Evaluation of Enterprise Resource Planning System Based on SAP Financial Accounting Module in PT. Kimia Farma Tbk.

S. Hartono, R. Dwipanilih, A. Wicaksono

Abstract: The purpose of this research is to use the ERP system based on SAP with Financial Accounting module at PT. Kimia Farma, Tbk. The research methods used were data and information collection with observation, interviews, questionnaires, literature studies, and analysis with Fit / Gap Analysis methods. SAP Financial Accounting module which has been implemented by PT. Kimia Farma, Tbk is considered to have a degree of fit of 84.6154%, a degree of partiality of 10.2564%, and a degree of gap of 5.12821%. Thus, it is concluded that PT. Kimia Farma, Tbk information system according to the users' requirements in the gap in this research.

Index Terms: Accounting Information Systems, Financial Accounting, Fit / Gap Analysis, SAP, ERP, System Evaluation

I. INTRODUCTION

In the current era of globalization, information systems are developing very rapidly. The rapid development of this information system has had a number of impacts on many companies, one of which is to change their business processes to become more modern. Information systems also play an important role in helping and facilitating companies in collecting and processing information obtained. According to [1], information systems are systems needed to supply information and also to process information to support strategies, different functions of various departments and, management decision-making processes in business matters. However, this convenience also made the competition very tight, forcing the company to move quickly in order to keep up with the times. For this reason, information technology is very important in supporting the company's business processes. By following and using existing technology, the company can keep up with the times and gain excellence from other competitors. One information system commonly used by large companies to simplify their business processes is an ERP (Enterprise Resource Planning) system.

According to [2], ERP is a tool to standardize and integrate company business processes to accelerate access to resources throughout the organization so that it can help companies facilitate information sharing and improve operational efficiency.

However, in carrying out business processes with the help of information technology also does not rule out the possibility of a company experiencing difficulties in operating the technology, so that the company actually does not work well and efficiently. According to [3], the success of implementing an ERP system cannot ensure that the organization will get value from the system. Therefore, an evaluation of the system and ERP resources is needed. As said by [4], without evaluation companies only have a theory that is baseless. Some systems developed are useful for solving several problems or for improvements. Evaluation is useful for generating knowledge that can be used to improve the system. One way to find out whether an information technology has worked as expected or not is to take measurements based on Fit / Gap Analysis. According to [5], Fit / Gap Analysis is a method to identify the extent to which the current system meets a set of requirements. The purpose of Gap Analysis is to align future outcomes anticipated with future realities that can be formulated, defined, and defined or constructed.

PT. Kimia Farma is a pharmaceutical company that is engaged in trade and distribution, with products in the form of medicines and medical devices that are self-produced and obtained from third parties. PT. Kimia Farma, Tbk has implemented an SAP system since 2016 which is able to connect all functional areas of the company and support ongoing business processes. One of the modules used by PT. Kimia Farma, Tbk namely Financial Accounting. The condition of the Financial Accounting module, especially the accounts payable sub module, is currently in the stage of good use, its functions have also been used into ongoing business process activities. It's just that in some operational business processes the Financial Accounting module, especially in the sub-module account payable, feels it's still not optimal when recording and reporting for the accounting department. This can be seen from 75% of the responses of SAP users to financial accounting modules who feel that the SAP system needs to be improved.

Based on this background, it is necessary to conduct an evaluation of the SAP system, especially the registration section of trade payables in accounting that is at PT. Kimia Farma, Tbk.

S. Hartono*, Information Systems Department, School of Information Systems, Bina Nusantara University, Jakarta, Indonesia 11480. Email: shartono@binus.edu

R. Dwipanilih, Accounting Information Systems Program, Information Systems Department, School of Information Systems, Bina Nusantara University, Jakarta, Indonesia 11480

A. Wicaksono, Accounting Department, BINUS Online Learning, Bina Nusantara University, Jakarta, Indonesia 11480. Email:awicaksono@binus.edu

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Evaluation will be carried out with the Fit / Gap analysis method to identify gaps within the system, but not only focus on comparison of system performance, but also includes the needs of users who use the system. Based on the evaluation results, there will be proposals, recommendations and solutions to improve SAP performance in the Financial Accounting module, especially submodule accounts payable. Those who are expected to find solutions to support system performance as well as optimizing system usage by accounting division users.

The purpose of this thesis is to analyze the need for developing SAP ERP Financial Accounting modules, especially account payable and payment submodules at PT. Kimia Farma, TBK, evaluates the SAP ERP Financial Accounting module, specifically account payable and payment submodules at PT. Kimia Farma, TBK by comparing the running system with user needs, and providing recommendations from the evaluation results in the form of solutions that are expected to minimize the problems found.

The benefits of this thesis are to understand what user needs that are related to the SAP system Financial Accounting module in payable and payment account submodules, and providing recommendations and solutions for SAP system development and improvement in the Financial Accounting module at PT Kimia Farma, Tbk to suit the needs of the user.

Fit / Gap Analysis

According to [5] gap analysis is a method to identify the extent to which the current system meets a set of requirements. The purpose of gap analysis is to align future outcomes anticipated with future realities that can be formulated, defined, and defined or constructed.

Yang [5] also states that increasing the complexity and validity of their gap analysis adds capability mapping and architectural detailing. Next is the detail in question:

Architecture Framework
1. *Capability View (CV)*
   a. *Capability Vision (CV-1)*
   b. *Capability List (CV-2)*
   c. *Capability Clusters (CV-3)*
   d. *Capability to Operational Activity Mapping Matrix (CV-4)*
2. *Operational View (OV)*
   a. *Operational Activity Model (OV-1)*
   b. *Operational Node Connectivity Description (OV-2)*
   c. *Organizational Relationships Chart (OV-3)*
   d. *Operational Information Exchange Matrix (OV-4)*
3. *Systems View (SV)*
   a. *System Overview (SV-1)*
   b. *System Functionality Description (SV-2)*
   c. *System Relationships Chart (SV-3)*
   d. *System Interface Description (SV-4a)*
   e. *System Data ExchangeMatrix (SV-4b)*
   f. *Operational Activity to System Function Mapping Matrix (SV-5a)*
   g. *Capability to System Mapping Matrix (SV-5b)*
4. *Technical View (TV)*
   a. *Technical Standards (TV-1)*
   b. *Technical Standards Forecast (TV-2)*

II. RESEARCH METHODOLOGY

The methodology that will be used in the preparation of this paper is to collect data and information, namely:

A. Literature Review

a. Research subject
The research subjects addressed in this study are books and journals that can strengthen and assist in the process of conducting the thesis.

b. Things to do
With this method, it is the study of the *Enterprise Resource Planning* system and the *financial accounting* module to get a clear picture of the benefits of evaluating the *Enterprise Resource Planning* system and the *financial accounting* module in the accounts payable and payments submodules of the company to adjust to existing theories and studies.

c. Research time
Research conducted from February 2018 to July 2018.

d. Research sites
The location of the research was conducted at the Bina Nusantara University Library Anggrek Campus, online media such as GoogleScholar, Science Direct, Emerald Insight, library.binus.ac.id, and books owned.

e. Reason for Research
To get further knowledge about the results of the evaluation of accounting information systems, especially on the financial accounting module with the payable and payments account functions.

B. Observation

Observations that will be used in collecting data and information are as follows:

a. Research subject
The subject of observation by the author is the business process that runs on PT. Kimia Farma is mainly in the accounting and financial section

b. Things to do
Direct observation is done to collect data and information about the company's operational activities currently related to the functions of trade debt and payments needed for thesis research. And play a direct role in the use of SAP directly.

c. Research time

Table 1 Time of Observation

Date	Description
4 September 2017–4 January 2018	The internship process at PT. Kimia FarmaTbk.
February 2018 – June 2018	Further observation of research in the form of business process and SAP system data flow analysis.

d. Research sites
The location of the study was conducted at PT. Kimia FarmaTbk. Jl Veteran No 9, Gambir, JakartaPusat 10110.

e. Reason for Research

To observe, obtain and find out data and information about the business processes that are running on payable and payments account sub-modules at PT. Kimia FarmaTbk.

e.   Technical Research

The technique used is direct observation. The steps taken are as follows:

1. Obtain knowledge or references about what will be observed.
2. Determine goals and problems to determine what must be observed.
3. Determine the limits of observation.
4. Make observations and get the desired data and information.

C. Questionnaire

The questionnaire that will be used in collecting data and information is as follows:

a. Research subject

The subjects addressed in this study were 12 users of the *financial accounting* module.

b. Things to do

The distribution of questionnaires was carried out to obtain how many users who want an increase in the system that runs PT. Kimia Farma which is related to the accounting and finance department.

c. Research time

Table 2 Time for Distributing Questionnaires

Date	Description
May 2018 – June 2018	Interview to get user problems and needs.

d. Research sites

The location of the study was conducted at PT. Kimia Farma Tbk. Jl Veteran No 9, Gambir, Jakarta Pusat 10110.

e. Reason for Research

To get information about how many system users are running on payable and payments sub-modules who want an increase in the SAP system.

f. Technical Research

The technique used is to share the questionnaire directly. The steps taken are as follows:

1. Mapping Users against procedures in the accounting and financial section of PT. Kimia FarmaTbk.
2. Arrange questions to determine how many users want an increase in the system that runs based on business processes.
3. Disseminate questionnaires to 12 users.

D. Interview

Interviews that will be used in collecting data and information as follows:

a. Research subject

The subjects addressed in this study were 12 users of the *financial accounting* module.

b. Things to do

Conduct interviews directly to obtain problems that are being faced by PT. Kimia Farma which is related to the accounting and finance department.

c. Research time

Table 3 Time of Interview

Date	Description
Apr-18	Distribution of questionnaires to 12 users of the *financial accounting* module

d. Research sites

The location of the study was conducted at PT. Kimia Farma Tbk. Jl Veteran No 9, Gambir, Jakarta Pusat 10110.

e. Reason for Research

To find out the need for an existing information system and to ask for complaints or shortcomings of the current system on account payable and payments sub-modules at PT. Kimia Farma Tbk.

f. Technical Research

The technique used is unstructured interviews. The steps taken are as follows:

1. Mapping Users against procedures in the accounting and financial section of PT. Kimia Farma Tbk.
2. Arrange questions to determine User Requirements based on business processes.
3. Conducting direct interviews with cash receipt supervision, supervising marketing costs, implementing marketing costs, supervising head office costs, supervising trade debt, executing trade debts, and executing finances
4. Make transcripts of interviews that have been conducted.

E. Evaluation Method

The evaluation method used is Fit Gap Analysis, which defines the suitability of the system running with the user requirements at PT. Kimia Farma,

According to [5] the steps that need to be done to do Fit Gap Analysis are as follows:

1. Creating the Architecture Framework.
2. Creating a Capability Mapping Approach.
3. Connecting Core Entities.
4. Developing the Capability Mapping Process.
5. Perform Gap Analysis.
6. Provide recommendations from the results of evaluations that have been made

III.   RESULTS AND DISCUSSION

The percentage of capability mapping according to the number of status functions is as follows:

Table 4.Capability Mapping Percentage

Status	Amount	Percentage
F	33	84.62%
P	4	10.26%
G	2	5.13%
Total	39	100%

From the results of the matrix capability mapping, mapping between system capabilities is obtained where there are 33 system capabilities or 84.6154% that are fit, 4 system capabilities or 10.2564% which are still partial fit and 2 system capabilities or 5.12821% which are still gaps. There are 4 requirements that are categorized as partial gap, namely print proof of debt recognition, post invoice, park credit memo, and post register journal. And there are 2 requirements categorized as gaps, namely post down payment request and post with clearing.

Recommendation

The results of *Capability Mapping* and *Fit Gap Analysis* in Table 4, the next thing that needs to be done is to analyze the problem. Where this problem analysis can describe the problems faced based on requirements, along with the causes, consequences and solutions that need to be done then recommendations that can be proposed as a follow-up according to user needs.

A. Cash Receipt Submission Process

Based on *Capability Mapping*, in the process of submitting a cash receipt that has a *post down payment request* function that is classified as a gap. Where in the table below will explain the problem of the gap in the system function post down payment request.

Table 5 Problems and Solutions for Cash Receipt Submission Process

No	Problem	Cause	Effect	Solution
1	There is a gap between the needs of users with a running system in the absence of a form to change *down payment request* and *park down payment request*	Due to the needs of users in the cash accounting and marketing accounting section	There is often a mistake in recording	Need to create a new form which are *park down payment request*, and *change down payment request*.

B. Cash Receipt Completion Process

Based on Capability Mapping, there is a post with clearing that is still classified as a gap. Where in the table below will explain the problem of partial fit in the function of the post with clearing system.

Table 6.Problems and Solutions for Cash Receipt Completion Process

No	Problem	Cause	Effect	Solution
1	There is a gap between the needs of *users* with a running system in the absence of a feature to delete a previously written *journal account*	Due to the needs of users in the cash accounting and marketing accounting section	If you have filled out a large *journal account* and there is an error filling, it is necessary to make a new journal.	Additional features are needed to delete *journal entries* that have been filled.
2	There is a gap between the needs of users and the system that runs in the form of too small table in displaying a journal account that has been filled	Because of the user needs in the cash receipts accounting section and marketing accounting	If you have filled in many account journals, you can only see 14 account journals	Required addition of *scroll down* in *account journal* table
3	There is a gap between the needs of users and the system that is running in the form of no form to change *down payment requests* and *park down payment requests*	Because of the user needs in the cash receipts accounting section and marketing accounting	Frequent recording errors occur.	A new form needs to be made, namely *park with clearing, change park with clearing*

C. Process of Recording Invoice with PO Reference

Based on Capability Mapping where the process of recording invoices with PO references there is printed proof of debt recognition and post invoice which is still classified as partial fit. Where in the table below will explain the problem of partial fit in the system function print proof of debt recognition and post invoice.

Table 7. Problems and Solutions forProcess of Recording Invoice with PO Reference

No	Problem	Cause	Effect	Solution
1	There is a gap between the needs of users and the system that runs in the form of adding a new column, namely the *payment date* on *printed proof of debt recognition*	Due to the existence of user requirements in the accounting section of trade payables.	Making the proof printing process of debt recognition becomes slow and time consuming in the search for *payment dates*	Need to add new columns, namely *payment date*.
2	There is a gap between the needs of users and the system that runs in the form of adding a new column, namely the *material document* on *post invoice*	Due to the existence of user requirements in the accounting section of trade payables.	Making *the post invoice* process slow and time consuming in searching *material documents*.	Need to add new columns, namely the *material document*.
3	There is a gap between the needs of users and the system that runs in the form of inexistence of option for users to searches from *purchase orders numbers* or *material document*.	Due to the existence of user requirements in the accounting section of trade payables.	Making the *post invoice* process slow and time consuming in searching *material documents*.	Need to add a *dropdownlist* so users can choose *purchase orders* and *material documents*

D. *Credit Memo Recording Process with PO Reference*

Based on Capability Mapping where the process of recording credit memos with PO references there is a post invoice that is still classified as partial fit. Where in the table below will explain the problem of partial fit on the function of the post invoice system.

Table 8. Problems and Solutions for Credit MemoRecording Process with PO Reference

No	Problem	Cause	Effect	Solution
1	There is a gap between the needs of users and the running system in the form of adding new columns for search, namely *material document* in *post invoices*	Due to the existence of user requirements in the accounting section of trade payables.	Making the *post invoice* process slow and time consuming in searching *materials document*.	Need to add new columns, namely the *material document*.
2	The gap between the needs of users and the running system is that there is no option for users to choose searches from *purchase orders numbers* or *material document*.	Due to the existence of user require-ments in the accounting section of trade payables.	Making the *post invoice* process slow and time consuming in searching *materials document*.	Need to add a *drop-downlist* so users can choose *purchase orders* and *material documents*

E. *Proof of Receiving Money Vouchers*

Based on Capability Mapping where the proof of receipt of the voucher is a *post register journal*, it is still classified as *partial fit*. Where in the table below will explain the problem of partial fit in the function of the *post register journal* system.

Table 9.Problems and Solutions forProof of Receiving Money Vouchers

No	Problem	Cause	Effect	Solution
1	The gap between the needs of users and the system that runs in the form of a *textbox* is added to enter the *invoice* reference to make it easier to work	Because of the need for users in the finance department.	More time used on receiving money vouchers process	Add a reference invoice textbox to automate the filling of data based on existing invoices

IV. CONCLUSIONS

Research has been conducted on one company, where the research was conducted by making capability mapping and Fit / Gap analysis in the SAP module financial accounting system, especially in payable and payment account submodules. Based on the analysis of the user requirements that have been carried out on the account payable and payment system at PT. Kimia Farma, Tbk then concluded as follows:

1. The results of processing data taken through interviews with users using the Fit/Gap analysis method indicate that the SAP system is Financial Accounting module at PT. Kimia Farma,Tbk plays an important role and is able to handle all Financial Accounting activities. But there are some gaps found in each requirement list. Therefore, awareness and action are needed to support the important role of this SAP Financial Accounting module system.

2. Based on the results of the analysis conducted by the Fit/Gap method, it can be concluded that the implementation of SAP at PT. Kimia Farma, Tbk since 2016 has been running well with a Fit percentage of 84,6154%, although there are some shortcomings in its implementation, namely 10.2564% Partial Fit and 5.12821% Gap. This shows that all the requirements needed by the company already exist in this system, but most of the menus that are still not running well are proven by the Partial Fit presentation which is greater than the Fit presentation.

3. There are 4 requirements which are categorized as partial gap, namely print proof of debt recognition, post invoice, park credit memo, and post register journal. And there are 2 requirements categorized as gaps, namely post down payment request and post with clearing

4. The results of the gap and partial fit were found in the Fit/Gap Analysis method, and the maximum utilization of the use of the SAP Accounting Module Financial Accounting system and also cooperating with vendors that are qualified for the company to get more profit after

being applied, and the results and suggestions namely as follows:

a. Post down payment request: the addition of a new form, namely park down payment request and change down payment request
b. Post with clearing: the addition of a new form is park with clearing and change with clearing
c. post invoice: there are additional options for selecting searches between purchase orders or material documents
d. park credit memo: the addition of options for selecting searches between purchase orders or material documents
e. Print proof of debt recognition: the addition of a new column, namely payment date
f. Post register journal: the addition of a textbox to search invoices

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AUTHORS PROFILE

Sugiarto Hartono, S.Kom., MMSI. is a faculty member at Information Systems Department, School of Information Systems, Bina Nusantara University in Jakarta, Indonesia

Rayi Dwipanilih obtained his bachelor degree in 2018 from the Accounting Information Systems Program, Information Systems Department, School of Information Systems, Bina Nusantara University in Jakarta, Indonesia

Aries Wicaksono, S.Kom., M.Ak., is a faculty member at Accounting Department, Faculty of Economics and Communication, Bina Nusantara University in Jakarta, Indonesia. Currently, he also serves as the Head of Accounting Program - BINUS Online Learning at the university.