                                      |
| 59. Pada fungsi bisnis/departemen mana anda terlibat                                                                                          | 1. Finance & Accounting<br>2. Merchandising<br>3. Wholesales<br>4. Warehouse & Distribution<br>5. Store Operation                                                                 |
| 60. Sudah berapa lama SAP di implementasikan di perusahaan anda                                                                               | 1. < 5th<br>2. 5th sd 10th<br>3. 10th sd 15th<br>4. >15th                                                                                                                         |
| 61. Modul SAP apa saja yang telah di implementasikan di perusahaan anda                                                                       | 1. FICO (AR,AP,GL,CM,FA)<br>2. Retail Merchandising (Master, Pricing, Promotion, Allocation, Purchase Order)<br>3. Warehouse (Picking, Packing, GR, GI, Despatch, Transportation) |

|  |                                   |
|--|-----------------------------------|
|  | 4. Modul 1 & 2<br>5. Ketiga Modul |
|--|-----------------------------------|

## Appendix B

### Data Analyses of Main Survey

| No.               | Pertanyaan                                                                             | 5     | 4     | 3     | 2     | 1     | Jumlah | Skor total | Skor Ideal |
|-------------------|----------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|--------|------------|------------|
| 1                 | Sistem SAP memberikan informasi sangat berkualitas, akurat dan terpercaya              | 28    | 163   | 9     | 0     | 0     | 200    | 819        | 1000       |
|                   |                                                                                        | 14.00 | 81.50 | 4.50  | 0     | 0     | 100    | 81.90      |            |
| 2                 | Tidak ada masalah dengan kualitas informasi sistem SAP                                 | 38    | 140   | 20    | 2     | 0     | 200    | 814        | 1000       |
|                   |                                                                                        | 19.00 | 70.00 | 10.00 | 1.00  | 0     | 100    | 81.40      |            |
| 5                 | Dilingkungan pekerjaan Sistem SAP sangat penting                                       | 32    | 161   | 4     | 3     | 0     | 200    | 822        | 1000       |
|                   |                                                                                        | 16.00 | 80.50 | 2.00  | 1.50  | 0     | 100    | 82.20      |            |
| 6                 | Penggunaan sistem SAP ada relevansinya                                                 | 31    | 160   | 9     | 0     | 0     | 200    | 822        | 1000       |
|                   |                                                                                        | 15.50 | 80.00 | 4.50  | 0     | 0     | 100    | 82.20      |            |
| 7                 | Akses untuk sistem SAP                                                                 | 3     | 62    | 30    | 49    | 56    | 200    | 507        | 1000       |
|                   |                                                                                        | 1.50  | 31.00 | 15.00 | 24.50 | 28.00 | 100    | 50.70      |            |
| 8                 | Karyawan bangga menggunakan sistem SAP                                                 | 18    | 162   | 12    | 8     | 0     | 200    | 790        | 1000       |
|                   |                                                                                        | 9.00  | 81.00 | 6.00  | 4.00  | 0     | 100    | 79.00      |            |
| 9                 | Karyawan yang menggunakan sitem SAP mempunyai profile tinggi                           | 25    | 146   | 23    | 6     | 0     | 200    | 790        | 1000       |
|                   |                                                                                        | 12.50 | 73.00 | 11.50 | 3.00  | 0     | 100    | 79.00      |            |
| 10                | Tidak sulit menceritakan manfaat SAP kepada orang lain                                 | 22    | 161   | 17    | 0     | 0     | 200    | 805        | 1000       |
|                   |                                                                                        | 11.00 | 80.50 | 8.50  | 0     | 0     | 100    | 80.50      |            |
| 11                | Dapat memberikan informasi kepada orang lain atas konsekuensi sistem SAP               | 25    | 159   | 15    | 1     | 0     | 200    | 808        | 1000       |
|                   |                                                                                        | 12.50 | 79.50 | 7.50  | 0.50  | 0     | 100    | 80.80      |            |
| 12                | Kesulitan menjelaskan penggunaan sistem SAP yang mungkin memberikan manfaat atau tidak | 15    | 129   | 17    | 29    | 10    | 200    | 710        | 1000       |
|                   |                                                                                        | 7.50  | 64.50 | 8.50  | 14.50 | 5.00  | 100    | 71.00      |            |
| Jumlah Skor Total |                                                                                        |       |       |       |       |       |        | 7687       |            |
| Persentase Skor   |                                                                                        |       |       |       |       |       |        | 76.87      |            |



| No.               | Pertanyaan                                                                     | 5     | 4     | 3    | 2    | 1 | Jumlah | Skor total | Skor Ideal |
|-------------------|--------------------------------------------------------------------------------|-------|-------|------|------|---|--------|------------|------------|
| 28                | Dukungan penuh karyawan lain terhadap kegiatan menggunakan sistem SAP          | 25    | 165   | 10   | 0    | 0 | 200    | 815        | 1000       |
|                   |                                                                                | 12.50 | 82.50 | 5.00 | 0    | 0 | 100    | 81.50      |            |
| 29                | Senang hati menggunakan sistem SAP                                             | 24    | 163   | 12   | 1    | 0 | 200    | 810        | 1000       |
|                   |                                                                                | 12.00 | 81.50 | 6.00 | 0.50 | 0 | 100    | 81.00      |            |
| 30                | Manajemen senior memberikan dukungan penuh untuk menggunakan SAP               | 21    | 168   | 11   | 0    | 0 | 200    | 810        | 1000       |
|                   |                                                                                | 10.50 | 84.00 | 5.50 | 0    | 0 | 100    | 81.00      |            |
| 31                | Senang hati menggunakan Sistem SAP atas dukungan manajemen senior              | 18    | 164   | 15   | 3    | 0 | 200    | 797        | 1000       |
|                   |                                                                                | 9.00  | 82.00 | 7.50 | 1.50 | 0 | 100    | 79.70      |            |
| 32                | Dengan SAP akan meningkatkan unjuk kinerja                                     | 16    | 183   | 1    | 0    | 0 | 200    | 815        | 1000       |
|                   |                                                                                | 8.00  | 91.50 | 0.50 | 0    | 0 | 100    | 81.50      |            |
| 33                | Dengan Sistem SAP akan meningkatkan produktivitas kerja                        | 23    | 173   | 4    | 0    | 0 | 200    | 819        | 1000       |
|                   |                                                                                | 11.50 | 86.50 | 2.00 | 0    | 0 | 100    | 81.90      |            |
| 34                | Dengan sistem SAP akan meningkatkan efektifitas kerja                          | 19    | 176   | 5    | 0    | 0 | 200    | 814        | 1000       |
|                   |                                                                                | 9.50  | 88.00 | 2.50 | 0    | 0 | 100    | 81.40      |            |
| 35                | Secara keseluruhan sistem SAP sangat bermanfaat dalam membantu pekerjaan       | 30    | 154   | 15   | 1    | 0 | 200    | 813        | 1000       |
|                   |                                                                                | 15.0  | 77.0  | 7.5  | 0.5  | 0 | 100    | 81.30      |            |
| 36                | Sistem SAP mudah dalam pengoperasiannya                                        | 15    | 173   | 7    | 5    | 0 | 200    | 798        | 1000       |
|                   |                                                                                | 7.50  | 86.50 | 3.50 | 2.50 | 0 | 100    | 79.80      |            |
| 37                | sistem SAP sangat mudahnya dapat membantu mengerjakan apa yang hendak kerjakan | 23    | 162   | 11   | 4    | 0 | 200    | 804        | 1000       |
|                   |                                                                                | 11.50 | 81.00 | 5.50 | 2.00 | 0 | 100    | 80.40      |            |
| 38                | Interaksi dengan sistem SAP sangat jelas dan dapat dimengerti                  | 18    | 167   | 15   | 0    | 0 | 200    | 803        | 1000       |
|                   |                                                                                | 9.00  | 83.50 | 7.50 | 0    | 0 | 100    | 80.30      |            |
| Jumlah Skor Total |                                                                                |       |       |      |      |   |        | 8898       |            |
| Persentase Skor   |                                                                                |       |       |      |      |   |        | 80.89      |            |

| No.               | Pertanyaan                                                                       | 5     | 4     | 3     | 2     | 1     | Jumlah | Skor total | Skor Ideal |
|-------------------|----------------------------------------------------------------------------------|-------|-------|-------|-------|-------|--------|------------|------------|
| 39                | Berniat menggunakan sisitem SAP jika diberikan akses                             | 18    | 181   | 1     | 0     | 0     | 200    | 817        | 1000       |
|                   |                                                                                  | 9.00  | 90.50 | 0.50  | 0     | 0     | 100    | 81.70      |            |
| 40                | Tersedianya akses ke beberapa modul/fungsi sistem ERP                            | 19    | 167   | 12    | 2     | 0     | 200    | 803        | 1000       |
|                   |                                                                                  | 9.50  | 83.50 | 6.00  | 1.00  | 0     | 100    | 80.30      |            |
| 41                | Dengan mudah dapat menggunakan sistem SAP kapan saja berminat                    | 23    | 165   | 11    | 1     | 0     | 200    | 810        | 1000       |
|                   |                                                                                  | 11.50 | 82.50 | 5.50  | 0.50  | 0     | 100    | 81.00      |            |
| 42                | Waktu menggunakan menggunakan akses sistem SAP                                   | 23    | 110   | 50    | 15    | 2     | 200    | 737        | 1000       |
|                   |                                                                                  | 11.50 | 55.00 | 25.00 | 7.50  | 1.00  | 100    | 73.70      |            |
| 43                | Modul/fungsi sistem SAP yang paling sering penggunaan                            | 0     | 9     | 11    | 12    | 168   | 200    | 261        | 1000       |
|                   |                                                                                  | 0     | 4.50  | 5.50  | 6.00  | 84.00 | 100    | 26.10      |            |
| 44                | Puas dengan kualitas informasi yang dihasilkan sistem SAP                        | 19    | 169   | 12    | 0     | 0     | 200    | 807        | 1000       |
|                   |                                                                                  | 9.50  | 84.50 | 6.00  | 0     | 0     | 100    | 80.70      |            |
| 45                | Puas dengan unjuk kinerja sistem SAP                                             | 24    | 162   | 14    | 0     | 0     | 200    | 810        | 1000       |
|                   |                                                                                  | 12.00 | 81.00 | 7.00  | 0     | 0     | 100    | 81.00      |            |
| 46                | Secara keseluruhan sangat puas dengan sistem SAP                                 | 21    | 166   | 13    | 0     | 0     | 200    | 808        | 1000       |
|                   |                                                                                  | 10.50 | 83.00 | 6.50  | 0     | 0     | 100    | 80.80      |            |
| 47                | Dengan sistem SAP tidak perlu mengerjakan pekerjaan yang sama berulang-ulang     | 19    | 163   | 15    | 3     | 0     | 200    | 798        | 1000       |
|                   |                                                                                  | 9.50  | 81.50 | 7.50  | 1.50  | 0     | 100    | 79.80      |            |
| 48                | Sistem SAP dapat membantu membuat keputusan secara efektif                       | 17    | 171   | 12    | 0     | 0     | 200    | 805        | 1000       |
|                   |                                                                                  | 8.50  | 85.50 | 6.00  | 0     | 0     | 100    | 80.50      |            |
| 49                | Dengan sistem SAP, perusahaan dapat menekan biaya operasional                    | 22    | 156   | 17    | 5     | 0     | 200    | 795        | 1000       |
|                   |                                                                                  | 11.00 | 78.00 | 8.50  | 2.50  | 0     | 100    | 79.50      |            |
| 50                | Dengan sistem SAP, perusahaan dapat meningkatkan pendapatan                      | 22    | 151   | 27    | 0     | 0     | 200    | 795        | 1000       |
|                   |                                                                                  | 11.0  | 75.5  | 13.5  | 0     | 0     | 100    | 79.50      |            |
| 51                | Setelah mengimplementasikan sistem SAP, nilai saham perusahaan meningkat         | 21    | 144   | 35    | 0     | 0     | 200    | 786        | 1000       |
|                   |                                                                                  | 10.50 | 72.00 | 17.50 | 0     | 0     | 100    | 78.60      |            |
| 52                | Proyek implementasi sistem SAP dapat diselesaikan dengan tepat waktu             | 16    | 159   | 25    | 0     | 0     | 200    | 791        | 1000       |
|                   |                                                                                  | 8.0   | 79.5  | 12.5  | 0     | 0     | 100    | 79.10      |            |
| 53                | Proyek implementasi SAP dapat diselesaikan sesuai dengan budget yang dianggarkan | 23    | 146   | 31    | 0     | 0     | 200    | 792        | 1000       |
|                   |                                                                                  | 11.50 | 73.00 | 15.50 | 0     | 0     | 100    | 79.20      |            |
| 54                | Kualitas sistem SAP sangat bagus sekali                                          | 22    | 166   | 9     | 3     | 0     | 200    | 807        | 1000       |
|                   |                                                                                  | 11    | 83.00 | 4.50  | 1.50  | 0     | 100    | 80.70      |            |
| 55                | Scope sistem SAP sesuai dengan kebutuhan perusahaan                              | 26    | 165   | 9     | 0     | 0     | 200    | 817        | 1000       |
|                   |                                                                                  | 13    | 82.50 | 4.50  | 0     | 0     | 100    | 81.70      |            |
| 56                | Model industri retail anda                                                       | 16    | 49    | 89    | 26    | 20    | 200    | 615        | 1000       |
|                   |                                                                                  | 8     | 24.50 | 44.50 | 13.00 | 10.00 | 100    | 61.50      |            |
| 57                | Berapa lama anda bekerja diperusahaan anda sekarang                              | 0     | 6     | 38    | 71    | 85    | 200    | 365        | 1000       |
|                   |                                                                                  | 0     | 3.0   | 19.0  | 35.5  | 42.5  | 100    | 36.50      |            |
| 58                | Posisi anda saat ini                                                             | 0     | 6     | 65    | 92    | 37    | 200    | 440        | 1000       |
|                   |                                                                                  | 0     | 3.00  | 32.50 | 46.00 | 18.50 | 100    | 44.00      |            |
| 59                | Pada fungsi bisnis apa saat ini anda terlibat                                    | 48    | 18    | 2     | 116   | 16    | 200    | 566        | 1000       |
|                   |                                                                                  | 24.00 | 9.00  | 1.00  | 58.00 | 8.00  | 100    | 56.60      |            |
| 60                | Berapa lama SAP di implementasikan di perusahaan anda                            | 0     | 5     | 29    | 115   | 51    | 200    | 388        | 1000       |
|                   |                                                                                  | 0.00  | 2.50  | 14.50 | 57.50 | 25.50 | 100    | 38.80      |            |
| 61                | Modul SAP apa saja yang telah di implementasikan di perusahaan anda              | 96    | 4     | 12    | 76    | 12    | 200    | 696        | 1000       |
|                   |                                                                                  | 48.00 | 2.00  | 6.00  | 38.00 | 6.00  | 100    | 69.60      |            |
| Jumlah Skor Total |                                                                                  |       |       |       |       |       |        | 16109      |            |
| Persentase Skor   |                                                                                  |       |       |       |       |       |        | 70.04      |            |

Tabel

**42. Berapa jam dalam satu minggu Anda menggunakan akses sistem SAP**

| No    | Kategori                 | F   | P (%) |
|-------|--------------------------|-----|-------|
| 1     | 1 s/d 5 jam per minggu   | 2   | 1.00  |
| 2     | 6 s/d 10 jam per minggu  | 15  | 7.50  |
| 3     | 11 s/d 15 jam per minggu | 50  | 25.00 |
| 4     | 16 s/d 20 jam per minggu | 110 | 55.00 |
| 5     | dias 20 jam per minggu   | 23  | 11.50 |
| Total |                          | 200 | 100   |

Tabel

**43. Sebutkan modul/fungsi sistem SAP yang paling sering Anda pergunakan**

| No    | Kategori                                                       | F   | P (%) |
|-------|----------------------------------------------------------------|-----|-------|
| 1     | Retail Merchandising<br>(Article,PO,Alocation,Price,Promotion) | 168 | 84.00 |
| 2     | Financial (AR,AP,CM,FA,GL)                                     | 12  | 6.00  |
| 3     | Warehousing (Receipt,Pick,Pack,Despatch,DO)                    | 11  | 5.50  |
| 4     | Ketiga-tiganya                                                 | 9   | 4.50  |
| Total |                                                                | 200 | 100   |

Tabel

**56. Apakah model bisnis perusahaan retail Anda**

| No    | Kategori              | F   | P (%) |
|-------|-----------------------|-----|-------|
| 1     | Departement Store     | 20  | 10.00 |
| 2     | Chain Store           | 26  | 13.00 |
| 3     | Concept Store         | 89  | 44.50 |
| 4     | Supermarket/Groceries | 49  | 24.50 |
| 5     | Food & Beverages      | 16  | 8.00  |
| Total |                       | 200 | 100   |

Tabel

**57. Sudah berapa lama Anda bekerja di Perusahaan ini**

| No    | Kategori        | F   | P (%) |
|-------|-----------------|-----|-------|
| 1     | > 5 th          | 85  | 42.50 |
| 2     | 5 th s/d 10 th  | 71  | 35.50 |
| 3     | 10 th s/d 15 th | 38  | 19.00 |
| 4     | > 15 th         | 6   | 3.00  |
| Total |                 | 200 | 100   |

Tabel

**58. Apa posisi / jabatan Anda saat ini**

| No    | Kategori       | F   | P (%) |
|-------|----------------|-----|-------|
| 1     | Staff          | 37  | 18.50 |
| 2     | Supervisor     | 92  | 46.00 |
| 3     | Manajer        | 65  | 32.50 |
| 4     | Senior manajer | 6   | 3.00  |
| Total |                | 200 | 100   |

Tabel

**59. Pada fungsi / Departemen mana Anda terlibat**

| No    | Kategori                   | F   | P (%) |
|-------|----------------------------|-----|-------|
| 1     | Finance & Accounting       | 16  | 8.00  |
| 2     | Merchandising              | 116 | 58.00 |
| 3     | Wholesale                  | 2   | 1.00  |
| 4     | Warehousing & Distribution | 18  | 9.00  |
| 5     | Store Operation            | 48  | 24.00 |
| Total |                            | 200 | 100   |

Tabel

**60. Sudah berapa lama SAP bisa di Implementasikan di Perusahaan Anda**

| No    | Kategori        | F   | P (%) |
|-------|-----------------|-----|-------|
| 1     | > 5 th          | 51  | 25.50 |
| 2     | 5 th s/d 10 th  | 115 | 57.50 |
| 3     | 10 th s/d 15 th | 29  | 14.50 |
| 4     | > 15 th         | 5   | 2.50  |
| Total |                 | 200 | 100   |

Tabel

**61. Modul SAP apa saja yang telah di Implementasikan di Perusahaan Anda**

| No    | Kategori                | F   | P (%) |
|-------|-------------------------|-----|-------|
| 1     | FICO(AR,AP,GL,CS,CM,FA) | 12  | 6.00  |
| 2     | Retail Merhandising     | 76  | 38.00 |
| 3     | Warehouse & DC          | 12  | 6.00  |
| 4     | Modul no.1 & no.2       | 4   | 2.00  |
| 5     | Ketiga modul tersebut   | 96  | 48.00 |
| Total |                         | 200 | 100   |

## APPENDIX C

### REGRESSION ANALYSIS

| No . | Hipotesis |   |     | Koefisien Regresi | T Hitung | P Value | Keterangan |
|------|-----------|---|-----|-------------------|----------|---------|------------|
| 1    | OUT       | → | PU  | 0.339             | 8.099    | 0.000   | Signifikan |
| 2    | JOB       | → | PU  | 0.131             | 2.739    | 0.007   | Signifikan |
| 3    | IM        | → | PU  | 0.287             | 8.436    | 0.000   | Signifikan |
| 4    | RES       | → | PU  | 0.194             | 4.060    | 0.000   | Signifikan |
| 5    | COMP      | → | PU  | 0.428             | 9.873    | 0.000   | Signifikan |
| 6    | SYS       | → | PU  | 0.506             | 11.765   | 0.000   | Signifikan |
| 7    | INT       | → | PRO | 0.617             | 8.633    | 0.000   | Signifikan |
| 8    | INT       | → | PU  | 0.650             | 13.601   | 0.000   | Signifikan |
| 9    | SFT       | → | PRO | 0.385             | 5.625    | 0.000   | Signifikan |
| 10   | SFT       | → | PU  | 0.493             | 10.556   | 0.000   | Signifikan |
| 11   | CNS       | → | PRO | 0.500             | 8.779    | 0.000   | Signifikan |
| 12   | CNS       | → | PU  | 0.379             | 8.262    | 0.000   | Signifikan |
| 13   | SYS       | → | PRO | 0.548             | 9.290    | 0.000   | Signifikan |
| 14   | SYS       | → | PU  | 0.506             | 11.765   | 0.000   | Signifikan |
| 15   | SN        | → | PU  | 0.580             | 14.041   | 0.000   | Signifikan |
| 16   | SN        | → | USE | 0.705             | 18.336   | 0.000   | Signifikan |
| 17   | EOU       | → | PU  | 0.442             | 10.582   | 0.000   | Signifikan |
| 18   | EOU       | → | USE | 0.535             | 12.765   | 0.000   | Signifikan |
| 19   | USE       | → | STS | 0.694             | 11.425   | 0.000   | Signifikan |
| 20   | STS       | → | PRO | 0.683             | 11.889   | 0.000   | Signifikan |
| 21   | STS       | → | IND | 0.835             | 21.512   | 0.000   | Signifikan |
| 22   | PRO       | → | IND | 0.545             | 9.963    | 0.000   | Signifikan |
| 23   | IND       | → | ORG | 0.993             | 16.965   | 0.000   | Signifikan |
| 24   | PRO       | → | ORG | 0.812             | 12.609   | 0.000   | Signifikan |

## Regression

**Variables Entered/Removed<sup>a</sup>**

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|--------|
| 1     | OUT <sup>a</sup>  | .                 | Enter  |

a. All requested variables entered.

b. Dependent Variable: PU

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .499 <sup>a</sup> | .249     | .245              | .26777                     |

a. Predictors: (Constant), OUT

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F      | Sig.              |
|-------|------------|----------------|-----|-------------|--------|-------------------|
| 1     | Regression | 4.703          | 1   | 4.703       | 65.588 | .000 <sup>a</sup> |
|       | Residual   | 14.197         | 198 | .072        |        |                   |
|       | Total      | 18.900         | 199 |             |        |                   |

a. Predictors: (Constant), OUT

b. Dependent Variable: PU

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | 2.692                       | .172       |                           | 15.649 | .000 |
|       | OUT        | .339                        | .042       | .499                      | 8.099  | .000 |

a. Dependent Variable: PU

## Regression

**Variables Entered/Removed<sup>b</sup>**

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|--------|
| 1     | JOB <sup>a</sup>  | .                 | Enter  |

a. All requested variables entered.

b. Dependent Variable: PU

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .191 <sup>a</sup> | .037     | .032              | .30326                     |

a. Predictors: (Constant), JOB

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F     | Sig.              |
|-------|------------|----------------|-----|-------------|-------|-------------------|
| 1     | Regression | .690           | 1   | .690        | 7.504 | .007 <sup>a</sup> |
|       | Residual   | 18.210         | 198 | .092        |       |                   |
|       | Total      | 18.900         | 199 |             |       |                   |

a. Predictors: (Constant), JOB

b. Dependent Variable: PU

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | 3.608                       | .172       |                           | 20.929 | .000 |
|       | JOB        | .131                        | .048       | .191                      | 2.739  | .007 |

a. Dependent Variable: PU

## Regression

**Variables Entered/Removed<sup>b</sup>**

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|--------|
| 1     | IM <sup>a</sup>   | .                 | Enter  |

a. All requested variables entered.

b. Dependent Variable: PU

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .514 <sup>a</sup> | .264     | .261              | .26498                     |

a. Predictors: (Constant), IM

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F      | Sig.              |
|-------|------------|----------------|-----|-------------|--------|-------------------|
| 1     | Regression | 4.997          | 1   | 4.997       | 71.169 | .000 <sup>a</sup> |
|       | Residual   | 13.903         | 198 | .070        |        |                   |
|       | Total      | 18.900         | 199 |             |        |                   |

a. Predictors: (Constant), IM

b. Dependent Variable: PU

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | 2.941                       | .136       |                           | 21.647 | .000 |
|       | IM         | .287                        | .034       | .514                      | 8.436  | .000 |

a. Dependent Variable: PU

## Regression

**Variables Entered/Removed<sup>b</sup>**

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|--------|
| 1     | RES <sup>a</sup>  | .                 | Enter  |

a. All requested variables entered.

b. Dependent Variable: PU

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .277 <sup>a</sup> | .077     | .072              | .29684                     |

a. Predictors: (Constant), RES

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F      | Sig.              |
|-------|------------|----------------|-----|-------------|--------|-------------------|
| 1     | Regression | 1.453          | 1   | 1.453       | 16.488 | .000 <sup>a</sup> |
|       | Residual   | 17.447         | 198 | .088        |        |                   |
|       | Total      | 18.900         | 199 |             |        |                   |

a. Predictors: (Constant), RES

b. Dependent Variable: PU

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | 3.323                       | .187       |                           | 17.807 | .000 |
|       | RES        | .194                        | .048       | .277                      | 4.060  | .000 |

a. Dependent Variable: PU

## Regression

**Variables Entered/Removed<sup>b</sup>**

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|--------|
| 1     | COMP <sup>a</sup> | .                 | Enter  |

a. All requested variables entered.

b. Dependent Variable: PU

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .574 <sup>a</sup> | .330     | .326              | .25291                     |

a. Predictors: (Constant), COMP

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F      | Sig.              |
|-------|------------|----------------|-----|-------------|--------|-------------------|
| 1     | Regression | 6.235          | 1   | 6.235       | 97.471 | .000 <sup>a</sup> |
|       | Residual   | 12.665         | 198 | .064        |        |                   |
|       | Total      | 18.900         | 199 |             |        |                   |

a. Predictors: (Constant), COMP

b. Dependent Variable: PU

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | 2.354                       | .175       |                           | 13.425 | .000 |
|       | COMP       | .428                        | .043       | .574                      | 9.873  | .000 |

a. Dependent Variable: PU

## Regression

**Variables Entered/Removed<sup>b</sup>**

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|--------|
| 1     | SYS <sup>a</sup>  | .                 | Enter  |

a. All requested variables entered.

b. Dependent Variable: PU

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .641 <sup>a</sup> | .411     | .408              | .23702                     |

a. Predictors: (Constant), SYS

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F       | Sig.              |
|-------|------------|----------------|-----|-------------|---------|-------------------|
| 1     | Regression | 7.776          | 1   | 7.776       | 138.414 | .000 <sup>a</sup> |
|       | Residual   | 11.124         | 198 | .056        |         |                   |
|       | Total      | 18.900         | 199 |             |         |                   |

a. Predictors: (Constant), SYS

b. Dependent Variable: PU

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | 2.040                       | .174       |                           | 11.729 | .000 |
|       | SYS        | .506                        | .043       | .641                      | 11.765 | .000 |

a. Dependent Variable: PU

## Regression

**Variables Entered/Removed<sup>b</sup>**

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|--------|
| 1     | INT <sup>a</sup>  | .                 | Enter  |

a. All requested variables entered.

b. Dependent Variable: PRO

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .523 <sup>a</sup> | .273     | .270              | .33230                     |

a. Predictors: (Constant), INT

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F      | Sig.              |
|-------|------------|----------------|-----|-------------|--------|-------------------|
| 1     | Regression | 8.229          | 1   | 8.229       | 74.522 | .000 <sup>a</sup> |
|       | Residual   | 21.864         | 198 | .110        |        |                   |
|       | Total      | 30.094         | 199 |             |        |                   |

a. Predictors: (Constant), INT

b. Dependent Variable: PRO

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|-------|------|
|       |            | B                           | Std. Error | Beta                      |       |      |
| 1     | (Constant) | .640                        | .290       |                           | 2.205 | .029 |
|       | INT        | .617                        | .071       | .523                      | 8.633 | .000 |

a. Dependent Variable: PRO

## Regression

**Variables Entered/Removed<sup>b</sup>**

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|--------|
| 1     | INT <sup>a</sup>  | .                 | Enter  |

a. All requested variables entered.

b. Dependent Variable: PU

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .695 <sup>a</sup> | .483     | .480              | .22215                     |

a. Predictors: (Constant), INT

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F       | Sig.              |
|-------|------------|----------------|-----|-------------|---------|-------------------|
| 1     | Regression | 9.128          | 1   | 9.128       | 184.974 | .000 <sup>a</sup> |
|       | Residual   | 9.771          | 198 | .049        |         |                   |
|       | Total      | 18.900         | 199 |             |         |                   |

a. Predictors: (Constant), INT

b. Dependent Variable: PU

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | 1.445                       | .194       |                           | 7.444  | .000 |
|       | INT        | .650                        | .048       | .695                      | 13.601 | .000 |

a. Dependent Variable: PU

## Regression

**Variables Entered/Removed<sup>b</sup>**

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|--------|
| 1     | SFT <sup>a</sup>  | .                 | Enter  |

a. All requested variables entered.

b. Dependent Variable: PRO

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .371 <sup>a</sup> | .138     | .133              | .36200                     |

a. Predictors: (Constant), SFT

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F      | Sig.              |
|-------|------------|----------------|-----|-------------|--------|-------------------|
| 1     | Regression | 4.146          | 1   | 4.146       | 31.640 | .000 <sup>a</sup> |
|       | Residual   | 25.947         | 198 | .131        |        |                   |
|       | Total      | 30.094         | 199 |             |        |                   |

a. Predictors: (Constant), SFT

b. Dependent Variable: PRO

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|-------|------|
|       |            | B                           | Std. Error | Beta                      |       |      |
| 1     | (Constant) | 1.574                       | .279       |                           | 5.638 | .000 |
|       | SFT        | .385                        | .068       | .371                      | 5.625 | .000 |

a. Dependent Variable: PRO

## Regression

**Variables Entered/Removed<sup>b</sup>**

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|--------|
| 1     | SFT <sup>a</sup>  | .                 | Enter  |

a. All requested variables entered.

b. Dependent Variable: PU

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .600 <sup>a</sup> | .360     | .357              | .24714                     |

a. Predictors: (Constant), SFT

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F       | Sig.              |
|-------|------------|----------------|-----|-------------|---------|-------------------|
| 1     | Regression | 6.806          | 1   | 6.806       | 111.428 | .000 <sup>a</sup> |
|       | Residual   | 12.094         | 198 | .061        |         |                   |
|       | Total      | 18.900         | 199 |             |         |                   |

a. Predictors: (Constant), SFT

b. Dependent Variable: PU

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | 2.072                       | .191       |                           | 10.869 | .000 |
|       | SFT        | .493                        | .047       | .600                      | 10.556 | .000 |

a. Dependent Variable: PU

## Regression

**Variables Entered/Removed<sup>b</sup>**

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|--------|
| 1     | CNS <sup>a</sup>  | .                 | Enter  |

a. All requested variables entered.

b. Dependent Variable: PRO

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .529 <sup>a</sup> | .280     | .277              | .33076                     |

a. Predictors: (Constant), CNS

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F      | Sig.              |
|-------|------------|----------------|-----|-------------|--------|-------------------|
| 1     | Regression | 8.432          | 1   | 8.432       | 77.075 | .000 <sup>a</sup> |
|       | Residual   | 21.661         | 198 | .109        |        |                   |
|       | Total      | 30.094         | 199 |             |        |                   |

a. Predictors: (Constant), CNS

b. Dependent Variable: PRO

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|-------|------|
|       |            | B                           | Std. Error | Beta                      |       |      |
| 1     | (Constant) | 1.140                       | .229       |                           | 4.984 | .000 |
|       | CNS        | .500                        | .057       | .529                      | 8.779 | .000 |

a. Dependent Variable: PRO

## Regression

**Variables Entered/Removed<sup>b</sup>**

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|--------|
| 1     | CNS <sup>a</sup>  | .                 | Enter  |

a. All requested variables entered.

b. Dependent Variable: PU

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .506 <sup>a</sup> | .256     | .253              | .26642                     |

a. Predictors: (Constant), CNS

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F      | Sig.              |
|-------|------------|----------------|-----|-------------|--------|-------------------|
| 1     | Regression | 4.846          | 1   | 4.846       | 68.269 | .000 <sup>a</sup> |
|       | Residual   | 14.054         | 198 | .071        |        |                   |
|       | Total      | 18.900         | 199 |             |        |                   |

a. Predictors: (Constant), CNS

b. Dependent Variable: PU

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | 2.562                       | .184       |                           | 13.899 | .000 |
|       | CNS        | .379                        | .046       | .506                      | 8.262  | .000 |

a. Dependent Variable: PU

## Regression

**Variables Entered/Removed<sup>b</sup>**

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|--------|
| 1     | SYS <sup>a</sup>  | .                 | Enter  |

a. All requested variables entered.

b. Dependent Variable: PRO

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .551 <sup>a</sup> | .304     | .300              | .32535                     |

a. Predictors: (Constant), SYS

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F      | Sig.              |
|-------|------------|----------------|-----|-------------|--------|-------------------|
| 1     | Regression | 9.135          | 1   | 9.135       | 86.299 | .000 <sup>a</sup> |
|       | Residual   | 20.959         | 198 | .106        |        |                   |
|       | Total      | 30.094         | 199 |             |        |                   |

a. Predictors: (Constant), SYS

b. Dependent Variable: PRO

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|-------|------|
|       |            | B                           | Std. Error | Beta                      |       |      |
| 1     | (Constant) | .931                        | .239       |                           | 3.901 | .000 |
|       | SYS        | .548                        | .059       | .551                      | 9.290 | .000 |

a. Dependent Variable: PRO

## Regression

**Variables Entered/Removed<sup>b</sup>**

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|--------|
| 1     | SYS <sup>a</sup>  | .                 | Enter  |

a. All requested variables entered.

b. Dependent Variable: PU

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .641 <sup>a</sup> | .411     | .408              | .23702                     |

a. Predictors: (Constant), SYS

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F       | Sig.              |
|-------|------------|----------------|-----|-------------|---------|-------------------|
| 1     | Regression | 7.776          | 1   | 7.776       | 138.414 | .000 <sup>a</sup> |
|       | Residual   | 11.124         | 198 | .056        |         |                   |
|       | Total      | 18.900         | 199 |             |         |                   |

a. Predictors: (Constant), SYS

b. Dependent Variable: PU

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | 2.040                       | .174       |                           | 11.729 | .000 |
|       | SYS        | .506                        | .043       | .641                      | 11.765 | .000 |

a. Dependent Variable: PU

## Regression

**Variables Entered/Removed<sup>b</sup>**

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|--------|
| 1     | SN <sup>a</sup>   | .                 | Enter  |

a. All requested variables entered.

b. Dependent Variable: PU

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .706 <sup>a</sup> | .499     | .496              | .21870                     |

a. Predictors: (Constant), SN

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F       | Sig.              |
|-------|------------|----------------|-----|-------------|---------|-------------------|
| 1     | Regression | 9.430          | 1   | 9.430       | 197.158 | .000 <sup>a</sup> |
|       | Residual   | 9.470          | 198 | .048        |         |                   |
|       | Total      | 18.900         | 199 |             |         |                   |

a. Predictors: (Constant), SN

b. Dependent Variable: PU

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | 1.734                       | .168       |                           | 10.351 | .000 |
|       | SN         | .580                        | .041       | .706                      | 14.041 | .000 |

a. Dependent Variable: PU

## Regression

**Variables Entered/Removed<sup>b</sup>**

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|--------|
| 1     | SN <sup>a</sup>   | .                 | Enter  |

a. All requested variables entered.

b. Dependent Variable: USE

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .793 <sup>a</sup> | .629     | .627              | .20362                     |

a. Predictors: (Constant), SN

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F       | Sig.              |
|-------|------------|----------------|-----|-------------|---------|-------------------|
| 1     | Regression | 13.940         | 1   | 13.940      | 336.221 | .000 <sup>a</sup> |
|       | Residual   | 8.209          | 198 | .041        |         |                   |
|       | Total      | 22.149         | 199 |             |         |                   |

a. Predictors: (Constant), SN

b. Dependent Variable: USE

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | 1.202                       | .156       |                           | 7.707  | .000 |
|       | SN         | .705                        | .038       | .793                      | 18.336 | .000 |

a. Dependent Variable: USE

## Regression

**Variables Entered/Removed<sup>b</sup>**

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|--------|
| 1     | EOU <sup>a</sup>  | .                 | Enter  |

a. All requested variables entered.

b. Dependent Variable: PU

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .601 <sup>a</sup> | .361     | .358              | .24692                     |

a. Predictors: (Constant), EOU

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F       | Sig.              |
|-------|------------|----------------|-----|-------------|---------|-------------------|
| 1     | Regression | 6.827          | 1   | 6.827       | 111.977 | .000 <sup>a</sup> |
|       | Residual   | 12.072         | 198 | .061        |         |                   |
|       | Total      | 18.900         | 199 |             |         |                   |

a. Predictors: (Constant), EOU

b. Dependent Variable: PU

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | 2.305                       | .168       |                           | 13.700 | .000 |
|       | EOU        | .442                        | .042       | .601                      | 10.582 | .000 |

a. Dependent Variable: PU

## Regression

**Variables Entered/Removed<sup>b</sup>**

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|--------|
| 1     | EOU <sup>a</sup>  | .                 | Enter  |

a. All requested variables entered.

b. Dependent Variable: USE

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .672 <sup>a</sup> | .451     | .449              | .24771                     |

a. Predictors: (Constant), EOU

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F       | Sig.              |
|-------|------------|----------------|-----|-------------|---------|-------------------|
| 1     | Regression | 9.999          | 1   | 9.999       | 162.952 | .000 <sup>a</sup> |
|       | Residual   | 12.150         | 198 | .061        |         |                   |
|       | Total      | 22.149         | 199 |             |         |                   |

a. Predictors: (Constant), EOU

b. Dependent Variable: USE

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | 1.907                       | .169       |                           | 11.295 | .000 |
|       | EOU        | .535                        | .042       | .672                      | 12.765 | .000 |

a. Dependent Variable: USE

## Regression

**Variables Entered/Removed<sup>b</sup>**

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|--------|
| 1     | USE <sup>a</sup>  | .                 | Enter  |

a. All requested variables entered.

b. Dependent Variable: STS

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .630 <sup>a</sup> | .397     | .394              | .28593                     |

a. Predictors: (Constant), USE

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F       | Sig.              |
|-------|------------|----------------|-----|-------------|---------|-------------------|
| 1     | Regression | 10.673         | 1   | 10.673      | 130.540 | .000 <sup>a</sup> |
|       | Residual   | 16.188         | 198 | .082        |         |                   |
|       | Total      | 26.860         | 199 |             |         |                   |

a. Predictors: (Constant), USE

b. Dependent Variable: STS

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | 1.230                       | .247       |                           | 4.983  | .000 |
|       | USE        | .694                        | .061       | .630                      | 11.425 | .000 |

a. Dependent Variable: STS

## Regression

**Variables Entered/Removed<sup>b</sup>**

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|--------|
| 1     | STS <sup>a</sup>  | .                 | Enter  |

a. All requested variables entered.

b. Dependent Variable: PRO

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .645 <sup>a</sup> | .417     | .414              | .29779                     |

a. Predictors: (Constant), STS

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F       | Sig.              |
|-------|------------|----------------|-----|-------------|---------|-------------------|
| 1     | Regression | 12.535         | 1   | 12.535      | 141.357 | .000 <sup>a</sup> |
|       | Residual   | 17.558         | 198 | .089        |         |                   |
|       | Total      | 30.094         | 199 |             |         |                   |

a. Predictors: (Constant), STS

b. Dependent Variable: PRO

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | .378                        | .233       |                           | 1.619  | .107 |
|       | STS        | .683                        | .057       | .645                      | 11.889 | .000 |

a. Dependent Variable: PRO

## Regression

**Variables Entered/Removed<sup>b</sup>**

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|--------|
| 1     | STS <sup>a</sup>  | .                 | Enter  |

a. All requested variables entered.

b. Dependent Variable: IND

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .837 <sup>a</sup> | .700     | .699              | .20116                     |

a. Predictors: (Constant), STS

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F       | Sig.              |
|-------|------------|----------------|-----|-------------|---------|-------------------|
| 1     | Regression | 18.727         | 1   | 18.727      | 462.783 | .000 <sup>a</sup> |
|       | Residual   | 8.012          | 198 | .040        |         |                   |
|       | Total      | 26.739         | 199 |             |         |                   |

a. Predictors: (Constant), STS

b. Dependent Variable: IND

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | .633                        | .158       |                           | 4.018  | .000 |
|       | STS        | .835                        | .039       | .837                      | 21.512 | .000 |

a. Dependent Variable: IND

## Regression

**Variables Entered/Removed<sup>b</sup>**

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|--------|
| 1     | PRO <sup>a</sup>  | .                 | Enter  |

a. All requested variables entered.

b. Dependent Variable: IND

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .578 <sup>a</sup> | .334     | .331              | .29991                     |

a. Predictors: (Constant), PRO

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F      | Sig.              |
|-------|------------|----------------|-----|-------------|--------|-------------------|
| 1     | Regression | 8.929          | 1   | 8.929       | 99.269 | .000 <sup>a</sup> |
|       | Residual   | 17.810         | 198 | .090        |        |                   |
|       | Total      | 26.739         | 199 |             |        |                   |

a. Predictors: (Constant), PRO

b. Dependent Variable: IND

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | 2.298                       | .173       |                           | 13.291 | .000 |
|       | PRO        | .545                        | .055       | .578                      | 9.963  | .000 |

a. Dependent Variable: IND

## Regression

**Variables Entered/Removed<sup>b</sup>**

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|--------|
| 1     | IND <sup>a</sup>  | .                 | Enter  |

a. All requested variables entered.

b. Dependent Variable: ORG

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .770 <sup>a</sup> | .592     | .590              | .30277                     |

a. Predictors: (Constant), IND

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F       | Sig.              |
|-------|------------|----------------|-----|-------------|---------|-------------------|
| 1     | Regression | 26.383         | 1   | 26.383      | 287.818 | .000 <sup>a</sup> |
|       | Residual   | 18.150         | 198 | .092        |         |                   |
|       | Total      | 44.533         | 199 |             |         |                   |

a. Predictors: (Constant), IND

b. Dependent Variable: ORG

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | -.021                       | .236       |                           | -.089  | .929 |
|       | IND        | .993                        | .059       | .770                      | 16.965 | .000 |

a. Dependent Variable: ORG

## Regression

**Variables Entered/Removed<sup>b</sup>**

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|--------|
| 1     | PRO <sup>a</sup>  | .                 | Enter  |

a. All requested variables entered.

b. Dependent Variable: ORG

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .667 <sup>a</sup> | .445     | .443              | .35320                     |

a. Predictors: (Constant), PRO

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F       | Sig.              |
|-------|------------|----------------|-----|-------------|---------|-------------------|
| 1     | Regression | 19.833         | 1   | 19.833      | 158.980 | .000 <sup>a</sup> |
|       | Residual   | 24.701         | 198 | .125        |         |                   |
|       | Total      | 44.533         | 199 |             |         |                   |

a. Predictors: (Constant), PRO

b. Dependent Variable: ORG

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
|       |            | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant) | 1.412                       | .204       |                           | 6.934  | .000 |
|       | PRO        | .812                        | .064       | .667                      | 12.609 | .000 |

a. Dependent Variable: ORG

## CURRICULUM VITAE

|                                                                                   |                                                                         |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------|
|  | <b>Name : Eko Hardi Suryantoro</b>                                      |
|                                                                                   | <b>Date of Birth : 21 Oktober 1960</b>                                  |
|                                                                                   | <b>Address : Permata Puri Laguna Blok A6/No.3<br/>Cimanggis – Depok</b> |
|                                                                                   | <b>Phone : 021-87757161</b>                                             |
|                                                                                   | <b>Mobile : 081616 31266</b>                                            |

### Formal Education :

- Elementry : SD PAYAMAN 2 – Nganjuk – East Java 1967 - 1972.
- Secondary : SMP Negri 7 – Malang – East Java 1973 - 1975.
- High School : STM Penerbangan - Jakarta 1975 – 1979
- Diploma III : STMIK “BUDI – LUHUR “ Majoring : Management  
Information System 1984 - 1987
- Under Graduate (S1) : Islamic University “AS’SYAFIIYAH” Jakarta,  
Majoring Islamic Communication 2006 – 2007
- Graduate (S2) : Islamic University " AS'SYAFIIYAH" Jakarta, Majoring  
Islamic Communication 2009
- Doctoral (S3) : On going . UIN-Jakarta, Cocentrate on Islamic Studies -  
Jakarta (2nd Semester) 2011
- Graduate (S2) :On going. "BINUS UNIVERSITY", Majoring "Information  
System Management", (Term 4), 2012

### **Non Formal Education :**

- IEC English Course, Jakarta 1980 – 1982
- Retail & Barcode System Training, Singapore, 1996
- Retail & Management Training, Royal Sporting House Kuala Lumpur – Malaysia, 1996
- Retail Information System Training, Malaysia, Oct 1996
- Retail Modeling & Methodology Training , Singapore, June 1997
- Information for Retail Training, Singapore, November 1999
- Training Management for Asia Region , Singapore 1999
- Implementing Retail Application , Philipine, Feb 2000
- Implementing System Retail Management , RSH Philipine, April 2000.
- Implementing Retail, Philipine July 2000
- Retail Training, Singapore, June 2001
- Implementing System Retail , India, June 2001.
- Training Retail, Singapore, November 2004
- Overview & Implementing project Retail, Bangkok, Thailand, Feb 2005
- Implementing project Retail, Bangkok, Thailand, March 2005

### **Carrier Path/Job Histories**

- 2013 : PT MAP GROUP, IS/IT GM , PMO & Bussiness Engagement (CIO Assistant)
- 2012 : PT MAP GROUP, IS/IT General Manager
- 2011: PT MAP GROUP, IT Division Manager covering (IT Project Manager, IT Operation Support Manager, IT QA Manager, IT Training Manager)

- 2010: PT MAP GROUP, IT Division Manager covering (IT Project Manager, IT Audit Manager)
- 2007: PT.MAP GROUP, IT Special Task Force.
- 2006 : PT.MAP GROUP , IT Division Manager covering (IT Services , Support and Operational Retail)
- 2005: PT.MAP GROUP, In charge of Head of IT Retail group MAP
- 2004 : PT.MAP GROUP, QA Manager on SAP Retail Implementation
- 2004 : PT.MAP GROUP, IT Head of System Development Front End System POS
- 2002 : PT.MAP GROUP , In charge of IT Head of Asia Pacific
- 2000 : PT.MAP , IT Head of Development
- 1997 : PT.MAP,MIS Manager
- 1995 : PT.MAP , Assisten Manager MIS
- 1993 : PT.MAP, EDP Coordinator
- 1991 : PT MAP, EDP Supervisor
- 1990 : PT Mitra Prima , Programmer
- 1990 : PT. Softex , Programmer
- 1989 : PT.Bahana Tugu Mas – Programmer
- 1987 : Software House - Programmer

### **Skill Set & Specialties**

- ERP Retail Industry
- Business Process Re-engineering (Retail industry, Garment Industry)
- SAP Functionalities (MM,SD,PP,FI,CO)
- Project Management
- Front End Application (POS)
- IT Quality Assurance