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DEVELOPING PURCHASE INVOICE PROCESSING FOR AN
AUTOMATIC PAYMENT CYCLE

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Today's companies are facing and challenged by the advancements in technology, business innovation and globalization. Due to this fast changing market conditions and uncertainties in the economic outlook, companies are experiencing changes and are adapting to this new technology in order to survive in the business world. The use of electronically working tools and accounting software are really common in each organization. Most of the companies are replacing manual processing to automation to be more effective and to save costs and time.

The purpose of this thesis was to find a way to improve purchase invoice processing in the Accounting Department of the case company, and to develop an effective accounting process with regards to purchase invoice processing.

The topics discussed in the theoretical part of this thesis consist of the purchase invoice procedures from four different aspects, namely from order to pay process perspective, accounting perspective, payment perspective and tools perspective. The researcher explains the case company's procedure and / or current situation after each theory to help readers to understand the thesis well. Nevertheless, this part of the thesis relies heavily on professional literature.

The research method used in this thesis was qualitative research as a case study focusing only on a single organization. A semi-structured interview has been conducted in a friendly, conversational style. Six department managers, who handled and are aware of purchase invoice processing, has been interviewed to gather data.

The results of this thesis shows that the case company really needs to solve and improve the handling of purchase invoice and to rethink the approval process of both the purchase requisition and purchase order. Most of the respondents think that the company has an old fashioned, lengthy and time-consuming manual processing of purchase invoice; and a lot of people involved in the approval of purchase requisition and purchase order. The case company should provide employees an appropriate working tool for a more effective, fast and smooth flow process of handling purchase documents. This will not only promote employees stability, well-being and comfort in the work place but also make the business more efficient.

CONTENTS

1 INTRODUCTION

Every organization has their own way of doing things with regards to purchase invoice procedure depending on the nature, location and size of the company. We are living in a fast, changing economy where globalization of companies is so common and with the advancements in information technology; it does not only affect the business world but also everyone, as an employee. The modern technology provides a better alternative to manual invoice processing and most of the companies are already using a highly equipped electronic system and accounting software not only to meet the current requirements and to survive in the business but also to promote employees stability and comfort in the work place.

More and more companies are realizing the positive benefits of seeking out and eradicating the hidden costs acquired in manual invoice processing. Dramatic success has been achieved in environments where a high level of automation is present. In IOMA's (The Institute of Management & Administration) Accounts Payable Department Benchmarks and Analysis 2010, it was reported that companies who are processing invoices in a largely manual environment have processing costs up to 20 times higher than those companies who are processing invoices within an environment with a high level of automation.

By replacing manual processing with automation, companies are able to slash processing costs, and turn invoices around in hours instead of days. Other benefits of automation include quickly delivering accurate data to the accounting or ERP system and skyrocketing productivity without hiring additional staff. And, when business process management (BPM) is added to the mix, exception handling and approvals can easily be fast-tracked to streamline the process even further. Business process management (BPM) also gives management a transparent picture of corporate processes in real-time to foresee and correct any potential issues and make better decision to improve cash flows (Website of Association for Information and Image Management 2014, 2).

The purpose of this study is to find out problems that occurs in purchase invoice processing of the case company and thus to change and improve the accounting process with regards to purchase invoice processing. The researcher wishes that the case company takes the research outcome into consideration in redefining the invoice and purchase order approval process.

The reason for the choice of this topic is to solve the case company's internal problems or at least to improve it to lessen the hours spent by the employees in processing a purchase invoice and at the same time to improve the payment cycle and the accounting process of the case company with regards to purchase invoicing.

However, due to the issues on confidentiality and publicity, the case company wants to stay anonymously. It was agreed that the researcher will not use the name of the company in the thesis or the name of the person that the researcher will be interviewing but instead use an anonymous company and the person's position / title. The researcher will be writing the study about this anonymous company based on theories, work experiences and interviews but have the full support of the whole department.

Another reason for the choice of this topic is that the researcher is quite familiar with the subject. With a degree in Bachelor in Business Administration (BBA) major in Accounting, the researcher has over twenty years of experience on bookkeeping, financial statements, cash management, payroll, budgeting, invoicing, accounts payable, accounts receivable, filing, posting and other usual office tasks.

Accounts payable is one of the tasks the researcher is handling in her current job right now, and handling purchase invoice is one of them. At the early stage of this research, one of the accountants was doing this job but unfortunately she left the company and the case company decided not to replace her at all, thus the job scope was given to the researcher.

The researcher is the one who is receiving all the incoming purchase invoices since then, do the preliminary SAP posting, preparing and executing purchase invoice payments manually, clearing payments and vendors, and posting documents with the bank statement according to the accounting procedure. Also, in relation to this study

and as part of the procedure in handling purchase invoices, the researcher is checking purchase order and the budget specified or remaining for a certain goods / services. By combining the researcher's know-how and the utilization of the work experiences she gained, it will allow her to explore, analyse and conclude the subject very well in every different aspect.

This study was conducted only for the benefits of the case company. However, this will perhaps serve as a benchmark not only to those organizations with the same problem as the case company has but also to those organizations that are not using the latest high-tech and software system yet, especially the small medium enterprises (SME's) which are considering the use of electronic working tool.

2 AIM OF THE STUDY

2.1 The aim and purpose of the study

The purpose of this study is to find a way to improve purchase invoice processing in the Accounting Department, to create an effective automatic payment cycle and to develop an effective accounting process with regards to purchase invoicing process. This study will focus particularly on how to lessen the compensation of time in invoicing process, on how to avoid paying late fees and to improve the accounting process of the case company with regards to the purchase invoicing process. This study will answer to the following questions:

    1. What are the problems occurring in purchase invoice processing?

    2. How to develop an effective purchase invoice processing?

    3. How to change the processes in the Accounting Department with regards to purchase invoice processing and an effective automatic payment cycle?

This study is limited only to purchase invoice processing on the buyer's perspective, the problems that the case company faces related to its processing and finding a solution to that problems. The thesis will be focusing on operational aspects based on the research theories and interviews.

The theoretical part of this study discussed the theory on purchase invoice processing from four different perspectives, namely from order to pay process perspective, accounting perspective, payment perspective and tools perspective. To help readers to understand this thesis well, the author discussed the case company's current procedure on the subject after each every theory. The theoretical part of this study will be discussed later in the first part of this thesis.

The research method used in this study, which will be discussed on the second part of this thesis, was qualitative research as a case study focusing only on a single organization. The aim was to find a solution to improve purchase invoice processing in

the Accounting Department in which until now is using manual processing by using a semi-structured interview in a friendly, conversational style with six department managers.

This study, as mentioned earlier, focused on how to lessen the compensation of time in purchase invoicing process, on how to avoid paying late fees and to improve the accounting process of the case company with regards to the purchase invoice processing. As in the theoretical part of this study, the author explained the case company's current situation or process relating the subject after each every theory.

The last part of this study focuses on analysing results from the research questions, discussion of the outcome and the researcher's conclusion based on theory and empirical questions. The outcome of the study will serve as a development proposal for a much easier and fastest way of handling purchase invoices thus creating an automatic payment cycle for the case company.

2.2 The case company

The case company receives an approximately forty (40) purchase invoices in a day and pays a maximum of two hundred twenty (220) invoices in a week. The total invoices to be paid each month are approximately seven hundred fifty (750) to eight hundred fifty (850) invoices. The case company is still using manual payment or the manual input of invoices in the bank system for payment, which adds more work to the employees.

In addition to that, the company has a long purchase invoice processing that takes time and effort to employees who are handling and dealing with it. The purchase invoice goes to a lot of people for approval before it finally goes for payment. Upon receiving a purchase invoice, the accountant record it to an excel-file called the "Books" and gives an internal number for each invoice, which is in chronological order.

After recording it in the "Books", a cover sheet should be attached to the invoice with its given number on it together with the Purchase Requisition (PR) or Purchase Order (PO) and other necessary attachments, i.e., work order. Then the technical approval, a signature of the Department Manager, who requested the order of the goods or services, should be taken. They have three (3) days to return the signed invoice cover sheet to the Accounting Department.

After having Department Manager's approval, the invoice goes to Cost Control for budget approval and for goods / services reception in SAP system. They have one (1) day to approve invoices. Then it goes back to the Accounting Department for SAP posting either through FB-60 transaction or MIRO posting and then finally for payment, which is, the manual input of the invoices in the bank system. After putting / keying the invoices in the bank system manually, the invoices should be put in the folder in order for two managers to do the bank confirmation for releasing the payment for the said invoices. Each of them has at least a day to do the bank confirmation due to the checking of the invoices.

Finally, the invoices goes back to the Accounting Department to be marked as paid in the "Books" and waiting for the bank statement for bookkeeping. The normal invoicing process duration for an invoice, in summary, is a maximum of nine (9) working days (Figure 1).
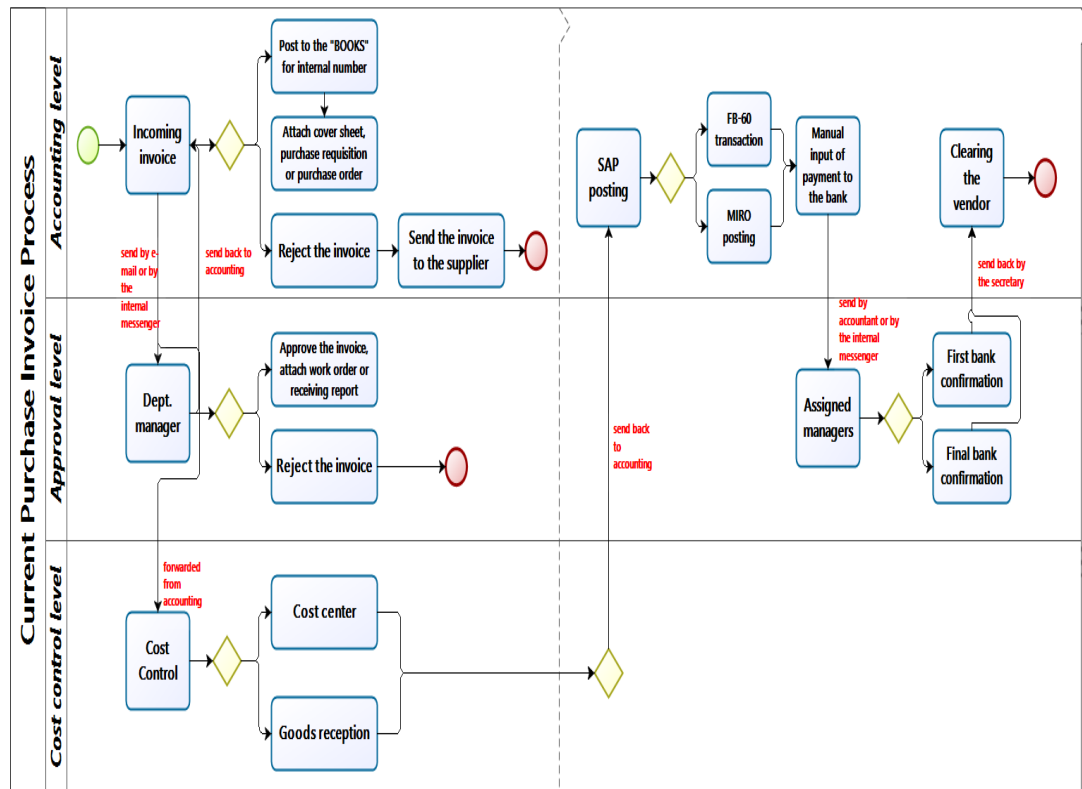
Figure 1. Purchase Invoice Process.

Another problem that arises in the Accounting Department is the long processing of the purchase requisition (PR) and Purchase Order (PO); documents needed for ordering goods and services and are also necessary for the invoice approval for payment. Each department has a given budget for a year depending on goods and services they needed. They usually have one or more open Purchase Orders (PO) for such budget. In case, they have already used the open PO and it is not enough for their department's needs, they have to do the amendment for the open Purchase Order (PO) by issuing a Purchase Request (PR).

The processing of Purchase Order (PO) amendment is the same process as in Purchase Order (PO) creation and it is also signed by the issuer, his/her Department Manager, the Cost Controller for the budget and finally by the Project Direction / Site Management. When all the approval has been ready, it is forwarded to the Procurement Department for the selection of supplier and ordering (Figure 2). This document should be released by procurement and afterwards posted in SAP by the Accountant before payment.
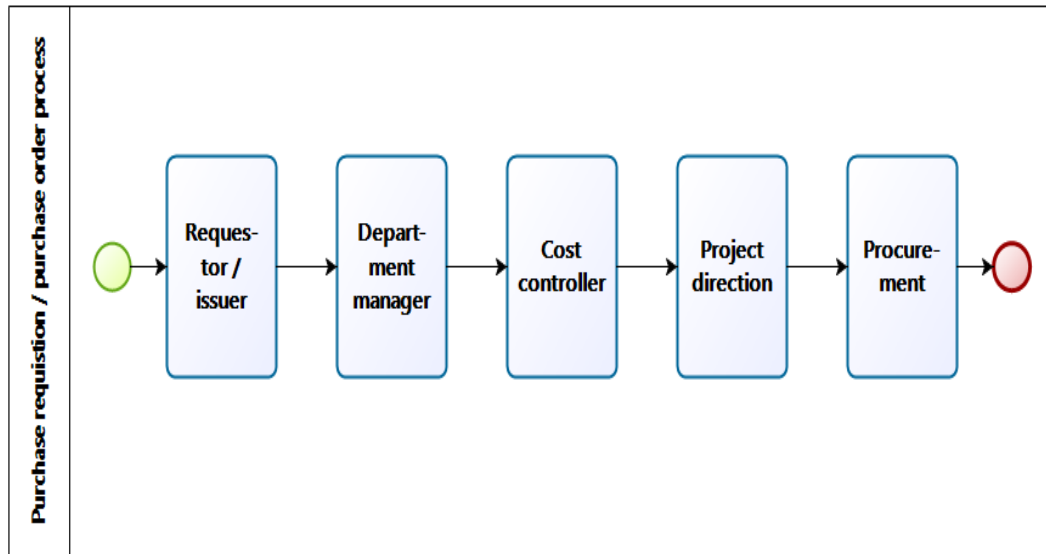
Figure 2. Purchase Requisition / Purchase Order Process.

The case company, unlike any ordinary companies, is working on a project, in a temporary location. As a multinational company with different projects all over the world, this study focuses on purchase invoice procedure on one of their projects. Due to the case company's nature of business and location, not all the transactions in the working tool they are using are available for use on this project.

The case company is using SAP ECC 6 Production (SAP Ambition) as a working tool, as I will be discussing in chapter 4.4, but it does not mean that all the employees working on the project can use the same functions that the employees in the head office are using. Only selected employees have an access to SAP depending on their position and job description. And although they have an access on SAP, there are transactions that employees are not authorized to use it.

The limited use of the electronic working tool causes the problems that I have discussed above. Employees of the case company are being trapped in a slow and messy manual invoice processing, which can be avoided, only if an appropriate working tool is provided to them.

2.3 Previous studies

Katja Kuusisto of Tampere University of Applied Sciences wrote a thesis on "Project Towards Automatic Invoicing" in December 2011. The case company of her study was the Metro Minerals, Inc. The research focused on improving invoicing through a new tool to satisfy the needs of the customers in the Logistics' team perspective. Even though the thesis did not provide the company to implement solutions or changes on their invoicing problems, the author believed that the project was successful in the sense that it gives illustrative estimation on the effects of the new tool that will be used for the future implementation of the company.

Although my research will also focus on developing an effective invoice processing, it will focus more on Accounting's perspective and not from Logistics' perspective. The study will also find ways to improve the processes in the Accounting Department with regards to purchase invoice processing and an effective automatic payment cycle.

Another bachelor's thesis from Saimaa University of Applied Sciences on improving internal invoicing processes was published in 2011. Elina Toiviainen on her thesis entitled, "Process Management and Process Development in a Case Company" have examined what process management and process development tools to be used in improving internal invoicing processes of the company. The results of the study help the company to improve their internal invoicing processing by using the process development methods mentioned in the thesis.

Although the results in both theses improved the invoice processing of the case companies, I think that any suggestions for further development, which are missing in their studies, should be necessary to give readers ideas and suggestions on how to proceed from there. I believed that the reason for this was that every company has their own way of doing things; they have own procedures, rules, regulations and uses appropriate tools at work. In this case of studies, the main concern of the company is to have and achieve improvement on their current invoice processing.

There were also a lot of studies on automatic payments, which is also a part of the researcher's study, but most of their works focused on a broader subject, namely the automatic payments through mobile phones, mobile payments, payments through bank card and corporate automatic payments. However, in this thesis, the researcher focused only on corporate automatic payment as it is related with the purchase invoice payment.

3 THEORETICAL FRAMEWORK

3.1 From order to pay process perspective

The purchasing function traditionally encompasses the process of buying. It involves determining the need, selecting the supplier, arriving at a proper price, specifying terms and conditions, issuing the contract or order, and following up to ensure proper delivery. In short, the purchasing function should obtain the proper equipment, material, supplies and services of the right quality, in the right quantity, at the right price and from the right source (Aljian 1984, 3).

In this description, the purchasing function is regarded primarily as an operational activity. In practice, as well as in the literature, many terms and concepts are used in the area of purchasing. However, no agreement exists about the definition of these terms. Terms like procurement, purchasing, supply and logistics management are used interchangeably (Van Weele 1994, 8-9). Van Weele defines purchasing as obtaining from external sources all goods and services which are necessary for running, maintaining and managing the company's primary and support activities at the most favorable conditions.

In general the purchasing department's involvement is highest in the purchase of consumable goods or maintenance, repair and operating (MRO) supplies. Purchasing role becomes more important when quotations must be solicited; however, when these quotations are evaluated, involvement decreases. Involvement is at its highest in the last stage of purchasing process, i.e. when the purchase contract is drawn up and when expediting. This seems to be true for all three types of purchasing goods. Checking invoices is usually a responsibility that purchasing shares with the accounting discipline (Van Weele 1994, 30).

The purchasing function of the case company is assigned to the procurement department. It consists of a department manager and four buyers. With regards to purchase invoices, accounting needs their cooperation on the following topics: 1) the creation

and amendment of purchase order, 2) the status of purchase requisition and purchase order whether it is released and done, and 3) the creation of supplier number.

3.1.1 Purchase requisition and purchase order

A *purchase requisition* is a form used to request the purchase of merchandise or other property. Any authorized person or department can prepare this form and submit it to the purchasing department. The purchasing department reviews and approves the purchase requisition and prepares a purchase order. A *purchase order* is a written order to buy goods from a specific vendor or supplier (Heintz 2012, 400).

As the title implies, *purchase order*s (PO's) are forms, usually filled out in purchasing, that detail the parameters of a purchase transaction. They are usually sent to the suppliers, and in an ideal situation, a copy is also sent to the accounts payable. In today's electronic environment, these forms can be transmitted electronically and / or filled in on an online database. In such cases, accounts payable can and should have access (Schaeffer 2006, 31-32).

Purchases normally originate outside the purchase department, since the main function of the purchase department is to buy on behalf of the rest of the organization. The purchase department may be notified of requirements by means of a purchase requisition, a document normally serving three purposes: 1) to request the purchase of the required goods or services, 2) to authorize the expenditure, and 3) to provide a record for audit and reference. When the department receives this, the buyer checks that the purchase request has been properly authorized, referring if necessary to an official lists of authorized signatories with their cash limits. The description of goods on the requisition is also checked; after referring to records, correction may be needed before communicating with suppliers (Bailey, Farmer, Jessop & Jones 1998, 322-323).

Having selected a supplier and agreed on the details, the next stage is to place an order. An order is an instruction to do something such as supply goods or carry out work. It is not in principle the same thing as a contract, which in this context is a

business agreement for the supply of goods or services in return for a price. In many cases, a single document, the purchase order form, incorporates both the order and the contract details. Normal practice is to make it a rule that all purchases, subject to a few specified exceptions, must be made by means of the official order form. This is for practical rather than legal reasons. The purpose of the rule is to establish clearly what the organization is committed to accept and pay for, and to prevent sharp practice. Regular suppliers are made aware of the rule by printing it on the order form, or by stipulating that advice notes and invoices must quote the order number. Goods-receiving personnel are instructed not to accept goods which are delivered without an official purchase order number (Bailey, Farmer, Jessop & Jones 1998, 325-326).

The purchase order is one of the three key documents used to verify an invoice for payment. As those who work in accounts payable are well aware, the proverbial *three-way match* is used in most organizations. It matches the *purchase order* against the *receiving documents* and the *invoice* submitted for payment. When all three match, the invoice is processed and a payment scheduled. If there is no match, discrepancies must then be resolved (Schaeffer 2006, 32).

The three-way match is the best internal control method used by most public and private companies. Discrepancies in the three-way match process can be tracked by vendor, purchase and receipt individuals. Once it becomes clear that there is an issue with a particular area, and then necessary action can be taken to eliminate the root cause of the problem (Gupta 2012, 102).

Electronically or in ERP system, the system warns the user and can block the payments of the invoice if there are discrepancies between the purchase order or goods receipt and the invoice. ERP systems generally do a three-way check before doing payments to vendors, i.e. the match between purchase orders, goods receipt document and invoice. Price in invoice should match with price in the purchase order price for an item. The quantity in invoice should match with goods receipt quantity and purchase order quantity. When all three matches, the payment is processed (Ray 2011, 311).

As explained earlier, the purchase requisition and purchase order process of the case company takes long time. The purchase requisition will go first from the issuer to the department manager for signing, then to the Cost Control for the checking of budget and finally to the site management for the final approval. The approved purchase requisition will then be forwarded to the purchasing department. The purchasing department reviews, check suppliers who would provide for the goods or services and ask for the quotations and then prepares for the purchase order. The prepared purchase order should be signed by both the purchasing manager from the local and the head office, if the total amount without VAT is over the limit of one million euro. Otherwise, only the purchasing department's signature is needed.

The above mentioned purchase documents are very important in the case company for the payment of goods / services. In order to pay any invoices for small purchases and under 200 euro purchases, the accountant should check if there is any purchase requisition created for the said purchases. If there is not, the person responsible for purchasing should be contacted and ask him / her to issue a purchase requisition.

Usually the invoice should be pending for payment until such purchase requisition has been done. If in case the purchase is over 200 euro, the purchase order should be created by the purchase department. The Cost Controller should do the reception of the goods / services through SAP before the final posting by the chief accountant for payment. In other words, purchase invoices should be paid only if there is a purchase requisition or purchase order created for it.

The accounts payable that has been mentioned in the theoretical part is equivalent to the accounting department of the case company. They are the one who is handling accounts payable.

3.1.2 Receiving report and purchase invoice

When the merchandise is received, a *receiving report* indicating what has been received is prepared. The receiving report can be a separate form, such as copy of pur-

chase order received from purchasing department, or one can be created from the vendor's purchase invoice (Heintz 2012, 400).

Advice notes convey information about the dispatch of goods to both parties to the transaction; the supplier bases their invoice on this document. Some companies include the advice note in their invoice set, the whole being prepared together, although the price is excluded from the advice note. Other companies produce both invoice and advice notes at the time they receive the buyer's purchase order, when they produce their own works order to manufacture (Bailey, Farmer, Jessop & Jones 1998, 328).

Receiving departments should make sure that only authorized goods are received, the goods meet order specifications, an accurate count of the goods received is taken, and that accountability is established to assure that all receipts are recorded (Johnstone, Gramling & Rittenberg 2013, 510). The receiving department of the case company is what we called Warehouse and the goods are received by the warehouse staff. After receiving the goods, it is forwarded to the department who ordered it and the receiving report should be given to that department together with the goods.

Invoice is a document prepared by the seller to inform the purchaser about the quantity supplied, rates and terms of payment at which goods were supplied trade discount if any allowed, incidental charges if any payable and the total amount payable by him. It is a *purchase invoice* or inward invoice for the purchaser and a sales invoice or outward invoice for the seller. Entries in the purchase book are made on the basics of purchase invoices received. Invoice is sent by the seller to the purchaser when goods are supplied by the seller (Tulsian 2006, 6.10).

The suppliers of the case company usually attach the work order, purchase order or their own company's copy of work order when they are issuing a purchase invoice. If in case these documents are not attached in the invoice, accountant should reject the invoice immediately and return it to the supplier. However, if the supplier mentioned the purchase order number in their invoice as a reference even without attaching it, it should be accepted and the invoice has to be processed as normal.

Purchasing procedures and documents vary depending on the nature and size of a business. For example, in a small business, the owner or an employee might do the buying on a part-time basis. In a large business, there might be a separate purchasing department with a full-time manager and staff. In addition, the procedures and documents used can be affected by whether purchases are made on account or for cash. Figure 3 shows some of the major documents used in the purchasing process of a merchandise business. In discussing the purchasing process, we will assume that the business makes purchases on account and has a purchasing department (Heintz 2012, 400).
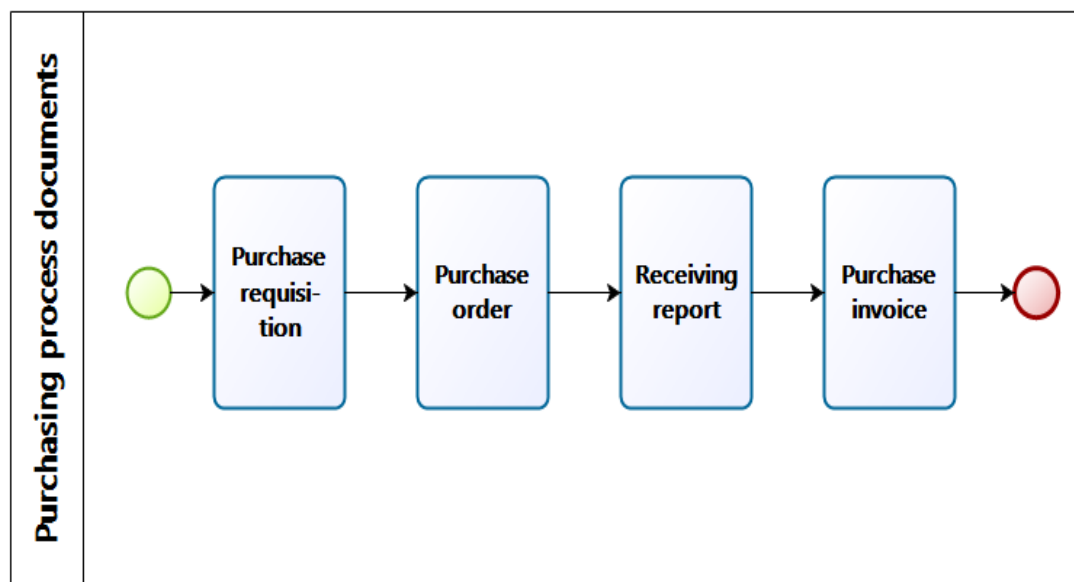
Figure 3: Purchasing process documents (Heintz 2012, 400).

3.2 Accounting perspective

The accounting department of the case company is the one who is handling accounts payable. Due to manual handling of invoices, employees in accounting are fully loaded and being trapped in a long manual invoice processing. Also the long process of purchase request and purchase order added to the pressure that accounting staff faces everyday. The long approval process slows down the handling of invoices. There are a lot of people involved in handing invoices. Most of them have other priorities and approvals of invoices are not their main function, which leads to a slow process. Processing a large volume of invoices manually is slow and costs a lot.

Accounting department has other tasks other than handling incoming purchase invoices. With bunches of invoices coming every day and only two accountants working in the accounting department, the case company's reconsideration in handling purchase invoice and the approval process of the purchase requisition and purchase order, will really help them a lot and they can concentrate on other tasks, too.

The following are the responsibilities of the case company's accounting department:

- Accounts payable

- Accounts receivable

- Back charging (collecting an expense that incurred in the previous billing period)

- Invoice payment

- Review and payment of travel expenses

- Handling of contractual other expenses

- Various reports to the head office in support to the local government's needs

- Act as a liaison between head office and local officials

- Translation of documents from the government, tax office and other related organizations to the head office

Mistakes cannot be avoided in processing invoices, especially when it is partly done manually. There are some instances, when invoices and / or transactions have already been processed and posted from the beginning of the process to the end, and you have discovered that there were mistakes on posting and it has to be corrected. For example, when the invoice has been posted as a non-purchase order purchases but actually, there is a purchase order issued for it or vice versa. In other words, purchases that have a purchase order but it was posted as a non-purchase order purchases. To correct this on the accounting side, you have to cancel or delete the posting of the transaction and repost it again thru purchase order and thus, the budget should be taken from it. For the cost control side, the first reception does not need any cancellation or correction since it is not associated with any documents, but the correction made by the accountant, repost it to a correct purchase order, should be received by the cost controller and to change the cost centre, if it is not the same as the previous posting. If the mistake has been noticed after the end of the month closing, the post-

ing should be adjusted on the following month and to be corrected. All the corrections should be informed to the department manager.

Other example of disputes accountant encountered during the final posting before payment, when all the processed has been done, is the amount that has been posted / or received in SAP by the cost controller is wrong. The mistake is either the amount received is with value added tax instead of net value, the goods reception is less than / more than the amount specified in the invoice and the cost centre is wrong. To solve this, the invoice should be returned to the cost controller for correction.

3.2.1 Meaning of accounting

Accounting is the skill or practice of maintaining accounts and preparing reports to aid the financial control and management of a business. Bookkeeping is the process of recording in the book accounts or on computer the financial effect of business transactions and managing such records. The process of recording the financial information is the initial stage in the preparation of financial statements. In order that the business can satisfy all interested parties it must follow certain accounting procedures and practices in a formal sequence (Wood, F. & Robinson, S. 2009, 3).

Management accounting is concerned with presentation of accounting information which helps management in the formulation of policy and to facilitate management in discharging its day-to-day activities. It is the process of identification, measurement, accumulation analysis, interpretation and communication of financial information to facilitate management in planning, evaluating and controlling the activities and accountability of its resources. Management accounting meets the need of the management. The main function of management accounting is to provide useful information to management in maximizing profits or minimizing loss. This is undertaken by presenting various statements and reports and to enable management to formulate right policies (Thukaram 2003, 1-3).

Another set of distinctions which must be made clear are those between finance, financial management and financial accounting. Very broadly, finance is concerned

with the optimal means of raising money; financial management is concerned with the optimal means of using it; and financial accounting is the reporting on the results from having used it. Finally, financial accounting must be carefully distinguished from bookkeeping. Bookkeeping underlies other types of accounting. It is about recording the data – about keeping records of money and financially related movements. It is financial accounting (and management accounting) that takes these raw data, and then chooses and presents them as appropriate. It is financial accounting that acts as the communicating process to those outside the entity (Alexander & Nobes 2007, 7). The following are the differences between financial accounting and management accounting (figure 4).

Basis of distinction	Financial accounting	Management accounting
1. Purpose	Financial accounting provides information for general purpose. Its users are wide and varied.	Management accounting provides information for specific purpose. Its users are only the managers involved in that specific purpose.
2. Period of preparation	Financial statements are prepared, generally for a year.	Management accounting reports are not prepared for a year or period, but for a particular specific purpose.
3. Frequency of preparation	Financial (accounting) statements are carried out only once in year, in general.	Management accounting reports are prepared frequently.
4. Governance	This is governed by the government, accounting and other statutory regulations.	In management accounting, no such statutory regulations exist.
5. Financial nature	Financial accounting reports can be measured or	Generally, it is not financial in nature.

	quantified in terms of money. It is entirely financial in nature.	
6. Forecasting	Financial accounting is based on past transactions. They are backward looking; forecast cannot be made in this.	Management accounting reports, though based on past records, is forward looking. It forecasts for the future also.
7. Nature of information	Financial accounting uses information, which are objective and which can be verifiable.	Management accounting uses information, which are subjective and which cannot be verifiable.

Figure 4. Differences between financial accounting and management accounting (Rajasekaran & Lalitha 2011, 5-6).

Accounting thought and practice can be classified according to the user group to whom it is directed. *Financial accounting* is concerned with providing useful information about business entities for primary and other users. The information is distributed through the financial statements. Such financial statements are prepared and presented at least annually and are directed toward the common information needs of a wide range of users. Financial statements form part of the process of financial reporting. A set of financial statements normally includes a statement of financial position, an income statement and a statement of cash flows (Kolitz, Quinn & McAllister 2009, 17).

The basic financial statements are *balance sheet* and *income statement*. The *balance sheet* is a quantitative summary of a company's financial condition at a specific point in time, which includes assets, liabilities and net worth. It is a snapshot of the financial health of an entity. The balance sheet equation is assets = liabilities + net worth (owner's equity). This equation is the most important equation in the world of finance. The two sides of the balance sheet, i.e., the assets and the liabilities, as a thumb rule always balance out. A company basically purchases assets by using the funds that it generates through the liabilities. So the sides have to balance out (Ramachandran & Kakani 2009, 6-9).

A balance sheet has two formats, the account form and the report form. The account form balance sheet is like a T-account listing assets on the debit side and liabilities and equity on the right hand side. A report form balance sheet, on the other hand, lists assets followed by liabilities and equity in vertical form. In the balance sheet, the accounts payable is on the right hand side under liabilities.

The *income statement* is a statement prepared at the end of every accounting year to ascertain the revenue profit earned (or the revenue loss incurred) from the business during that accounting year. Such revenue profit is ascertained by deducting various costs incurred during an accounting year to generate revenue into the business from the revenue generated for the business, for that accounting year, by way of sale of goods and other activities. It is prepared generally at the end of every accounting year mainly to evaluate the regular operating performance of a concern for that accounting period (Batthacharrya 2011, 13-14).

3.2.2 Accounts payable

The accounts payable figures on the financial statement of any company represent the company's unpaid bills. It is the money owed by the company to its suppliers and other creditors. Accountants divided the money owed by the company into two groups: current liabilities and long-term liabilities. They consider accounts payable as a current liability. Current liabilities are those obligations that must be paid in less than one year. Other current liabilities might include taxes and salaries. These are separated from items such as long-term debt repayments that have longer due dates (Schaeffer, M. S. 2002).

The accounts payable function of the case company follows the same process as other companies except for the reception of goods, which goes to the company's warehouse and not straight to the accounting department or procurement department. The first step in the purchase invoice process starts when goods / services has been ordered by the procurement department. Purchase order is sent to the supplier upon ordering. At the same time, the purchase order should be scanned and to be put to P-

shares, an internal shared file for the employees with an access on it. In a more effective company with powerful high-tech and software system, purchase order should be entered in the database that can be accessed by the accounting department.

The next step in the process is the receiving of goods / services. When the goods arrive, it goes to the company's warehouse. They check the goods and they make sure that everything that is indicated in the packing list was delivered. Then they send it to the department where the purchase request was originated. If in case, they do not know or it was not indicated in the packing list to which department it belongs, it is forwarded to the procurement department for forwarding. The managers of the departments keep the delivery notes and / or the receiving notes for the payment process use. When the invoice arrives, it goes to the accounting department for recording and for processing as explained in section 2.2.

3.3 Payment perspective

As the business world evolves, new payment technologies are emerging to complement the check and wire transfer methodologies that have long been standard. Companies now use purchasing cards and automated clearing house (ACH) payments to complement the traditional payment approaches. Overall, these new payment types make the payment process more efficient. However, if care is not taken, that efficiency can come back and hit an organization in the face. It has long been known that when payments are made by wire transfer by a department other than the one that issues checks, attention must be given to ensure that a check is not also cut (Schaeffer 2007, 12).

To ensure that goods paid for have actually been received and are authorized purchases, invoices are matched with goods received noted and purchase orders. If all three agree, the invoice is cleared for payment. These checks are carried out either in the purchase department or in the accounts department. If they are done by the accounts department, copies of purchase orders, any subsequent amendments to them, goods received notes, damaged or shortage notification, etc., need to be sent to that department, which will refer any anomalies to the purchase department. Sampling

methods are often used in invoice checking. Some invoices cannot be checked against goods received documents, for instance pro forma invoices, which are payable before goods are delivered, interim invoices, and bills for gas, water, electricity and insurance. Proper procedures for approving such invoices for payment need to be laid down (Bailey, Farmer, Jessop & Jones 1998, 330-331).

As mentioned in chapter 2.2, the case company is using a manual payment or the manual input of invoices in the bank system for payment.

3.3.1 Automatic payment cycle

At the end of this process, when goods or services had been legally and physically transferred, what was described as the accounting division had responsibility for the reconciliation of orders, advice notes, goods receipt notes and invoices. Whilst payment against agreed deliveries is part of all purchase, it is not difficult to discern, in the description of this activity, a slightly supercilious attitude, and the handbook does indeed refer with condescension to the fact that in terms of staffing this process requires no more than good clerks. Today we can too easily take for granted the existence of well-validated systems using powerful hardware and software packages. Yet major errors still occur and problems of double payment may still be sufficient to exercise the attention of purchasing most senior level of management, even in well-ordered departments within front line companies (Syson 1992, 3).

The case company paid invoices once a week. By using manual input of the invoices in the bank system and by following the procedures the case company has been utilizing, payment invoices takes many hours. The disadvantage of manual input of invoices to the bank system is that it is not accurate and the risk of making mistakes is very high.

3.4   Tools perspective

The case company is using SAP as a working tool to conduct business. Founded in 1972 in Walldorf, Germany, SAP (System, Applications and Products in Data Pro-

cessing) commands a significant share of the worldwide client / server enterprise application software market. SAP is the number one vendor of standard business application software and is the fourth largest independent software supplier in the world. More than 10,000 companies in over 90 countries use SAP software (Curran & Ladd 2000, xxv). Current SAP company facts (figure 5) include:

Leading client/server business software company	34% of customer base under $200 million
Leading vendor of standard business application software	10% out of the top 10 US companies with highest market value
Worldwide market share of 33%	8 of the top 10 largest US corporations
Fourth largest independent software supplier in the world	8 of the top ten highest profit US companies
Availability in 14 languages	More than 10,000 customers in over 90 countries

Figure 5. Current SAP company facts (Curran & Ladd 2000, xxv).

SAP Ambition ECC 6 Production is one of the SAP products. SAP ECC is known as SAP ERP components as its core component, which is the updated product of SAP R/3 system, provides data processing place for business transactions. ECC 6.0 is SAP ERP 2005 issued by SAP in 2005 (Jones, P. & Burger, J. 2009, 2; Zhang, Y. 2012, 3). Compared with R/3, the biggest differences between ECC 6.0 and ERP are in technologies, while they are almost the same in operating layer (Zhang, Y. 2012, 5).

The SAP Ambition is an initiative to upgrade the SAP technology the case company uses for enterprise resource management to be compatible across all regions and sectors and to be able to collaborate using a common global platform. The case company is using the components (figure 6) in the following areas:

Finance	Quality management
Controlling	Production planning
Sales	Production execution
Project management	Environment, health and safety

Time collection	Plant maintenance
Purchasing	Payroll
Inventory management	Human resources management
Warehouse management	

Figure 6. Case company utilizes SAP Ambition in these areas.

Although the case company is using all the above mentioned functions in the head office, the functions used in the projects, i.e., the case company, are limited. For instance, not every employee has an SAP access. Only limited person are a key SAP users with limited transactions given to them depending on their department, their position and their job description. The following figure (figure 7) shows different transactions that the accountant used in SAP ECC 6.0 menu.
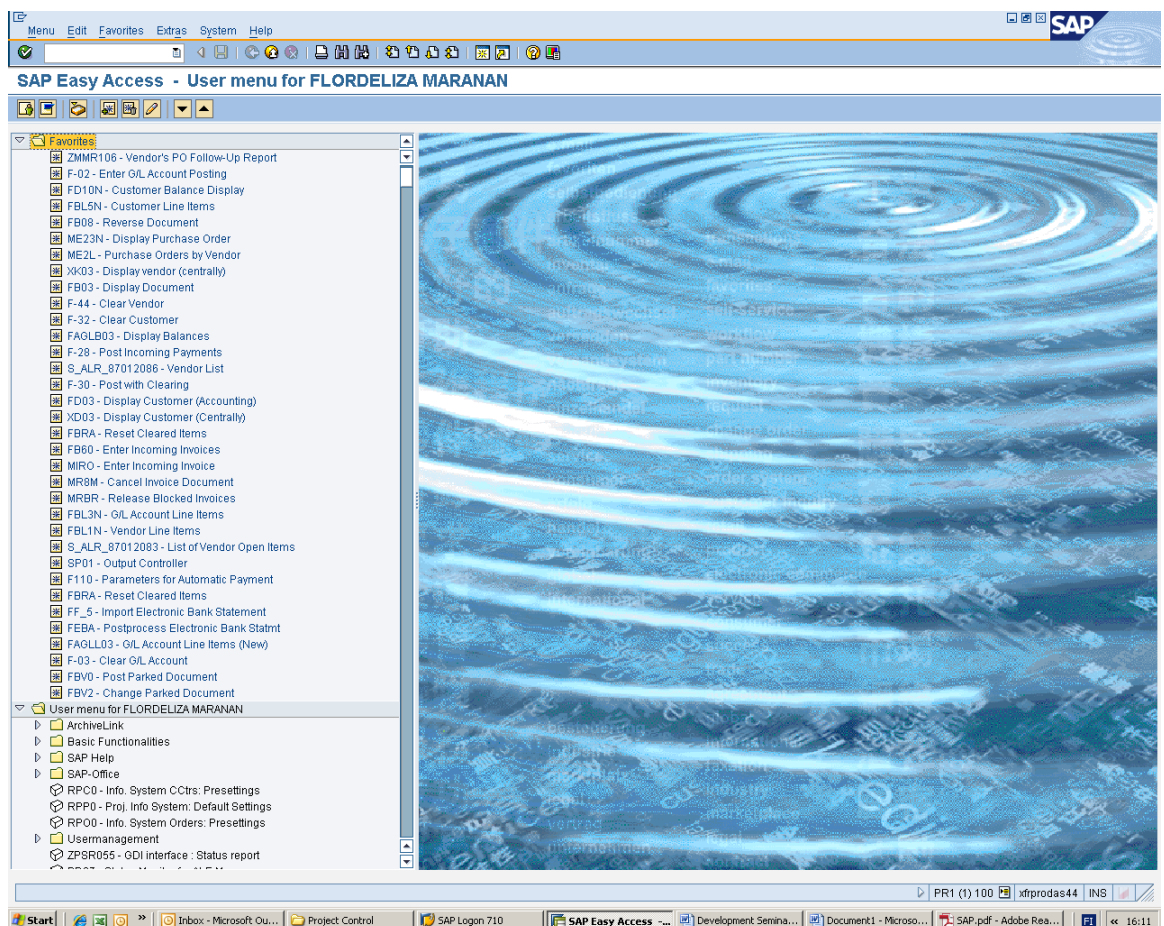

Figure 7. SAP Ambition ECC 6 user menu.

3.4.1 SAP as a working tool

The case company is using the following SAP transactions in handling purchase invoices:

1. Enter incoming invoice with either FB-60 transaction or MIRO posting

The vendor number for each vendor is very important in the direct posting of incoming invoices in the SAP system by using both FB-60 transaction and MIRO posting. Purchases from a vendor without a vendor number should be paid manually unless the vendor number has been created for that vendor.

When the purchase invoice does not have a purchase order, it should be posted in the FB-60 transaction / enter incoming invoice through its vendor number (appendix 2). The details on the purchase invoice should be keyed on the FB-60 transaction, i.e. the vendor number, date of issue, invoice number, amount of the purchases, in what currency, VAT code, the text or the explanation of what the invoice is for, payment terms, due date, bank account details and reference number.

The posting for this should go to the General Ledger (GL) account against the vendor number, meaning a debit to GL account (or expense account) and a credit to vendor number. If the invoice is a credit invoice, you have to select the transaction *credit memo* before you post the same details as discussed above. To sum it up, a purchase invoice without purchase order should be posted to FB-60 transaction (figure 8).
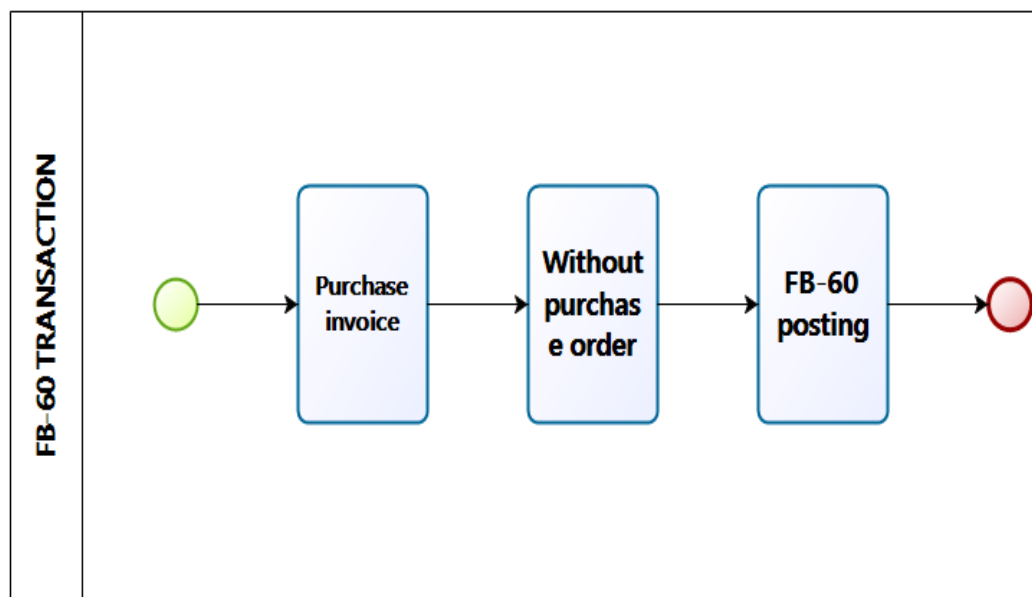
Figure 8. FB-60 transaction for a non-purchase order purchases.

When the purchase invoice has a purchase order, on the other hand, it should be posted in MIRO / enter incoming invoice (appendix 2). The details of the purchase invoice which has been specified in the invoice should be keyed manually as in FB-60 transaction. The only difference between the two purchase invoices is that there is a purchase order in the latter. The purchase invoice should be checked every time with the purchase order. In other words, the amount of the purchases should be deducted from the budget left in the purchase order every time the purchase has been made.

For an accountant, purchases with a purchase order are much easier to track and follow as compared to purchases without purchase order. It also assures that there is a budget for that purchase. To sum it up, a purchase invoice with purchase order should be posted to MIRO posting (figure 9).
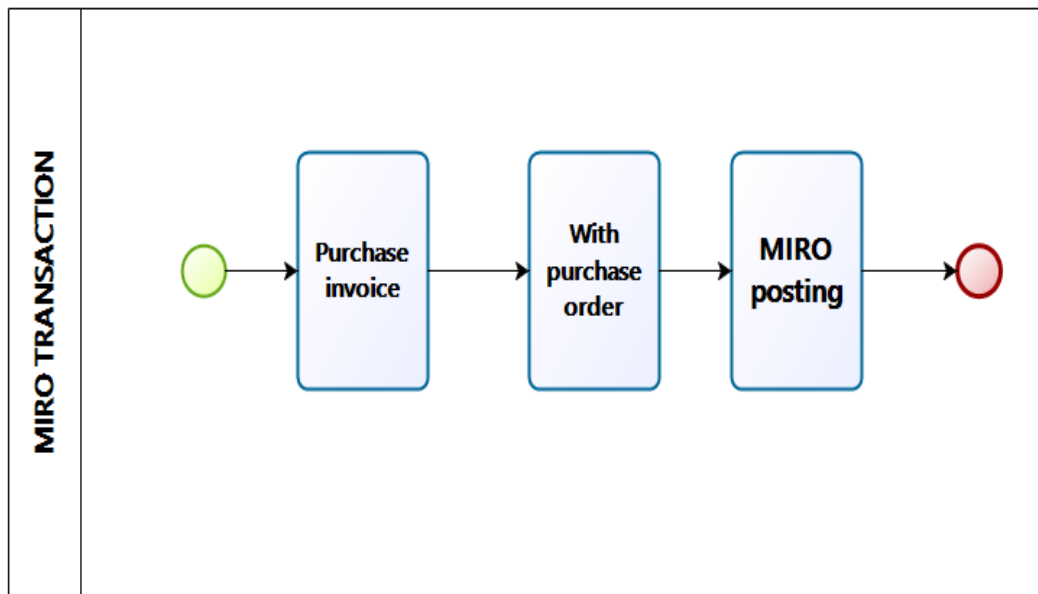
Figure 9. MIRO transaction for purchases with purchase order.

The above mentioned SAP transactions are a preliminary posting for the incoming invoices and are done by the accountant. An accountant posts all the necessary information from the invoice and checks the budget left, if it is a purchase order purchases.

FB-60 transaction and MIRO transaction can also be used in parking the invoices. The incoming invoices, whether it is a purchase order invoice or a non-purchase order invoice, should be posted to either one of these transactions depending on the type of invoice. The usual invoice approval process would follow after the posting and then finally, the posting of the parked document or invoice after all the invoice approval process has been done. The posting of the parked document is the same as the invoice payment approval. The approved and posted invoices should be then ready for transfer to the bank system for payment.

2. S_ALR_87012086 / vendor lists

This transaction provides list of all the vendors the company is using. All the information / details regarding vendor are in this transaction like the vendor's address, business ID, tax info, bank and payment data, contact person, account control and status. In case the invoice did not mention any vendor number or purchase order, ac-

countant use this transaction to find out what the vendor number of the invoicing company and through this, he / she can track down what purchase order number related to it.

3. F-02 / enter General Ledger (GL) account posting

Sometimes there are incoming invoices that does not have a supplier number, meaning the supplier is not in the system yet, i.e. new supplier. Invoices like these should be posted and to be paid manually unless the vendor number is created. There are so many cases that the case company use suppliers only once like for example, a participation fee for the running / marathon event or other related indoor or outdoor activities. The above mentioned invoices should be paid manually without posting them in SAP and then post it later after the payments has been made by using the transaction F-02 / enter General Ledger (GL) account posting. It should be posted only when the payment already showed in the bank statement. The General Ledger (GL) account (expense account) should be posted in the debit side and the cash disbursement or the payment on the credit side.

4. ME23N / display purchase order

To review the contents of the purchase order, transaction ME23N / display purchase order, should be used. By using this transaction, you will see the exact contents of the purchase order like the budget status, how much budget has been left, the purchase order history, account assignment, from which department the purchase order belongs to, the suppliers info, release strategy (whether the purchase order has been released or not), delivery status or delivery schedule, and the like. Upon receiving invoices, the Accountant goes to this transaction to check if there is a remaining budget for the purchases. If there is nothing left, the department manager who owns the purchase order should be contacted immediately to do the purchase order amendment before signing the invoice.

5. ME2L / purchase orders by vendor

If in case you do not know the purchase order of the invoice or the purchase order is not mentioned in the invoice, ME2L / purchase orders by vendor should be used. By using the vendor number, all the purchase orders created for a particular vendor will pop up when you are using this transaction. It has the same resemblance with the ME23N transaction.

6. F-30 / post with clearing

After payment, the invoices should be cleared or to be balanced by using the transaction F-30 / post with clearing. This transaction should be used to clear the paid invoices according to the bank statement. In this transaction, you will see all the open items (for clearing) for a particular vendor.

7. MR8M / cancel invoice document

In order to cancel the invoice document, transaction MR8M / cancel invoice document, should be used. The invoice document number should be keyed in to display the document, from which fiscal year the invoice has been keyed in, states the reversal reason and posting date, if you know it. Before cancelling or deleting the invoice, it would be advisable to check the transactions first.

8. FBL1N / Vendor line items

FBL1N is a vendor display. This transaction shows the status of all invoices: open items, cleared items, parked items and items with special general ledger transaction. FBL1N transaction is very helpful when you are checking for a particular invoice whether it is parked, waiting for payment, paid or cleared. This transaction will provide you all the items you want to check about the invoices like the posting number, assignment or from which purchase order it was taken, amount of the invoice, text, date of posting and the clearing document in case it is already cleared or paid. Open, parked and cleared items are arranged separately and according to the document date.

9. FBL3N / G/L account line items

The FBL3N / G/L account line items is a G/L account or an expense account display. It is like an FBL1N transaction in appearance. The only difference between the two is that only the G/L or expense account appears when you use this transaction. This transaction is usually used when you want to check all the postings in a particular G/L or expense account.

10. FB03 / display document

This transaction should be used when you want to check a particular document. By using the document number or the posting number, it will display all the items / details that you want to know about that particular invoice.

3.5 Conclusions from theoretical framework

The theoretical part mentioned above showed the different perspectives on purchase invoice process starting from the purchases of goods / services to the payment of the purchase invoice. After each every theory, the researcher discussed the case company's current procedure or situation in order for the readers to understand how the theory is related to the study.

Just like other organizations, the case company's purchasing function has been assigned to the procurement department. They are the one who is fulfilling purchasing procedure, provide documents like purchase requisition and purchase order and deal with the suppliers. The only difference with the theory explained above regarding the functions of the procurement department, is that the goods and advice notes / receiving reports are not received by them but received by employees in the case company's warehouse.

Another difference on the functions from the theory is that an advice notes / receiving reports for invoice reference are kept by the manager and not by the accounting department. These documents go to the hands of accounting department, only when the manager signed the purchase invoice. They are the one who provides that document upon signing the invoice. Any discrepancies regarding the invoice, as explained

in the theory and are also practiced by the case company, should be reported by the concerned person to the accounting department. Accounting department is the accounts payable of the case company.

Accounting department handles the rest of the processing of the purchase invoices except for the reception of goods / services in SAP Ambition. Cost Controllers are the one who is receiving goods / services in the system and at the same time give cost codes for non-purchase order invoices. Two assigned managers with an authorization to confirm purchase invoice payments in the bank system finalized the transfer of funds to the supplier.

The use of an electronic working tool is very important in the purchase invoice processing. As explained above, most of the activities and processes in the case company require documents before work activity can begin and is handled by / forwarded to different person or departments for further processing. Hindrances on a smooth, fast invoice processing like an overreliance on people, a paper-based processes and time-consuming steps, are a usual invoice processing procedure to the case company and are necessary before any actual processing can begin. With the fully use of an electronic working tool like SAP Ambition, it will bring an automated workflow and will speed up the processing of the purchase invoice, thus saves time and money.

Accounting software systems provide numerous benefits in the area of information management, regulatory compliance, business process automation and real-time reporting. The following financial system benefits are common in most accounting software applications (Website of ERP.Asia 2014).

1. Control

A strong accounting package provides management with internal controls to record transactions in a timely and consistent manner. These controls ensure that only authorized users are performing prescribed tasks and that adequate segregation of duties is being enforced to help prevent fraud and abuse. Well-designed internal controls are flexible enough to allow for the reallocation of responsibilities as staffing and workloads shift (Website of ERP.Asia 2014).

2. Security

Access to information should be managed in a thoughtful and logical manner. For many companies, accounting software security is based on a need-to-know basis. In addition to access management, the data itself should be secured from malicious activities, as well as system failure or natural disaster. A secure system provides for recovery up to the point of failure. Security also means that database rules are enforced to ensure integrity and prevent corruption. Strong data types and server-based referential integrity help ensure that the data is meaningful and as free from error as possible (Website of ERP.Asia 2014).

3. Information

The ultimate goal of an accounting system is to provide financial information to management and decision makers. A well-designed accounting system provides its users with real time analytical information and the tools to shift into predictive, "what if" scenarios or hypothetical planning. The ability to present relevant data in a timely, consistent, and concise manner is a hallmark of the best financial software systems (Website of ERP.Asia 2014).

4. Standardization

As an abstraction of the business, the financial accounting system represents a standardized measure of the business. Ensuring that all transactions are recorded in an approved, standardized format, allows that abstraction to be meaningful. The standardization is important to make meaningful period-to-period comparisons or to track geographic, divisional, departmental, line of business or managerial performance (Website of ERP.Asia 2014).

5. Platform for other systems

The accounting system is generally viewed as the foundation and system of record for additional information. Analytics and Business Intelligence systems all leverage the abstraction that the accounting system enforces (Website of ERP.Asia 2014).

6. Cost reduction and profit maximization

Because a good accounting system provides timely and accurate information, business line managers can identify and reduce costs and add margin to their areas of responsibility (Website of ERP.Asia 2014).

7. Efficiency

With business software automation and readily available information, staff can spend less time rekeying data, searching and collating, and more time running the business (Website of ERP.Asia 2014).

8. Improve service

Accurate invoices and customer statements, timely order status updates, and consistent processes all help improve your customer's experience. Access to order history helps your sales and marketing team tailor up-sell, cross-sell, renewal and other promotional offers for your existing customer base (Website of ERP.Asia 2014).

9. Better supply chain visibility and communication

Knowing what inventory quantities you have on hand, what is backordered, and when your suppliers will ship all help you run your business with smaller inventories and better inventory turnaround (Website of ERP.Asia 2014).

10. Improve cash management

If you know your sales order pipeline, your current inventory position and requirements, and your current cash commitments, you can manage the cash requirements

of the business without turmoil or the need for sudden corrective actions (Website of ERP.Asia 2014).

11. Respond quickly to change

A powerful, flexible accounting software system will allow you to respond to rapid market changes, restructure the company hierarchy, add or remove lines of business, change pricing models, acquire new businesses or spin off old ones (Website of ERP.Asia 2014).

The current situation of the case company's purchase invoice procedure from the creation of purchase requisition to the payment perspective are quite complicated, disorganized and involves a lot of people (figure 10). The processing using this kind of procedure is so slow and inefficient. Information of data is not well communicated, thus slowing the whole process. The limited use of the SAP transactions as a working tool also causes the delay of the processing. The whole process is very lengthy, manual and not accurate. Rethinking the approval process should be taken into consideration to have a more effective, fast and smooth flow process of handling purchasing documents.

Due to this kind of procedure, a lot of paper work is not done on time causing delay in ordering and / or payment of invoices. The case company, however, applied this procedure and the purchasing documents should be attached in the invoice before processing and paying the invoice. Discrepancies, missing documents and / or purchasing documents increases the time spent by the accountant in handling an invoice.
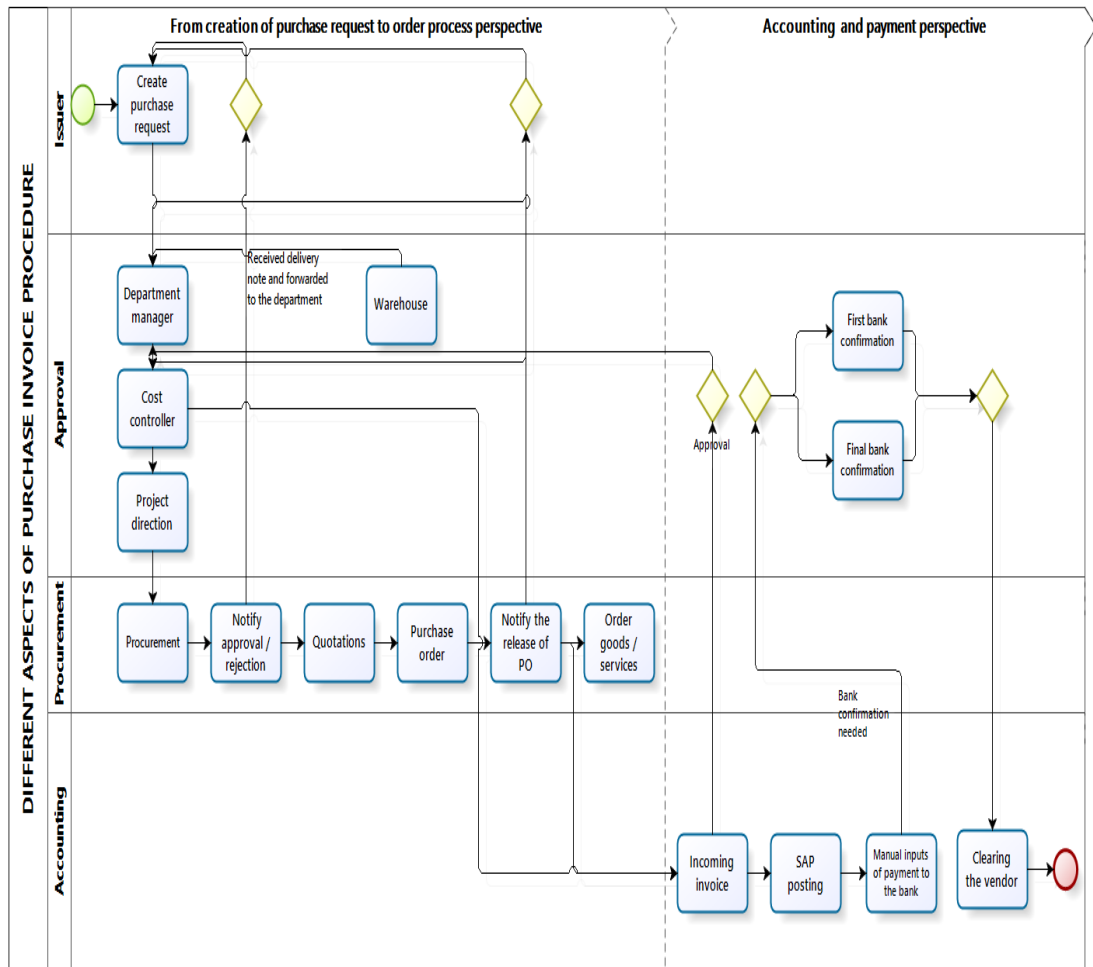
Figure 10. Current situation: different aspects of purchase invoice procedure.

4 METHODOLOGY USED IN THE STUDY

4.1 Qualitative research

In simplistic terms, qualitative method maybe defined as any research that is not amenable to be conducted by merely using quantitative research. Qualitative research relates to inquiry / study, investigation of human behavior and the explanation for the same. It is, therefore, applicable in investigations encompassing all fields. It proposes filed-based theories, i.e. theories that emerge through induction, based on observations in the field studies. Finally, qualitative research is formally defined as based on "researcher immersion in the phenomenon to be studied, gathering data which provide a detailed description of events, situation and interaction between people and things, providing depth and detail" (Srivastava & Rego 2011, 2.15).

Qualitative research can give to some indications as to "why", "how" and "what" of the happenings of the phenomenon. Qualitative research was first used in social sciences and later on, its use spread to other fields like education, psychology, communication and even management studies, especially those relating to consumer behavior, for new products and services. It investigates the "why" and "how" of decision-making, in addition to what, where and when. Therefore, qualitative research relies on smallest but focused samples rather than large and random samples (Srivastava & Rego 2011, 2.16).

The qualitative research is broadly classified into the studies relating 1) reaction and feelings, 2) learning (improving attitudes, knowledge), 3) changes in skills (improving effectiveness of lectures/workshops, etc.), 4) effectiveness (improved performance attributed to improved behaviors), 5) response from existing and potential customers. Qualitative methods of data include observation, focus groups, semi-structured and unstructured interview, etc. These methods do not use questionnaires. The emphasis of such methods is to have a flexible or unstructured approach while collecting data (Srivastava & Rego 2011, 2.16).

Since this thesis is a case study in a single organization, qualitative research method is an appropriate method for this study. As this study investigates the problems occurring in purchase invoice processing and seeking a solution on how to improve or develop an effective invoice processing, this method can give indications on the "how" and "what" of the phenomenon of this study thus, helping the researcher to understand the whole contents of this study. To get a large amount of data quickly, a semi-structured interview was done to collect data.

4.2 A model for qualitative research design

In a qualitative study, "research design should be a reflexive process operating through every stage of a project" (Hammersley & Atkinson 1995, 24). According to them, the activities of collecting and analysing data, developing and modifying theory, elaborating or refocusing the research questions and identifying and addressing validity threats are usually all going on more or less simultaneously, each influencing all of the others. This process is not adequately represented by a choice from a prior menu or by a linear model, even one that allows multiple cycles, because in qualitative research, there isn't an unvarying order in which the different tasks or components must be arranged, nor a linear relationship among the components of a design (Hammersley & Atkinson 1995, 24).

Joseph A. Maxwell's interactive model of research design (Figure 11), for example, consists of the components of a research study and the ways in which these components may affect and be affected by one another. It is intended to help you to understand the actual structure of the study as well as to plan this study and carry it out. An essential feature of this model is that it treats research design as a real entity, not simply an abstraction or plan (Maxwell 2005, 215). According to Maxwell, this model of research design has five components, each of which addresses a different set of issues that are essential to the coherence of a study (Maxwell 2005, 216):

1. Goals - it answer the following questions, why you are doing this study; what issues do you want it to clarify and what practices and policies do you want it to influ-

ence; why do you want to conduct this study; and why should we care about the results. The goals serve two main functions for the research. First, they help guide your other design decisions to ensure that your study is worth doing, that you get out of it what you want. Second, they are essential to justifying your study, a key task of a funding or dissertation proposal. In addition, your goals inevitably shape the descriptions, interpretations, and the theories you create in your research. They therefore constitute not only important resources that you can draw on in planning, conducting and justifying the research, but also potential validity threats or sources of bias, that you will need to deal with (Maxwell 2005, 216-219).

2. Conceptual framework - is a formulation of what you think is going on with the phenomena you are studying – a tentative theory of what is happening and why. It is often labelled the "literature review". A useful theory is one that tells an enlightening story about some phenomenon, one that gives you new insights and broadens your understanding of that phenomenon. The functions of theory in your design is to inform the rest of the design – to help you assess your goals, develops and selects realistic and relevant research questions and methods and identify potential validity threats to your conclusions (Maxwell 2005, 222-223).

3. Research questions – are the one component that directly connects to all the other components of the design. The research questions – what you specifically want to learn or understand by doing your study - are the heart of your research. More than any other aspect of your design, your research questions will have an influence on, and should be responsive to every other part of the study. The research questions in a qualitative study should not be formulated in detail until the goals and conceptual framework (and sometimes general aspects of the sampling and data collection) of the design are classified and should remain sensitive and adaptable to the implications of other parts of the design. Often you will need to do a significant part of the research before it is clear to you what specific research questions it makes sense to try to answer (Maxwell 2005, 228-229).

4. Methods – refers to what you actually do in conducting the study, what approaches and techniques will you use to collect and analyse data and how these constitute an integrated strategy. The value and feasibility of the research methods cannot be guar-

anteed by adhering to methodological rules; rather, they depend on the specific setting and phenomena you are studying and the actual consequences of your strategy for studying it (Maxwell 2005, 233).

5. Validity – refers to the results and conclusions of the study and how might you be wrong, the plausible alternative interpretations and validity threats to these, how will you develop ways to attempt to rule out that particular threat and how you will deal with it (Maxwell 2005, 216).
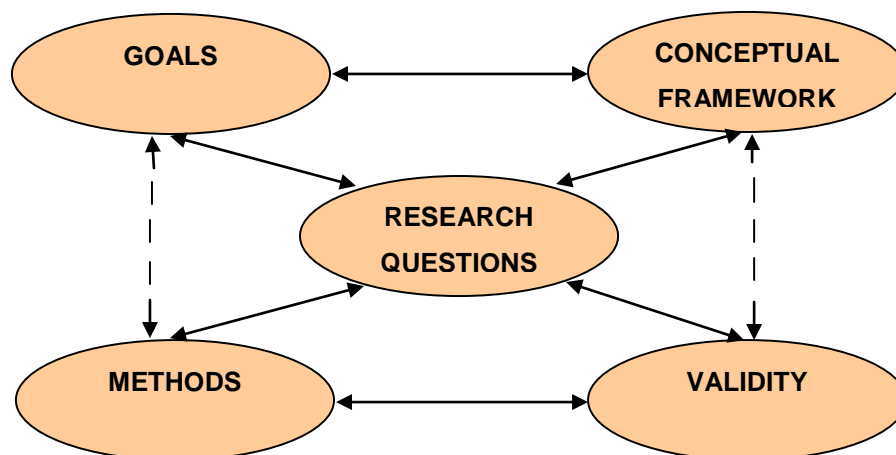

Figure 11. An interactive model of research designs (Maxwell 2005, 217).

The upper triangle of this model should be a closely integrated unit. The research questions should have a clear relationship to the goals of the study and should be informed by what is already known about the phenomena you are studying and the theoretical concepts and models that can be applied to these phenomena. In addition, the goals of the study should be informed by current theory and knowledge, while the decisions about what theory and knowledge are relevant depend on the goals and questions (Maxwell 2005, 217).

Similarly, the bottom triangle of the model should also be closely integrated. The methods you use must enable you to answer your research questions, and also to deal with plausible validity threats to these answers. The questions, in turn, need to be framed so as to take the feasibility of the methods and the seriousness of particular validity threats into account, while the plausibility and relevance of particular validi-

ty threats, and the ways these can be dealt with, depend on the questions and methods chosen. The research questions are the heart or hub of the model; they connect all the other components of the design and should inform and be sensitive to these components (Maxwell 2005, 217).

4.3 Interview as a data collection method

Qualitative researchers typically rely on four methods for gathering information: a) participation in the setting, b) direct observation, c) in-depth interviewing, and d) analyzing documents and material culture. These methods form the core of qualitative inquiry – the staples of the diet. Several specialized methods supplement these (Marshall & Rossman 1999, 105).

The term "qualitative interviewing" is usually intended to refer to in-depth, semi-structured or loosely structured forms of interview. Interviews are one of the most commonly recognized forms of qualitative research method. Perhaps for this reason, it is not uncommon for a researcher to assume that their study will involve qualitative interviews, without spending time working out why it should, what they expect to get out of these methods, and whether any other methods might be more appropriate or provide a useful complement (Mason 2002, 62-63).

According to Holstein and Gubrium (1995), good qualitative interviewing is hard, creative, active work. It is much more complex and exhausting task to plan and carry out a qualitative interview than, for example, to develop and use a structured questionnaire for asking a set of predetermined questions. In that sense the informal and conversational style of this form of interviewing belies a much more rigorous set of activities. However, as Mason (2002, 67) stated, it can be exhilarating and highly enjoyable.

Interviews have particular strengths. An interview is a useful way to get large amounts of data quickly. When more than one person participates, e.g. focus group interviews, the interview process gathers a wide variety of information across a larger number of subjects than if there were fewer participants – the familiar trade-off

between breadth and depth. Immediate follow-up and clarification are possible. Combined with observation, interviews allow the researcher to understand the meanings that people hold for their everyday activities. Interviewing has limitations and weaknesses, however. Interviews involve personal interaction; cooperation is essential. Interviewees may be unwilling or may be uncomfortable sharing all that the interviewer hopes to explore, or they may be unaware of recurring patterns in their lives. The interviewer may not ask questions that evoke long narratives from participants either because of a lack of expertise or familiarity with local language or because of lack of skill. By the same token, she may not properly comprehend responses to the questions or various elements of the conversation (Marshall & Rossman 1999, 108-110).

4.3.1 Selection of respondents

As the topic of this study was about purchase invoicing, the researcher have selected the respondents in accordance with how often they are working with invoices. The case company's invoice is signed by the department manager after it was recorded and posted by the accountant before it goes for further processing. Since they are the person that would answer accurately to this research' questions, the researcher decided to interview few of them.

The researcher selected ten department managers for interview but unfortunately, only six of them have been interviewed. The reason for this was that there was an organizational change in the case company and interviewing a new manager was not really advisable because they do not know well the purchase invoice processing yet and the researcher could not get the reply that was needed for this research.

After deciding which managers have to be interviewed, the researcher sent an e-mail to them requesting if they could be the respondents on this research. A request for interview has been sent thru e-mail afterwards for those who have agreed to be interviewed.

4.3.2 Interview with the respondents

In this study, the researcher interviewed six department managers for the purchase invoicing questions. An interview questions has been sent to the respondents before the interview via e-mail, together with the PowerPoint presentation about the thesis explaining the purpose of the study, the theoretical framework and the methodology to be used by the researcher. The reason for sending the documents is not only for the respondents to know and be familiar with the subject but also to saves time.

To fill-up the gaps between the theoretical theory and the actual theory, the researcher also interviewed the Chief Accountant and the Cost Control Manager for accounting issues, payments and tools perspectives. The researcher also interviewed one of the buyers on the issues regarding purchase procedure.

The interview was face to face and it was conducted individually. In between interview questions, as the interview progresses, the researcher asked a question which relates to the issue that they were talking about, if there was a relevant to it that has not been anticipated yet. The interview was strictly confidential and thus, respondents does not even know what other respondents replied on the subject. Since the researcher is working in a multicultural company, there were three different nationalities among the respondents. It has been done at the premises of the researcher's working place. It was a semi-structured interview and has been carried out in a friendly, conversational style.

All interviews has been tape-recorded and documented. The language that has been used was English as it is both this course' and the company's official language. The length of the interview took about thirty to forty five minutes. The interview did not take long because of the familiarity of the topic not only for the researcher but also to the respondents. Also sending of the interview questions beforehand together with the PowerPoint presentation regarding this study enabled the respondents to understand it well before the interview. It also helped both the researcher and the respondents to go straight to the questions during the interview.

The responsibility for establishing and maintaining a positive interviewing climate rests with the interviewer. Moreover, "the quality of the information obtained during an interview is largely dependent on the interviewer" (Patton 1990, 279). An interviewer who knows his or her questions well, who listens more than talks, and who is genuinely curious about the topic and what the interviewee has to say about it will maximize the chances of a good interview. More importantly, an interviewer who communicates, through words and behaviors, that the interviewee is a collaborator in the research process begins to reduce the power differential between the two (Maykut & Morehouse 1994, 98).

According to Mishler, this kind of empowerment in the interviewer-interviewee relationship can assist people in their efforts to construct coherent and reasonable worlds of meaning and to makes sense of their experiences (Mishler 1986, 118). When the balance of power is shifted, notes Mishler, interviewees are more likely to tell their own stories.

4.4 Case study

Case study method is used when the thesis focuses on a set of issues in a single organization, and you want to identify the factors involved in an in-depth study of the organization or (to choose a smaller unit of analysis), a single department within it. Alternatively, if you have identified a number of variables whose important to the present organization you wish to explore, it is possible to carry out a comparative case study, in which you ask the same questions in several related organizations as well as your own (Jankowicz 1995, 179).

Reports of research on a specific organization, program, or process (or some set of these) are often called case studies (Yin 1984). Case studies rely on historical and document analysis, interviewing, and typically, some forms of observation as data collection. It also takes the reader into the setting with a vividness and detail not typically present in more analytical reporting formats (Marshall & Rossman 1999, 159).

Since this study focuses on a single organization's current situation and affects employees, who are working in the organization, this method is quite appropriate for this study. The issue in this single organization needs to identify the problems which occur in purchase invoice processing to avoid paying late fees and to lessen the time spent by the employees in handling purchase invoices. Also finding a solution to develop an effective invoice processing and to improve the processes in the accounting department with regards to purchase invoice processing of the case company are the basis for this study. The results of this study will enable the case company to avoid problems in handling and processing purchase invoices; and or finding a solution to develop an effective way to handle it.

The adoption of case studies into business research is no surprise considering that there is a long tradition of using real-life cases in business teaching. Companies also use case histories that address business problems as well as success and failure, mostly for training purposes. Overall, you can easily find exciting and educating "real-life" cases in the world of business. One reason for the popularity of case study research is its ability to present complex and hard-to-grasp business issues in an accessible, vivid, personal and down-to-earth format. This often has a better appeal to business students, managers, political decision-makers and business researchers than statistical and survey research (Eriksson & Kovalainen 2008, 116).

However, the "real-life" dimension has also been a source of criticism against case study research. Case studies have sometimes been labeled anecdotal descriptions, which lack scientific rigour. Indeed, business-related case study research is often practical and it can be also normative. With the results of your study, you will be able to say something about how to perform a successful project or how to avoid some problems, at least in one particular organization or in a specific business context (Eriksson & Kovalainen 2008, 116).

As a research method, the case study is used in many situations, to contribute to our knowledge of individual, group, organizational, social, political and related phenomena. Not surprisingly, the case study has been a common research method in psychology, sociology, political science, anthropology, social work, business, education, nursing and community planning. Case studies are even found in economics, in

which the structure of a given industry or the economy of the city or region may be investigated. In all of these situations, the distinctive need for case studies arises out of desire to understand complex social phenomena. In brief, the case study method allows investigators to retain the holistic and meaningful characteristics of real-life events such as individual life cycles, small group behavior, organizational and managerial processes, neighborhood change, school performance, international relations and the maturation of industries (Yin 2009, 4).

The great advantage of the case study over other methods is that it attempts to be comprehensive, and involves you in describing and analyzing the full richness and variety of events and issues in the organization or department in question. A difficulty with this method, then, is that you lay your design open to the influence and interruptions arising from day-to-day events to a somewhat greater extent than with the other methods. The need to use multiple sources of evidence to check out and confirm initial conclusions; the need to manage and maintain a growing database; and the need to construct an inferential chain from thesis, via database, to evidence and final conclusions, are all emphasized by Yin, whose brief but comprehensive guide to case study research is highly recommended to anyone choosing this method. The outcomes of case studies used as a project or research method are usually presented in narrative and tabular form, according to a structured plan which recapitulates, in greater detail, the stages you went through in doing the work (Jankowicz 1995, 181-182).

4.5 Analyzing the data, reliability and validity of the study

Data analysis is the process of bringing order, structure and interpretation to the mass of collected data. It is a messy, ambiguous, time-consuming, creative and fascinating process. It does not proceed in a linear fashion; it is not neat (Marshall & Rossman 1999, 150). According to Strauss & Corbin (1997), qualitative data analysis is a search for general statements about relationships among categories of data; it builds grounded theory. It is the search among data to identify content for ethnographies and for participants "truths".

In qualitative studies, data collection and analysis typically go hand in hand to build a coherent interpretation of the data. The researcher is guided by initial concepts and developing understandings but shifts or modifies them as she / he collects and analyzes the data. Her / his overall strategy, thus, rests more toward the interpretive / subjectivist end of the continuum than the technical / objectivist end (Marshall & Rossman 1999, 151). According to Schatzman and Strauss (1973), qualitative data are exceedingly complex and not readily convertible into standard measurable units of objects seen and heard; they vary in level of abstraction, in frequency of occurrence, in relevance to central questions in the research. Also they vary in the source or ground from which they are experienced.

Qualitative data analysis is essentially about detection and the tasks of defining, categorizing, theorizing, explaining, exploring and mapping are fundamental to the analyst's role (Huberman & Miles, 2002, 309). The methods used for qualitative analysis, according to them, therefore need to facilitate such detection, and to be of a form which allows certain functions to be performed. These functions will vary depending on the research questions being addressed, but, certainly in applied policy research.

The researcher should use the preliminary research questions and the related literature developed earlier in the proposal to provide guidelines for data analysis. Typical analytical procedures fall into six phases: (a) organizing the data; (b) generating categories, themes, and patterns; (c) coding the data; (d) testing and emergent understandings; (e) searching for alternative explanations; and (f) writing the report. Each phase of data analysis entails data reduction as the reams of collected data are brought into manageable chunks and interpretation as the researcher brings meaning and insight to the words and acts of the participants in the study (Marshall & Rossman 1999, 152-153).

As Marshall and Rossman (1999) stated, the process of preserving the data and meanings on tape and the combined transcription and preliminary analysis greatly increased the efficiency of data analysis. The researcher's transcription, done with the literature review, previous data, and earlier analytical memos in mind, became a useful part of data analysis.

This study is based on the replies of the respondents, interviewed individually. In this study, the researcher gathered the data from the interview, organized and analyzed it systematically by going through the data and comparing respondents replies. The researcher omitted all the irrelevant data and just left the important one. The researcher also listened to the voice recorder, which has been recorded and transcribed, to double check and to be sure that she did understand the replies of the respondents.

To provide guidelines for data analysis, the researcher reviewed the preliminary questions of this study and then generated categories and patterns to understand the meaning and interpretation of the respondents. The researcher also searched for alternative explanations for the words and acts of the respondents and included it in writing the results of this study. Collecting data and its analysis is time consuming. Going through the gathered data over and over and eliminating irrelevant data takes time. Writing the results of the study needs planning on how you will report it. The researcher's notes in the interview and preserving data in the voice recorder are not only important but also increase the efficiency of data analysis.

Probably the six respondents of this study are not enough for the validity of this thesis, but the researcher has concluded the results of this study according to their replies. This study applies only in the case company's internal problem on purchase invoice processing and could not be used and generalized in other organizations. The researcher believed that every organization has their own procedures on purchase invoice processing and using different working tools that suits their business well.

This study, like other master's level studies in Finland, is public and no appendices are kept confidential. In order to protect the respondents privacy, only the recorded interviews and transcribes will not be published. Respondent's names and job title has also been omitted, as agreed with the case company.

5 OUTCOME OF THE STUDY

As the researcher have stated in chapter 2, the result of this study answered to the following questions and is explained in details in the following sections.

1. What are the problems occurring in the invoice processing?
2. How to develop an effective purchase invoice processing?
3. How to change the processes in the accounting department with regards to purchase invoice processing and an effective automatic payment cycle?

The outcome of this study was based on interview conducted with six department managers. All the respondents are handling purchase invoices and are familiar to the subject of this study.

5.1 Problems occurs in purchase invoice processing

All the respondents that has been interviewed in this study are handling purchase invoices and are aware of the following subjects, namely: creation of purchase requisition and purchase order and its amendment, work order, delivery receipts, advice notes, accounts payable, purchase order budget, technical approval and payment. The respondents were mostly department managers, who are responsible for each department's budget and their department's purchase invoices.

For the question regarding what comes first to their mind when they hear the word "purchase invoice processing", the respondents replied quite unanimously. Almost all the respondents replied that it was a long process way of handling purchase invoice. It is also time-consuming, a lot of paper work and a complicated one. One of the manager said that it is a hierarchical process starting from the creation of purchase requisition until the last process of purchase invoice processing, which is the payment of the invoice.

The following are the problems that occur in the case company's purchase invoice processing summarized from the replies of the respondents:

1. A long process in the purchase requisition / purchase order creation

The majority of the department managers believed that a long process of purchase invoice is not from the accounting side, which is handling and paying purchase invoices and its financial postings in SAP, but from the creation of the purchase requisition or purchase order processing in general. The issuer of the purchase requisition, as stated in section 2.2, not only needs his / her manager's approval but also the cost controller, procurement and the management approval.

If it is not an urgent purchase, it would take time before the issuer finally got the signed purchase requisition. The long process is also the same in the purchase order creation. Also delay on releasing the purchase order causes the problem why it takes long time. Reasons for the delay of releasing purchase order, for example, are as follows:

- No supplier or vendor number

This corresponds to the new supplier or vendor which does not have any record created yet in the SAP program. Supplier or vendor number creation of the case company is done in Germany. When there is a new supplier or vendor, the buyer check the supplier's or vendor's business info from the ytj-webpage, a Finnish business information system webpage. By filling-up the form the case company used in vendor number creation, the buyer sends the request to Germany for the creation.

Usually the supplier / vendor number creation takes time depending on the availability of the person responsible in Germany. Since the case company is not in a normal business location and is working on site, employees does not have all the access to SAP transactions and does not have appropriate working tools as compares to those working in the head office and in Germany. It would be fastest way if the case company has an access for the vendor number creation on site.

- Waiting for the signature from both parties

Purchase order is like a contract between the vendor and the buyer. And therefore, signatures for both parties are needed. On the case company's side, signatures from both the procurement manager on site and from the head office are needed, if the total amount without VAT is over the limit of one million euro. Otherwise, only the purchasing department manager's signature is needed.

Although sending of purchase order to the head office is done electronically, it does not guaranty that the process is quick because the concerned person does not usually send it back to the procurement department immediately. When the buyer got the signature from the case company's side, he / she will send it to the vendor for signing by normal mail.

On the amendment of purchase order, the process is the same as in the purchase requisition, from the beginning of the process until the purchase order is released. The buyer have two alternatives to do the amendment, it is either to amend the old purchase order that has been existed or create a new one. Either way, the buyer informs department managers, cost controllers and accountants when the amendment was done.

On the contrary to the above arguments, few of the department managers think that they do not spend a lot time in approving the purchase invoices. The reason for this according to them is that they are fully aware of the process and their actions beforehand. One of the manager stated that when he have or his department needs a purchases to do, he check the purchase order first if there is still remaining budget for that purchases. If there is no any budget left, or if the remaining budget is not enough for the purchases, he do the purchase requisition immediately for the amendment of purchase order before ordering goods or services.

2. The purchase order number that has been stated in the purchase invoice was wrong

It is either an old purchase order which is already closed and does not have any budget anymore, or it is a purchase order for other causes. Other reason for this is that the buyer forgot to mention the purchase order number when ordering the goods

or services. This also happens usually when it is an urgent purchasing when an employee of one department, for instance, just go straight to the vendor to purchase goods and then forgot to mention the purchase order number from which the goods should be taken. Tools and materials are a good example for this kind of purchases.

3. The agreed amount in the purchase invoice was wrong

This refers to the amount that the buyer and the vendor agreed. There are a lot of companies where the sales department only sells their products and services and do not do the invoicing at all. Usually, accounting or the invoicing department does the invoice and sometimes they missed something when invoicing. Freight cost, delivery cost, discounts and the calculation of the value-added tax (VAT) are a good example for this. The vendor and the buyer, for instance, agreed that freight cost or delivery cost should be included in the total amount of goods and should not to be invoiced separately. Discount, on the other hand, is not calculated and deducted from the invoice.

The wrong calculation of the value-added tax is also one of the common mistakes in invoicing. When invoicing for the goods or services that has been incurred from the previous year and for some reason it was not invoiced, there is a possibility that the invoicing company use the current VAT percentage and not the previous year's VAT percentage.

Also the introduction of the reverse charge mechanism in value added taxation in the construction sector on April 1, 2011 confuses the vendor. The reverse charge mechanism in value added taxation in the construction sector aims to reduce the potential risk associated with VAT fraud (Website of Finnish Tax Administration 2013). This will create a more level playing field in the sector and thus help improve the position of tax-compliant firms. The seller is required to issue the invoice, even though it is the buyer that is actually VAT liable. The seller sends the buyer an invoice without VAT but with all the usual information. The seller has the obligation to establish whether the buyer meets the requirements for the reverse charge system this new system outlined. The invoice must show the buyer's VAT number and indicate that the buyer is VAT liable (Website of Finnish Tax Administration 2013).

To avoid mistakes in invoicing, the researcher believes that the vendor who is invoicing should read carefully not only the contents of the contract but also what is written in the purchase order. Another reason for this is when the company has a new hired employee, trainee or a summer worker, who are not familiar with the contract or the purchase order. The company should give a proper training for new employees for an effective invoicing.

4. The contents or the details in the purchase invoice is wrong

There are instances when the details for the purchase of goods or services are wrong in the purchase invoice. Although the accountant has checked it already and the purchase invoice looks right and is already recorded upon receiving it, it is the department manager who really knows what should be in the invoice. In the case company, department managers or every department kept the work orders and the delivery receipts from the vendor unlike other organizations that keeps theirs in the accounting or accounts payable department.

One common mistake on the details of the invoice is the incorrect purchase order number that has been explained earlier. The use of the IBAN-form and the SWIFT-code in the payment system also confused vendors. Some of the vendors are still using the old invoice template in which the company's bank details are still in the old form without an IBAN-code and SWIFT-code. Also the term of payment is sometimes wrong in the purchase invoice. The one that has been agreed in the contract is different from the invoice which results to the rejection of the invoice and is subject to be returned to the vendor for correction.

5. Missing attachments, missing details, breakdown of the invoice

Another problem that occurs when dealing a purchase invoice is the missing attachments. This usually occurs in the invoices when the vendor performs maintenance, installation, repair, assembling or disassembling of something, in which outside services are done by the vendor. Also payroll invoices from the manpower agencies needs to attach the timesheets of the employees for the buyer's reference. Telephone

invoices should have an excel-sheet breakdown of costs which shows from what numbers the charge has been taken from. The breakdown of the costs is needed for the costs center.

6. No references stated in the invoice for a small order or non-purchase order purchases

One of the common problems in a small order purchase or a non-purchase order purchase is that there is no any reference in the invoice. Team event dinner, sports activities, an urgent small purchases and the like are one of the example which belongs to this category. An invoice without reference leads to a delay in the payment of the invoice. Accountant usually passes it from one manager to another until the right manager to be signed has been found.

In relation with the above research question, the researcher asked respondents how many times department manager contacts accounting department, cost controller, procurement or their secretary for acquiring more details regarding purchase invoice to be approved. Most of the replies stated that they contact the above personnel depending on the case or on the type of purchase invoice. There are some department managers that are contacting one of the above mentioned personnel almost every time to be sure, for example, if there is still budget for the purchase order.

One respondent mentioned that he is aware of what his department has requested and ordered, and what is happening in his department in general, and therefore he only contact the above mentioned personnel rarely. He is also aware of how much left on his budget and when the purchase order needs an amendment.

Most of the respondents are checking their own files and their own follow-up tables for their purchase order and also checking the copies of work orders or delivery notes that they received before signing the invoices. They believed that they can solve the invoice problems immediately on spot when they ask one of the above mentioned personnel or by checking their own files.

On the issue regarding purchase invoice disputes and what the department managers do about it, the respondents' replies are again unanimously in the sense that they are either discussing the issues, clarifying, ask around, and negotiating with either the cost controllers or the buyer but most of the time with the accountant. Few of them are contacting straight or calling the vendor for the clarification of the purchase invoice. One of the respondent commented that he does not have this kind of issue often because most of the time, he agree the purchase invoice related things beforehand with the vendor and not afterwards.

Regarding the question on satisfaction of the department manager on the present purchase invoice processing, most of them are quite dissatisfied because of the long process of purchase requisition and purchase order creation. Most of the respondents wish that the case company is using effective working tools by using electronically, more automated SAP programs or other software for an effective purchase invoice processing.

However, on rating the case company's purchase invoice processing on the scale of 1 to 5 with 1 being extremely dissatisfied and 5 being extremely satisfied, the results was quite different from the former question. Most of them replied 4 and quite extremely satisfied with the present purchase invoice processing. When asked on what grounds they are satisfied with the processes, most of them replied that they are quite satisfied with accounting department, in general, on handling and solving disputes and problems regarding purchase invoices and that weigh more. Although they could not do anything for speeding up the whole process, they do not have any chance but to follow it because it is the case company's procedure.

5.2 Developing an effective purchase invoice processing

One of the consequences in a long process of the purchase invoice is a late payment of purchase invoices. As we all know, not all companies agree on a 30 or 45 days net as a payment terms. Particularly small medium enterprises does not usually agree on a long payment terms. Depending on the nature of the purchases, the case company sometimes cannot make it on the due date, especially when the terms of payment is

only 7 days or 14 days net. The respondents replied unanimously on question regarding avoidance on paying late fees. Electronically invoice approval system or invoice approval automation is the respondents' suggestion on how to avoid paying late fees.

Another thing that has to be developed in the purchase invoice processing is how to decrease the hours spent by an accountant in purchase invoice processing. Due to a long processing, lot of steps and paper work, accounting spends a lot of time in processing purchase invoices.

The following are the respondents' suggestions on how to improve purchase invoice processing:

1) By using an electronic invoice approval system

Digitizing the entire accounts payable process from the beginning to the end by using an electronic, technically and fully integrated accounts payable automation software or system can minimize paper handling. It is also a faster cost effective process of invoice processing. Manual handling of invoices is not only time consuming but also a costly task.

To solve problems on this, an automated invoice workflow with all functionalities will ease the entire accounts payable process starting from the creation of purchase orders, reception of invoices, handling disputes and financial postings to submitting payments online. By an invoice scanning program, the incoming invoice should be scanned immediately upon reception and imported to an invoice register journal ready for approval, electronically. This will alert department managers to review and approve the invoice.

The concept of lifting data from a physical document and turning it into useable computer data is commonly referred to as data capture or forms processing. It is based on a combination of technologies, including optical character recognition, or OCR for short. Once the data fields have been located and captured, any data inaccuracies or mismatches can be corrected - for example between an original purchase order and the invoice.

To achieve this, the captured invoice image, the captured invoice data and any differences such as quantity or price from the original purchase order are automatically displayed and compared. Any discrepancies are highlighted, eliminating the need to manually match details. And with user-friendly design elements, the discrepancies can be corrected with easy drag-and-drop functionality, eliminating the possibility for a keystroke error (Website of Association for Information and Image Management 2014, 6).

A survey of more than 400 accounts payable departments by the Institute of Management & Administration (IOMA) found that companies who utilized OCR for automated invoice data capture were processing 25-60% more invoices with the same level of accounts payable staffing as those who were relying on manual data entry. These advancements mean that manual data entry can be replaced with automated data capture, resulting in quicker invoice turnaround, reduced labor and overhead costs, and greater efficiency in the overall process. OCR technology also allows workers to focus on important business tasks rather than keying manual data or verifying invoice and purchase order data. And, by combining multiple recognition engines, customized business rules, and database lookups, data accuracy levels can reach up to 99.9% (Website of Association for Information and Image Management 2014, 8).

2) By lessening the steps in purchase invoice processing

As described in chapter 2.2, the case company has a long process in handling purchase invoice. From the invoice reception to the payment of invoice, it goes to the hands of a lot of person. It does not only take the time of concerned personnel but it also leads to a late payment. Again, this would not create a hindrance even though an invoice goes to a lot of person if the case company has an automated accounts payable system as a working tool.

Although the case company is using SAP as a working tool, the use of its functions as well as the access of the employees for using it is quite limited. Unfortunately, only selected employees, depending on their job description, have an access to SAP.

Unlike the head office, the different functions of SAP are not available for use on site. And these hindrances lead to a slow processing not only of the purchase invoice but also other department's functions.

3) By informing the supplier on what we expect to be included in the invoice

One of the respondent suggested that teaching the supplier about invoicing will improve the case company's purchase invoice processing. Telling the supplier what the case company requires in the invoice will avoid returning incomplete or wrong invoices. In practice, this would not affect the handling of the invoice since it would be automatically send back to the supplier and no further handling of it. But of course, it would take the time of an accountant, who is already work loaded.

There are instances, especially before paying the invoice, that an accountant does not really know what should be included in the invoice in addition to the goods or services that has been purchased and done due to the fact that accounting office is not the one who receives goods or services and other documents which are related to the ordered goods or services.

In this case, an accountant have already processed the invoice and in some point during invoice processing, the department manager, for instance, rejected the invoice due to an incomplete delivery. Inspection of a device that needs certificate after the inspection has done, or a green card / hot work training that needs the card of the trainees after the training, are example of this; and is subject to be delivered by the supplier to the case company before paying an invoice. In the above cases, the supplier has already done the inspection or the training, which is subject to be invoiced. It requires the certificate and the card before the buyer fulfill the payment of the goods or services but then the supplier forgot to deliver it.

4) By informing the purchase order number or reference to the supplier upon ordering

The buyer who is ordering goods or services should inform the supplier from what purchase order the goods or services should be taken. If it is a "non-purchase order

purchases", a reference should be given in order for the accountant to know who will check and sign the invoice. In chapter 6.1, I have discussed briefly and gave an example of a "non-purchase order purchases".

5) By lessening paper work

Majority of the respondents believed that the case company is doing a lot of paper work before ordering goods or services. One good example for this is when the purchase order does not have any budget anymore and it needs amendment. The issuer, as I have discussed in chapters 2.2 and 6.1, should do the purchase request in order to create the purchase order amendment. In short, it will go through the same process again as in the creation of purchase order, which is from the signing of the department manager to cost control, to buyer and finally to the site management.

6) By lessening the involvement of people in the purchase invoice processing

There are seven (7) persons involve in the invoice processing from the reception of the invoice to the last processing of it. An incoming invoice goes to the accounting department, to the accountant, for the reception and posting followed by the invoice approval of the department manager. The invoice will go then to the cost controller for goods reception and to the chief accountant for final posting and payment approval. It will goes back to the accountant for manual keying the payment in the corporate net bank and then for two managers for bank confirmation. The paid invoices then goes back to the accountant, waits for the bank statement, do the preliminary bookkeeping and then archiving.

Hidden costs associated with manual processes can really add up – and because they are not easy to determine, their damaging effects may be underestimated in current processing workflows. These hidden costs most often lurk in manual processing environment, where the same invoice may be handled multiple times, even before an approval decision is made. In addition to contributing to escalating labor costs, this increases the chances of missing favorable payment terms due to lengthy processing cycles. Manual document preparation, manual routing, manual data entry, manual exception handling, manual approvals and even the cost of manually indexing and

filing an invoice are contributing to this shockingly high expense. The more times an invoice is handled, the greater the chances of it being lost or misfiled, driving up hidden costs even more. According to "AIIM's (Association for Information and Image Management) 8 Reasons You Need a Strategy for Managing Information – Before It's Too Late", the cost to locate a lost document can reach $120, and the cost to replace it, as much as $220 (Website of Association for Information and Image Management 2014, 2).

5.3 Changes to be done in the purchase invoice processing

The processing in the accounting department as a whole is quite a wide area. However, this study focused only on improving the purchase invoice processing of the case company and thus, creating an effective automatic payment cycle. In this section, I am referring to the changes to be done in the purchase invoice processing in the accounting department of the case company according to the respondents replies. A lot of the respondents believed that the case company is using too much paper in every activities regarding to this study and to lessen the amount of paper work, changes should be done. From cost control and accounting perspective, the following are the changes that should be done.

1. Using "stop" in the processes of the following:

   - Stop using "books"
   - Stop "cover sheet" printing
   - Stop invoice copying
   - Stop of invoice sending for manager approval
   - Stop of invoice scanning for e-mail purposes

But instead, park the purchase invoice in SAP and the manager's approval should be done at the accounting office with the cost controller. The benefits for these changes should be a significant time-saving due to "stop steps", euro-saving as no more late fees possible and a clear process for the managers, accounting and cost controllers through approval processing.

2. Reduction on invoice and purchase requisition / purchase order

The adaption of one invoice per month would automatically reduce handling of purchase invoice. This applies to those suppliers who delivered goods and rendered services often in a month and thus, issuing a multiple invoices. Usually, they are invoicing the case company per goods delivered or services done although it would be taken from the same purchase order. To reduce the issuing of purchase invoice, a combination invoice should be done monthly according to the purchase order it was taken.

This also applies to the issuing of the purchase requisition. Combining different goods / services in one purchase requisition will result to only one purchase order. A good example for this is the building / office container rental. The case company has a purchase order for every building that they are renting. To reduce the invoice and the purchase requisition / purchase order, combining and issuing only one purchase order will lead to only one invoice. This will benefit not only the case company but also the suppliers.

3. Automate payments for repetitive invoicing

Almost every organization receives an invoice in a regular interval and with the same amount, month after month, i.e. rent invoices and lease payments. These payments usually goes through a typical accounting department's procedure in handling invoices like asking for invoice approval before payment. However, to avoid repetition and to remove / skip the approval step from the accounting process, invoices of such payments has to be set-up in the bank system with a specified fixed amount until the termination date of each payment. In this case, there is no need to ask for approval and there is a less work required of an accounting staff. In addition to that, there is a less risk of not making the payments on time.

6 CONCLUSIONS AND SUGGESTIONS FOR FURTHER DEVELOPMENT

Each and every organization is aware of the problems and hindrances in a manual invoice processing. Instead, a lot of companies are still using and living in a paper-based processes, time consuming manual data entry and lengthy approval processes to survive in the business. Do these organizations really know how much time and money they can save by replacing manual processing with automation? As Bill Gates, chairman and co-founder of Microsoft, stated on using technology to make a business more efficient, *"The first rule of any technology used in a business is that automation applied to an efficient operation will magnify the efficiency. The second is that automation applied to an inefficient operation will magnify the inefficiency"* (Website of Sources of Insight 2014).

This study was conducted to find a way to improve purchase invoice processing in the accounting department of the case company by identifying problems, to develop an effective purchase invoice processing and how to improve it for a more effective automatic payment cycle. The method used in this study was qualitative research as a case study focusing on a single organization and used interview in collecting data. The researcher interviewed six department managers who are handling and familiar with purchase invoice and its processes, in general. The inquiry was conducted from the middle of September until November 2013 and has been analyzed immediately after collecting data until the beginning of January 2014.

The researcher used Joseph A. Maxwell's interactive model of research design to understand the actual structure of the study as well as to plan and to carry it out. As explained in section 4.2, this research design consists of five different components of a research study, and the ways these components may affect and be affected by one another. In this model, the research questions are the heart of the model and they connect all the other components of the design and should inform and be sensitive to these components. Thus the upper triangle of this model, which is the goals, conceptual framework and the research questions, should be closely integrated. The same applies in the bottom triangle of the model, which are the research questions, methods and validity.

The case company really needs redefining the internal problems on the purchase invoice and purchase requisition / purchase order handling and approval processes. Despite the fact that the case company is a multinational industrial company and is considered as the world's largest company in their own field, they are still using the old fashioned, manual invoice processing in most of their projects. As one of the employee who is working in one of their projects and deals with purchase invoice in a daily basis, manual document preparation, document routing, lengthy approval processes and time-consuming manual data entry, are common. Changing manual invoice processing to automation will give the case company positive benefits by slashing processing and hidden costs arising from manual processing. It will also lessen the time spent by the accountant on purchase invoice processing and thus, can concentrate on other tasks.

There are other alternatives for a much more easier and fastest way in handling purchase invoice in a very efficient way to avoid being trapped in a cycle of tedious manual invoice processing. Using a simple click and touch of the button or e-mails instead of manually routing paper invoices, purchase invoices can be automatically forwarded to the appropriate authorized person. Reminders can be generated automatically to alert the authorized person, in case no action is taken. Through this, invoice handling and approval process will take only minutes instead of days or weeks. However, is the case company really ready to give access and improve their processes for a more effective one?

The findings show that the case company utilizes a long process in handling purchase invoice as well as in the long approval processes of purchase requisition and purchase order. Respondents believed that the reason for this was that it is handled by a lot of employees and also done manually. Of course, the case company is using an internal control method in purchase invoice processing, called a three-way match, as other organizations do. This three-way match, as explained in section 3.1.1, is a method wherein the invoice matches with purchase order and the receiving documents in order for the invoice to be processed and then paid.

However, these three important documents in invoice processing are kept in three different departments. The invoice is in the accounting department, the purchase order is with the buyer and the receiving documents are kept by the manager. Although the accountant has an access on the buyer's internal files for the purchase order that has been released, there are times when a particular document is not on the internal file, thus delaying the invoice processing. Accounting does not either keeps the receiving reports for any purchases and / or delivered products. In order for the three-way match to work, the researcher suggested that all the purchasing process documents should be kept in only one place and / or department, which is, in the accounting department to speed up the invoice processing.

Department managers play an important role in the purchase invoice approval. However, the researcher believed that they are not one hundred percent committed to speed up the process in the purchase invoice approval. They have their own priorities in their own work and that purchase invoice approval is not their main functions. Although invoice approval is one of their tasks, they do their main functions first before they fulfil their duties on other tasks given to them.

To avoid this, the researcher is highly recommending department managers to either authorize their secretary to review the invoices beforehand, attach the receiving reports, work order and other necessary documents, if there is; and / or approve the invoices on their behalf. If they do not want their secretary to sign it, the first option would be better to take into consideration. It would speed up the purchase invoice approval. However, adding another person in handling purchase invoice would be a question mark and a contradiction, if we think about lessening the involvement of employees in the purchase invoice processing. However, the researcher believes that adding secretary on purchase invoice approval would still speed up the processing if she / he review the invoices beforehand for the department manager's invoice approval.

For other problems occurring in purchase invoice processing, which are mentioned in section 5.1, the researcher believes that a good communication not only between the buyer and the seller, but also between the purchase order requestor and the buyer should contribute for a more effective purchase invoice processing. All the needed

details in purchasing should be clearly stated not only in the purchase order but also in ordering goods to avoid the back and forth of invoice from the seller to the buyer and vice versa. The buyer has to be sure that he / she gives the right, clear and concise details of the purchases. This will avoid mistakes in the purchase invoice contents.

Referring to the above statement, the researcher truly believes that one of the reasons for the slow process of invoice processing is indeed, internal communication between employees. For a multinational company like the case company, miscommunication usually happens due to cultural differences between communicators. Cross cultural communications in the organizations with staff members from multiple cultural backgrounds needs understanding of different cultures and their people. Cultural differences can create an obstacle to an effective teamwork. Challenges on multicultural teams which arises from different style of communication like direct or indirect communication, troubles with accents and fluency, attitudes towards hierarchy and authority and conflicting norms for decision making, are common in the case company.

To solve the problem on long approval process, the researcher highly recommended the fully access and utilization of SAP system that the case company is using right now in the head office, without any limitations of its use. The other option is the use of an automated workflow, like a scan conveyer for immediate imaging. By this advanced scanner capabilities, incoming invoices can be automatically opened without requiring any pre-sorting. Some scanners are designed to identify the natural condition of the invoice, i.e., invoices that arrived crumpled, stapled or come in a variety of sizes.

For a much more advanced technology, the researcher recommended the use of a capture workflow technology, where it has a double function by acknowledging both scanned paper documents that came by normal post, as well as electronic invoices that came by e-mail of by fax. This equipment captures the incoming invoices and other data, automatically classifying the documents, sorted and then route documents with their attachments to the appropriate person, department or network location. The entire process can run completely unattended, automatically twenty four hours a day.

A single employee can operate this and thus eliminate other hidden costs in accounts payable processing.

OCR or optical character recognition, also called data capture or forms processing, as mentioned in section 5.2, is the concept of lifting data from a physical document and turning it into useable computer data. By utilizing it, any organizations can reduce labour and overhead costs, a fastest invoice turnaround and a greater efficiency in the overall process. OCR technology allows workers to focus on other tasks rather than keying manual data or verifying invoice and purchase order data. This new technology, like the invoice scanning program, scanned incoming invoices immediately upon reception, import to an invoice register journal ready for approval, alert department managers to review and approve the invoice, electronically.

The benefits of automation in different areas, as stated in section 3.5, should be taken into consideration not only in improving the purchase invoice processing but also in the purchase requisition / purchase order approval processing. The researcher believes that the case company is aware of the benefits of automation, because they are using it in the main office, and the burdens and hidden costs in manual invoice processing, but the implementation of the process on the projects seems like in a long way before it is going to be implemented.

In the middle of this study, Accounting and Cost Control Department implemented the results of questions 1 and 2, as stated in section 5.3. By utilizing "the stops in the processes of using internal posting in the "BOOKS", preparing a cover sheet for the invoice, invoice copying, invoice sending to managers for approval and invoice scanning for e-mail purposes", the huge amount of papers has been tremendously reduced to a minimal amount.

The same result has been acquired from the reduction on the amount of invoices by implementing one invoice / month from the companies who invoiced two or more invoices in a month. Also issuing the purchase requisition and / or purchase order for the same goods / services reduced the amount of paper processed. For repetitive invoicing like rental, the payment input for a monthly payment has been automatically keyed thus, skipping the approval process. By applying all the above examples, there

is less paper, less work, less risks and less time-consumed by all employees concerned.

The automation of incoming purchase invoice for an effective automatic payment cycle has also been tried during this study. The utilization has been partly done because the automation is not for the whole invoice processing as a whole, but only part of it. By introducing this procedure, incoming invoices has been posted by the accountant straight to SAP system, either through FB-60 transaction or MIRO posting, and not from the old style of recording them in the excel-file or in the "BOOKS". The use of the "BOOKS", the cover sheet and manual scanning has been omitted from the process. In this new process, we gave each department manager a schedule for invoice approval. Each of them has a specific day and time, and should visit the accounting office weekly to approve invoices without alerting or informing them.

The cost controller does the reception of goods / services after the technical approval from the department manager, and then informed the chief accountant to post the parked document through FBV0 transaction. After it was posted, the accountant should be informed for payment input using F-110 transaction / parameters for automatic payment. Finally, it is forwarded to the two managers for bank confirmation or releasing the payments by e-mail and then informed the accountant when the payment has been released. This procedure not only reduced the time spent by the accountant in purchase invoice processing but it is also much more organize, less work and the paper version of the invoice only stays in the accounting department.

With the implementation of the above examples, this study really helped to improve the purchase invoice processing of the case company. There are still a lot of procedures to be changed and develop; and / or changes to be done for improvement. The case company should trust their employees working on the projects and give the full access on the use of accounting software for an effective purchase invoice processing. It would be recommended to use automation as much as possible in different kinds of projects regardless of its location, but naturally, there are countries that the accounting software / applications are not compatible. What the research has not made clear is the seriousness of the full implementation of the purchase invoice pro-

cessing on projects from the head office's point of view. As every organization has their own procedure in handling purchase invoices, the researcher cannot recommend on further research, but hoping that this study will guide others to conduct new research.

Through the results of this study, the researcher's target procedure for handling purchase invoice is shown below (figure 12). Unlike the old procedure, as explained in section 2.2 (figure 1), incoming invoices should be parked straight to the SAP system, either to FB-60 transaction for a non-purchase order and to MIRO posting for a purchase order purchases, and not to the "BOOKS". The use of excel-file, cover sheet, scanning and printing of the invoice has to be taken off from the procedure. To recognize invoices from others, the SAP posting number of the invoice will replace the internal number of the invoice.

The target procedure, like in the old procedure, should also go to the department managers for invoice approval, to cost controller for cost codes and good reception, to the chief accountant for final posting, to the accountant for the execution of automatic bank payments, to the two authorized managers for the bank confirmation and finally back to the accountant for clearing the vendor. Department managers should be given specified time and day for invoice approval, obliging them to visit the accounting office for that specified day and time without informing or sending an e-mail. The invoice will stay in the accounting department. The way of communication is by e-mail.

After each personnel done their own part they have to inform the following personnel to do his / her part and so on, until the invoice has been processed completely. Through this target procedure, the workloads of the accountant will reduce tremendously, the procedure is much more organized and all the concerned personnel are oblige to do their part upon receiving an e-mail from other colleagues.

From this target procedure, the use of FBV0-transaction (post parked documents) and the F110-transaction (parameters for automatic payment) should be applied. FBV0-transaction is a transaction, in which you can post the parked documents using the invoice SAP posting number. It is also the release of invoice for payment or in

order words; the invoice is ready for payment. After the chief accountant has done the posting, an accountant will do the SAP extract of payment to the bank system using F-110 transaction. F-110 transaction is a transaction, in which you can run the payment of invoices depending on the due dates you wanted to pay.
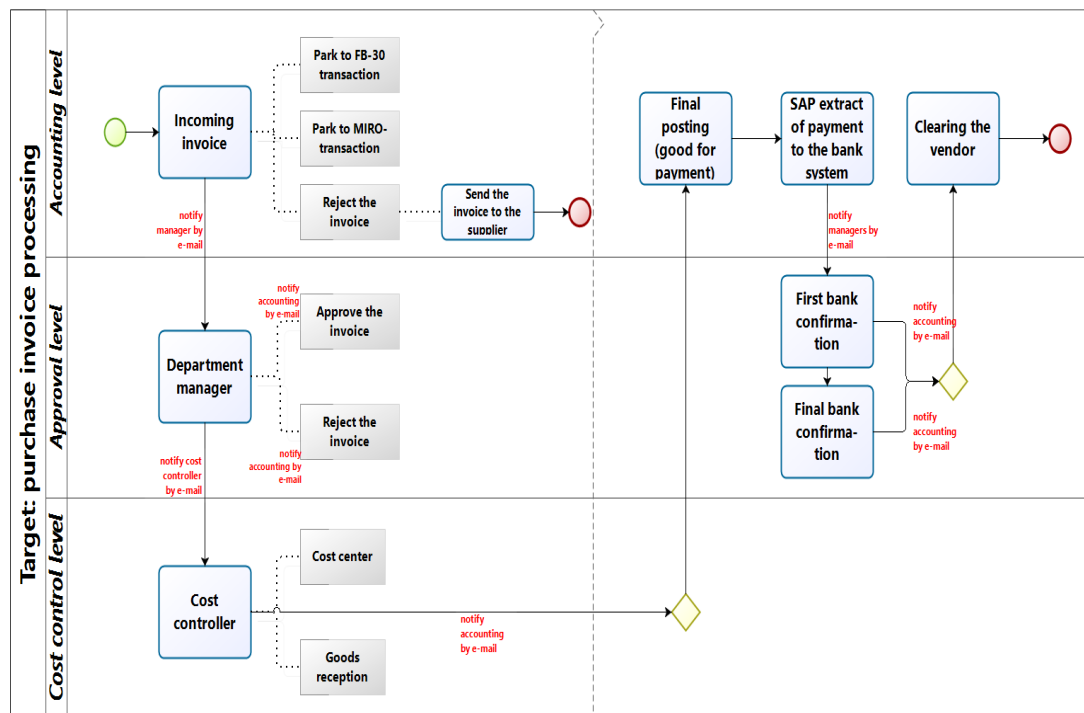

Figure 12. Target: purchase invoice processing.

On the approval processing of purchase requisition / purchase order, the target procedure would not change much as compared with the invoice processing. The case company still wants to maintain the approval of the involved personnel namely, the department manager, the cost controller and the project direction, as mentioned in figure 2. However, in the target procedure (figure 13), this would be done electronically and not manually. In this new procedure, the issuer would create the purchase requisition through SAP system. The approvals and / or automatic validation should be done against SAP master data. The way of communication is through e-mail. After the creation of purchase requisition, the issuer should e-mail his / her manager for approval, the department manager then e-mail cost controller and so on, until the approval / validation for the whole process has been completely done to the ordering of goods from the supplier.

Looking back who is involved in the transaction would be easily found by clicking a button in this new procedure. All the documents and attachments pertaining to the transaction such as quotations, pricing, approvals, and so on, are all in the same data. The personnel involved should know the process very well in order to know who will be contacted after he / she has done his part.
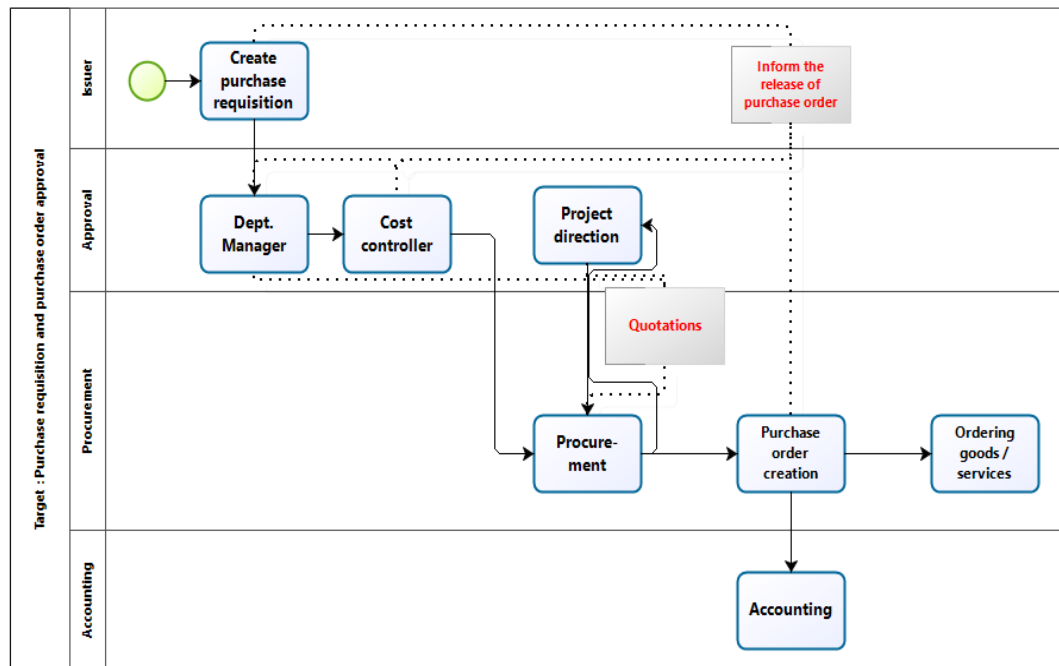
Figure 13. Target procedure: Purchase requisition / purchase order approval.

In spite of the results of this study and what has been suggested on how to develop and improve the case company's purchase invoice processes, proposals will not be easy to implement. The researcher would highly recommend that a good proposal from the employee with a high position in the case company should be needed. Even though both the accountants and department managers wanted changes to speed-up the purchase invoice processing, the researcher believes that the main backbone for the implementation of this process depends on the cost control and accounting department's manager. By considering the full use of the accounting software system / application that they are using in the head office, the case company are able to cut hidden costs associated with manual processes in their projects and handled invoices in hours instead of days or more. He / she should convince the management the benefits it gives to the case company. Together with the head office back-up and support, the implementation for an effective purchase invoice processing should, perhaps, be achieved.

7 ACKNOWLEDGEMENT

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Interview questions:

A. Invoicing process:

1. What come first to your mind when you hear the word "invoice processing"?
2. Do you think you spend a lot of time in approving the invoices?
3. How long does it take for you to approve invoices?
4. Do you think the company have to consider an effective way to lessen the compensation of time in invoicing process?
5. How many times do you contact Accounting Department / Cost Control / Procurement / supplier / your secretary for more details when approving invoices?
6. How do you resolve invoice disputes? What do you do when the invoice is in disputes?
7. Can you give me an example of a problem / problems that occurs when dealing an invoice?
8. How can we avoid paying late fees?
9. Do you have any suggestions on how to improve invoice processing?
10. How satisfied are you in our present invoice processing?
11. How do you rate the company's invoicing process on a scale of 1 to 5, with 1 being extremely dissatisfied and 5 being extremely satisfied?
12. Do the company use an appropriate tool in purchase invoice processing?
13. If not, then what do you suggest?

B. Procurement:

1. Can you explain the process in the creation of purchase order?
2. Upon receiving purchase requisition, what are the instances that you do not have to create purchase order? Can you give me an example?
3. How long does it take to do a purchase order?
4. What are the reasons why purchase order creation takes long time? Or what are the reasons for delay?
5. What are the processes in purchasing goods / services? Can you explain the procedure?
6. What is the SAP program / transaction that you are using in creating purchase order?
7. How does the purchase order signing process goes (from our side)?
8. What is the role of accounting in connection with procurement?

C. Accounting process with regards to invoicing and an effective automatic payment cycle:

1. What do you think about the present accounting process?
2. How can we improve accounting process with regards to purchase invoicing?
3. Do we have a long process of purchase invoices? If we have, what do you think are the reasons why the processes take long?
4. For an effective and quick processing of purchase invoice, do you think an accurate working tool should be used in every project regardless of where the location is?
5. What do you think are the benefits / advantages of using an accurate, effective working tool?

FB-60 (Enter incoming invoice) for a non-purchase order
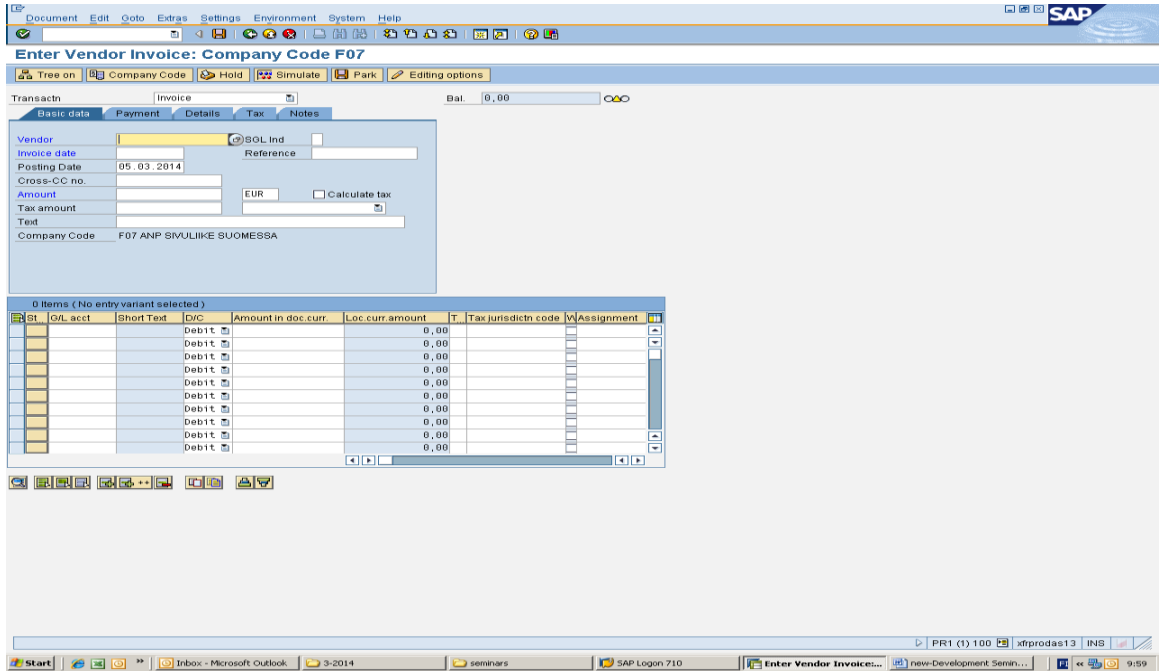
MIRO (Enter incoming invoice) for invoices with a purchase order