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Development of a customer relationship management model based on maturity level of cobit 4.1: case study of the cooperative section at departement of industry, trade, cooperative, and small-medium enterprises, Yogyakarta provinceAli Tarmuji¹, Tedy Setiadi¹, Sri Handayaningsih¹, Juli Lestari¹. *¹ Informatic Engineering Departement, Faculty of Industrial Technology, Ahmad Dahlan University, Prof. Dr. Soepomo, S.H., Yogyakarta, Indonesia.*Corresponding author: juli10018094@webmail.uad.ac.id

Abstract

Departement of Industry, Trade, Cooperative, and Small-Medium Enterprises (DITCSMEs) Yogyakarta Province is one of the featured field that have implemented Blueprint IT of Jogja Cyber Province. For one section in DITCSME namely Cooperative Section, it has obstacles that limited human resources and lack of mastery and utilization of technology, services performed. Services performed by this section in serving the cooperative movement is currently using an offline manner. Cooperative section gives information system services only limited information to help finish the job and not provide detail information to the customers. In the future, this section yet has difficulties in designing how to manage customer based on technology. This paper is based on research "Development of CRM Model based on Maturity Level of Cobit 4.1 (Case study: Cooperative Section at Departement of Industry, Trade, Cooperative, and Small-Medium Enterprises, Yogyakarta Province)". Stages of this research include analysis that the current analysis, calculation of COBIT 4.1, analysis of expected conditions, GAP analysis, modeling CRM, feasibility, and recommendations. The results of this research are (1) the establishment of a framework for the CRM Model in the cooperative section at DITCSMEs Yogyakarta Province; (2) generation of models that have been tested so it can be used as a reference at the cooperative section in CRM mapping and guidance to the management team on the applications of building planning. The test results showed a 100% match.

Keywords: COBIT 4.1, Cooperative Section, Customer Relationship Management (CRM) model, Departement Industry Trade Cooperative and Small-Medium Enterprises, Yogyakarta Province.

1. Introduction

Jogja Cyber Province Blueprint that became the benchmark development of e-government in Yogyakarta who transformed the service-oriented to customer (public, agencies in Yogyakarta, district government, and the central government) uses the concept of Customer Relationship Management (CRM). Information and knowledge that utilize information and communication technology as an accelerator of development of the province competitive, comfortable, independent, efficient, and effective. This services based on Information Technology.

DITCSMEs is one of the agency government go to public which has the task of managing the assets of industry and trade which is state-owned and carry out the affairs of local government in the field of metal, clothing and miscellaneous, Division of Agro and Chemical Industry, Foreign Trade Sector, Sector Domestic trade, Cooperatives, and Small-Medium Enterprises as well as the Authority Deconcentration and Co-Administration granted by the Government. Each field has a section lead by the head section, as well as the duties and functions that have been assigned according to the Rules the Governor of Yogyakarta Province No. 43 year of 2008.

One section in DITCSMEs namely Cooperative Section. This Section has obstacles that limited human resources and lack of mastery and utilization of technology, services performed. Services performed by this section in serving the cooperative movement is currently using an offline manner. Cooperative section give Information system services only limited of information to help finish the job and not provide detail information

to the customer. In the future, this section yet still difficulties in designing how to manage customer based on technology.

2. Materials and methods

Modeling made is expected to be used as reference in the mapping of CRM and can be used as a guide to the team management in applications building planning CRM system in Cooperative Section at DITCSMEs Yogyakarta Province. Stages of this research include data collection methods (observation, interview, and literature study), analysis (that the current conditions analysis, calculation with COBIT 4.1, analysis of expected conditions, GAP analysis, building CRM Model, feasibility testing, and recommendations.

Maturity index used by maturity level at each level of maturity are as shown in Table 1:

Table 1 Representation of Maturity Index

Maturity Index	Maturity Level
0-0.50	0-Non existent
0.51-1.50	1-Initial/As Hoc
1.51-2.50	2-Repeatable but intuitive
2.51-3.50	3-Defined
3.51-4.50	4-Managed and Measurable
4.51-5.51	5-Optimised

Assessment is done by considering the six attributes of maturity which includes :

- 1) Awareness of the importance of carrying out the process (awareness and communication)
- 2) policies, standards and procedures related to the process being run (Policies, plans, and procedures)
- 3) Application in the form of information systems and information technology (tools and automation)
- 4) The skills and expertise of human resources in carrying out the process (skills and expertise)
- 5) The roles and responsibilities associated with the process (responsibilities and accountabilities)
- 6) The size and performance assessment in carrying out the process (goal setting and measurement)

3. Results

3.1. Analysis of current conditions

Stages of modeling the current state is the stage to determine the conditions of service that is running in Section Cooperative at DITCSME Yogyakarta Province, stage of understanding the current condition include:

- a. A brief profile of Cooperatives Section at DITCSME Yogyakarta Province
- b. Reviewing business processes

The business processes related to customer who was walking in the Cooperative Section.

- c. Reviewing Data and Information

Reviewing the data are to be used by Section Cooperatives and the data will be processed into information. No information will be used by Section Cooperative.

- d. Information systems or applications used in Section Cooperative.

Defining information systems or any applications that use Section Cooperative.

3.2. Processing of Survey Data

A data processing by giving questionnaires to the staff of the cooperative section then the response data from respondents processed using COBIT 4.1 and can know the value of the maturity level of current conditions and expected conditions maturity value and the value of GAP. The assessment is done by considering the 6 (six) attributes of maturity.

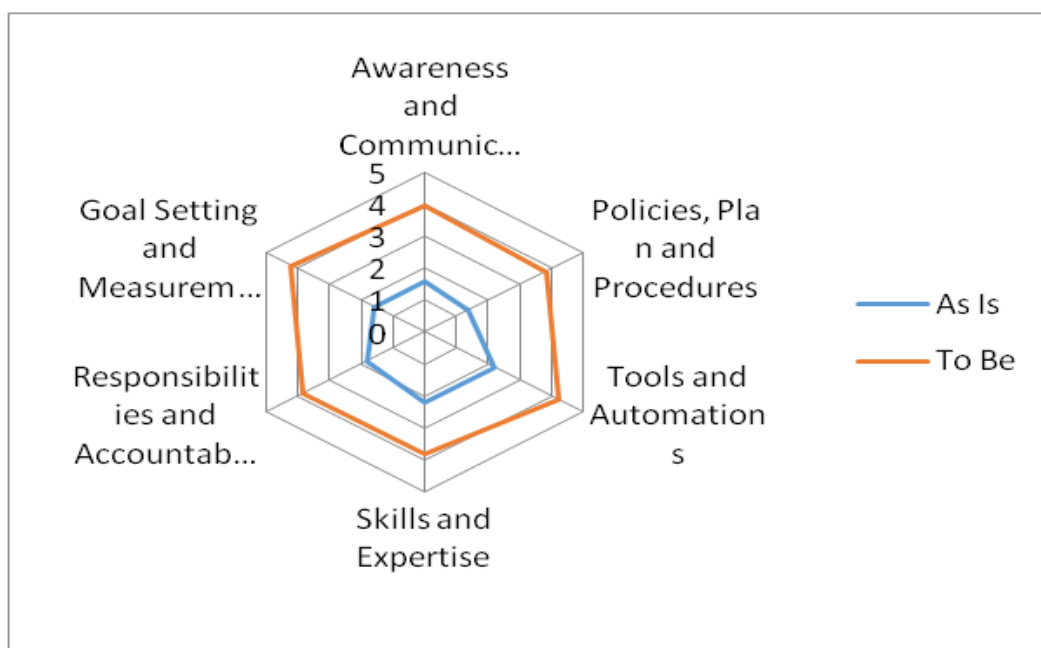
Based on Figure 1 it can be concluded that the gap (gap) between the maturity level of the average current state (as is) and the expected conditions (to be) for each attribute maturity, Gap lowest owned by attribute skills and expertise with value gapnya 1.60, P this shows that the maturity level involved in the process PO8 "managing quality of service" at the Cooperative Section higher than the other attributes.

Table 2 Summary of the distribution of responses PO8 process "managing quality"

P08		State	Answers Distributed						Maturity Value
No	Attribute		0	1	2	3	4	5	
1	AC	as is	0%	40%	60%	0%	0%	0%	1.60
		to be	0%	0%	0%	20%	60%	20%	4.00
2	PSP	as is	0%	60%	40%	0%	0%	0%	1.40
		to be	0%	0%	80%	20%	0%	0%	3.80
3	TA	as is	0%	0%	80%	20%	0%	0%	2.20
		to be	0%	0%	0%	0%	80%	20%	4.20
4	SE	as is	0%	0%	80%	20%	0%	0%	2.20
		to be	0%	0%	0%	20%	80%	00%	3.80
5	RA	as is	0%	40%	40%	20%	0%	0%	1.80
		to be	0%	0%	0%	20%	80%	0%	3.80
6	GSM	as is	40%	60%	0%	0%	0%	0%	1.60
		to be	0%	0%	0%	20%	80%	00%	3.80
as is			30%	60%	10%	0%	0%	0%	100%
to be			0%	0%	13%	77%	10%	0%	100%

Table 3 Summary of percentage level of process maturity PO8

No	P08 Maturity Attribute	Maturity Value		Maturity Level		GAP
		as is	to be	as is	to be	
1	Awareness and Communication	1.60	4.00	1	4	2.40
2	Policies, Plan and Procedures	1.40	3.80	1	3	2.40
3	Tools and Automations	2.20	4.20	2	4	2.00
4	Skills and Expertise	2.20	3.80	2	3	1.60
5	Responsibilities and Accountabilities	1.80	3.80	1	3	2.00
6	Goal Setting and Measurement	1.60	4.20	1	4	2.60
Average		1.80	3.97	2	4	2.17

**Figure 1** Graph PO8 current maturity (as is) and expected conditions (to be)

3.3. Gap Analysis

Based on the percentage of the level of maturity of current state (as is) and the expected conditions (to be) then there is a gap (gap) is to improve understanding of quality management recognize ICT. Then create standard policies and procedures, making tools (toolkit) in addressing the problems of ICT management. Support the skills and expertise of human resources in each unit of work in the ICT quality management process. Should the responsibilities of each of the ICT quality management that has been clearly defined, communicated and known thoroughly.

So as to achieve to be (the expected conditions) in Cooperative Section must make changes in providing services to the public by means of ICT, thus the need for data and information become a key element in supporting good management between the government and customers or the public. That necessary steps in Section cooperatives that make CRM model as a reference in managing data and information to achieve the expected goals and the Department of customers or the public.

3.4. Business Process

A proposed business process covers the process development and the empowerment of cooperatives, cooperative information process, the facilitation process of ratification documents on cooperatives, the grievance process issues (advocacy), facilitation of cooperative partnership. Development of business process and empowerment of cooperatives section.

3.5. CRM Model of Cooperative Section

Description of Figure 2 below:

1. Business Process

Figure 2 picture business process modeling framework Cooperative Section. Cooperative Section which has been analyzed in design and CRM model.

2. Candidates Customer Management Applications

Customer Management Applications Candidates are various applications that can be used by Cooperative Section section to help speed up service and accelerate the work of employees or staff Section of Cooperatives.

3. Technology

Technology that supports information systems or applications used.

4. HR using Application

HR using applications that Cooperative Section staff have a responsibility to each application.

5. Media Interaction with Customer

Media interaction is an important part of the modeling framework using CRM for media interaction, the customer can communicate directly with employees of the Cooperative Section. Media interaction between employees with this customer is a facility that can be used by customers to address the problem or access information. Media interaction can be used by all types of customers.

6 Customer

Customer at Figure 2, images that customer who has been possessed by Cooperative Section.

3.6. Feasibility Testing

Feasibility testing by Manager and Cooperative Section staff given stated that the answers of all questions is "appropriate", the answers obtained total score is 12, then based on test results obtained by presenting viability ratings as follows. That the statement appropriate as: $(12/12) \times 100\% = 100\%$; and the statement is not appropriate as much 0%.

As a percentage of the feasibility test can be concluded that the results of due diligence questionnaire given to respondents head section suitable answers is 100% and 0% the answer is not. This means that the proposed plan is completely in accordance with the cooperation section can support organizational strategies in improving the E-Government services in the Yogyakarta province.

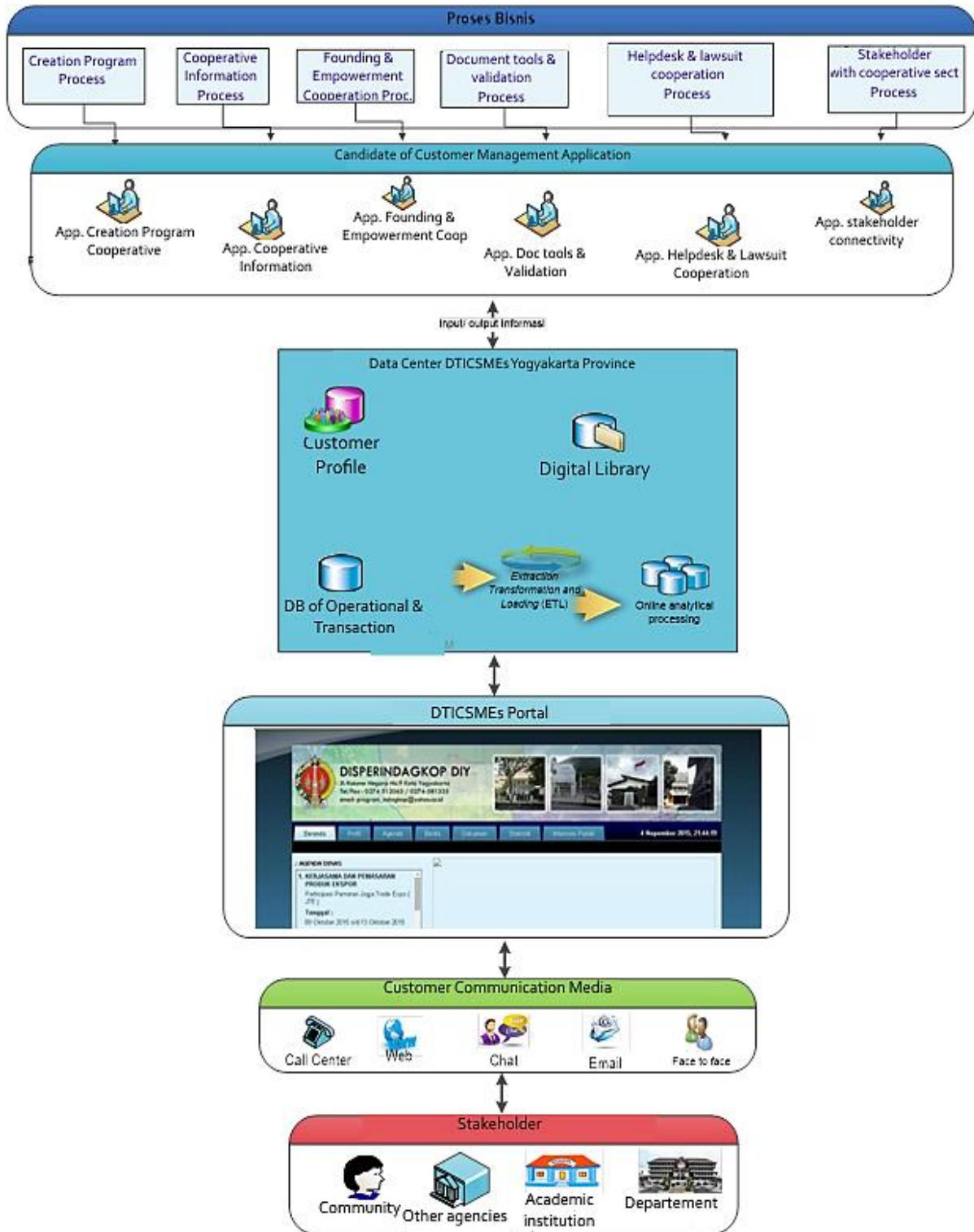


Figure 2 CRM model in Cooperative Section at Departement of Industry, Trade, Cooperative, and Small-Medium Enterprises, Yogyakarta Province

4. Discussion

This Research result can be improvement of next research to :

- a) Understand the understanding of the utilization of ICT quality management.
- b) Creating standard policies and procedures in dealing with the management of ICT issues.
- c) Support the skills and expertise of human resources in every staff in the management of the quality of ICT.

5. Conclusions

Based on the research results about the CRM model development in Cooperative Section DITCSMEs Yogyakarta Province, then obtained some conclusions are as follows:

- a) CRM Model in Cooperative Section DITCSMEs Yogyakarta Province build using the modeling system with the viewpoint of business processes and calculation needs of a service-oriented use calculation techniques COBIT 4.1, then expanded to include information systems and customer satisfaction strategy into every stage of the development of e-Government.
- b) Produce recommendations for the implementation of CRM in Cooperative Section DITCSMEs, Yogyakarta Province can be used as reference in achieving the goals and objectives of Cooperative Section especially in terms of service to customers.
- c) Have generated model of CRM are eligible to be used as reference in making changes in the development of e-government in particular Cooperative Section DITCSMEs, Yogyakarta Province.

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