

# Concept Analysis and Design Cloud Computing for Sales on SMEs

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## *Abstract*

This paper seeks to show that cloud computing based ERP ( Sales Module ) application could create a competitive advantage for small and medium-sized enterprises ( SMEs ). The main methods used in this study were interviews, observation, dan literature study on the sales process that concurr in current condition. ERP could create a competitive advantage for SMEs. By using cloud computing based ERP, SMEs could reduce costs of developing & maintaining it's own IT infrastructure.

**Research limitations** – scope of research are SME's in Palmerah Sub-District ( Kecamatan ).

**Index Terms**—SMEs, ERP, Sales, Cloud Computing

## I. INTRODUCTION

Nowadays, small and medium enterprises ( SMEs ) are facing a rapid changing world of business. They need to adapt and change fast, because if they don't change, they dead. SMEs are facing challenges to become more responsive to change. Using IT is an obligation for SMEs to compete in this ever-changing world. IT is no longer a support system, but IT is now a core business process. Since then, SMEs has been facing a lot of problem in developing their own IT infrastructure. The tendency of SMEs not developing it's own IT is mainly because of costs. High cost needed for initial investment, yet for maintaining it all over the time. Beside that, they need someone to maintain it. It means more employee to be hired, to be trained, and to be paid!. To deal with this, there is an alternative to overcome high cost problem : Cloud Computing. By using cloud computing, SMEs can still using IT but doesn't have to build it's own infrastructure, yet hire employee to maintain it. They just have to pay on what they use. The infrastructure development and maintenance are handled by the service provider.

## II. METHODS

In writing this journal, several methods are conducted. They are stated below :

### A. Sampling

Sampling was taken based on Quota Sampling, and using Purposive Sampling as it's technique.

### B. Data Collection

Data collection method were done by conducting interviews on sales process over 32 SMEs located in Palmerah Sub District. The 32 SMEs consists of 14 different category of business. They are : Fitness Club, Internet Café, Refill Center, Book Rental, Book Store, Salon, Minimarket, Laundry, Business Service, Computer Store, Pharmacy, Car Wash, Printing, and Restaurant. Observation were conducted concurrently with the interviews. Study literature were done by reading books as a basic theory and further references.

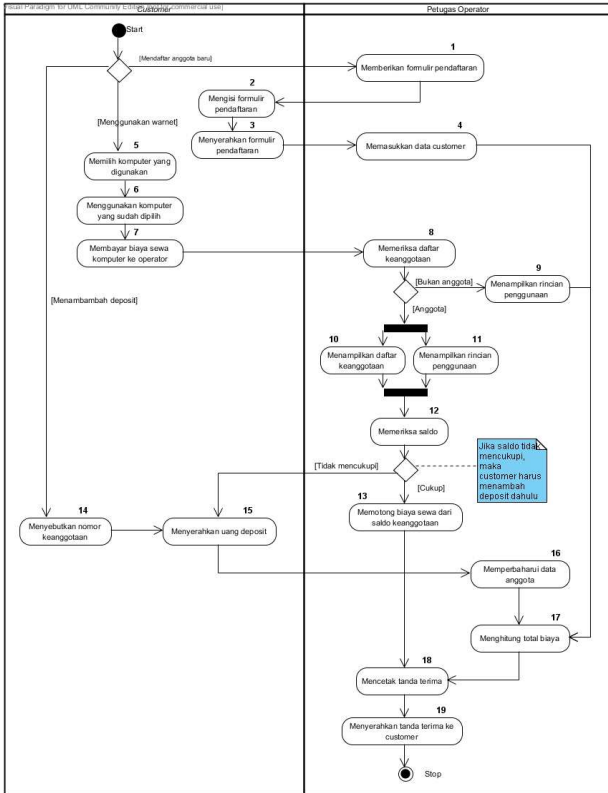
### C. Analysis & Design

Analysis & Design method were conducted by using Unified Modeling Language ( UML ) staged by step below :

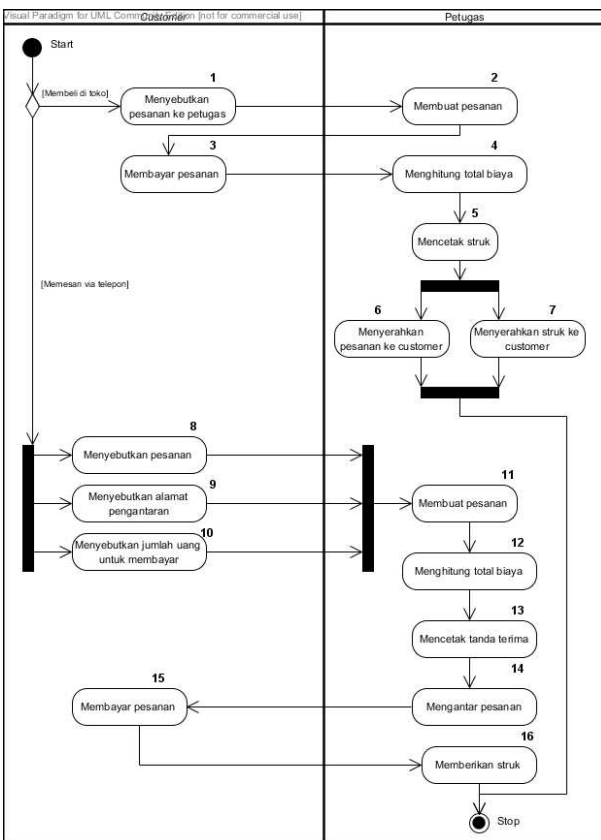
1. Making Use Case Diagram
2. Making Activity Diagram
3. Making Sequence Diagram
4. Making Class Diagram

## III. DATA COLLECTING

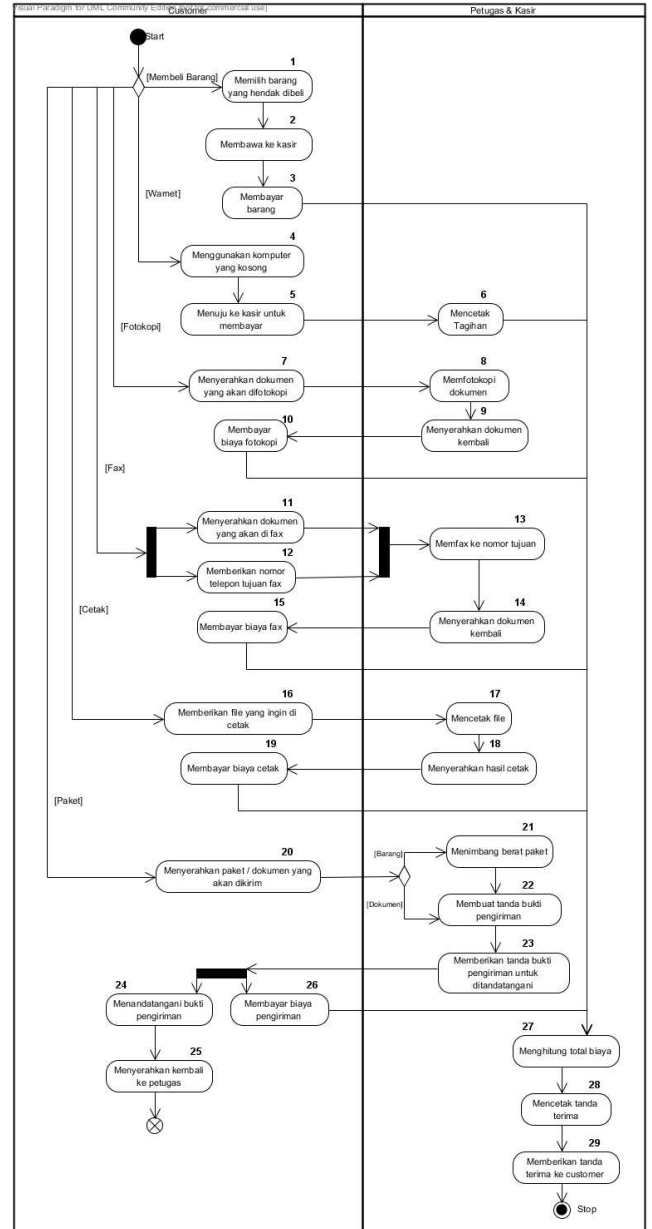
The research began with researching each of SME's sales business process. The process resulted from the research drawn into the Activity Diagram, and the field used in the current system listed in the table below :



Picture 1 Sales Process of X-Zite Zone Internet Café



Picture 2 Sales Process of Martabak Alim



Picture 3 Sales Process of Multiplus

Field	Amount
Transaction Date	32
Price	32
Total	32
Transaction Number	32
Quantity	30
Product / Service Name	25
Transaction Clock	20
Product / Service Code	17
Sub Total	17



Diagram 5 Add Client Sequence Diagram



Diagram 6 Change Access Rights Use Case

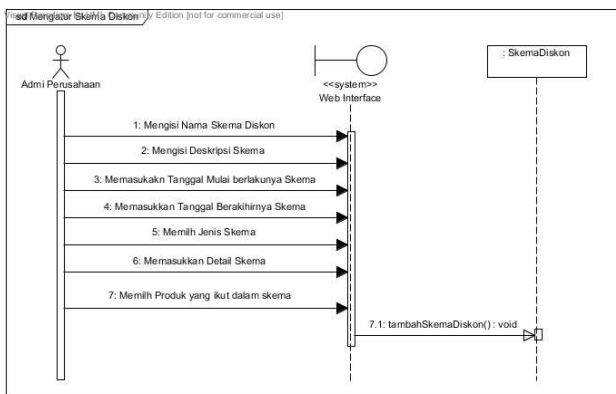


Diagram 7 Setting Discount Scheme Use Case

## V. RESULT

The result of this project are : Developing best practices sales process of SMEs, and a concept of cloud computing based ERP Sales application which will be developed soon, integrated with other module of ERP.

In this application, User just have to login via web browser to access the entire application ( except the Point Of Sales application which is installed on User's PC ). This application will be able to deliver the following services :

- Sales order, Direct sales
- Point of sale
- Invoicing Process
- Centralized management of price lists, and tax
- Integratation with Point of Sales software

User can separate access between employee & owner by using password. The applications is fully customisable, so that user can manage what field to be used and not in the application.

The Point of Sales (PoS) program is a software deployed in User's PC which is integrated seamlessly with the database store in the cloud. PoS used mainly in Retail SMEs, usually as a cashier software. But the database here is stored in the cloud, not in the User's PC. By then, user don't have to worry about their hard disk capability, because everything is stored

on the cloud.

## VI. DISCUSSIONS

Based on the theory of Eight Golden Rules by Shneiderman (1), in his book "Designing the User Interfaces", this application has been trying to follow these rules by designing a simple, and easy interface.

## VII. CONCLUSION

The main conclusion from this study is that cloud computing based ERP could create a competitive advantage for SMEs. Company doesn't have to build the infrastructure by itself, but still can use the functionality needed. This allows company to save their budget allocation on IT. By using this software, SMEs owner can access their Sales Data wherever they want, whenever they want, because everything is stored on the cloud and they just need to log in via web browser to access the entire application & data. This gives owner flexibility to operate / maintain their company, even if they are away from office.

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