International Journal of Trend in Scientific Research and Development (IJTSRD)
Volume 4 Issue 3, April 2020 Available Online: www.ijtsrd.com e-ISSN: 2456 – 6470

Evaluation of the use of Open Source Based E-CRM in MSMEs with Technology Acceptance Model (Tam)

Julianty Surasma Surung

Department of Information Technology, Faculty of Engineering,
Udayana University, Bukit, Jimbaran, Bali, Indonesia

ABSTRACT

Today's business activities have entered the modern era, which uses technology as the media. The application of technology is not only done by large companies, but also in MSMEs. The application of ERP technology, especially in CRM to manage customer relations with a company; is very necessary for the interests and progress of a company. The business processes of the Weaving X MSMEs that use CRM are still running conventionally, where there is no adequate customer management which causes problems such as a collision that often happens in customer consultation schedules, the lack of real-time information in customers, and the company is overwhelmed in communication with customers who are living in far places. The solution to this problem is to apply E-CRM technology; which is a model of managing customer relationships online. With the use of open-source software such as Odoo; both companies and customers can enjoy the convenience and benefits of services and features in the application. This is based on the evaluation of the testing conducted on 20 respondents regarding the implementation of Odoo-based E-CRM; which showed the perceived ease-of-use with a percentage value of 48.33% "agree" and the perceived usefulness of 53.33% "strongly agree". This means that the Odoo-based E-CRM is considered to be very helpful for a company in managing relationships with its customers.

KEYWORDS: *MSMEs, E-CRM, Odoo, Technology Acceptance Model*

How to cite this paper: Julianty Surasma Surung "Evaluation of the use of Open Source Based E-CRM in MSMEs with Technology Acceptance Model (Tam)" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-4 | Issue-3, April 2020, pp.257-262, URL: www.ijtsrd.com/papers/ijtsrd30346.pdf

IJTSRD30346

INTRODUCTION

Today's business activities have entered the modern era, which uses technology as a media and tool to expedite business processes. Both the small and large companies are applying technology in their business activities to get easy operations, customers' satisfaction on the services, as well as generate profits for the company. Electronic commerce, which is generally referred to as e-commerce, has become a place of intense business competition to obtain high profits and customers. A British research institute; Merchant Machine, has released a list of 10 countries with the fastest growing e-commerce in the world – in which Indonesia became the fastest, with 78% achievement, in 2018 [1].

The Weaving X MSMEs is a manufacturing industry which produces woven fabrics. The company has revenues of > 50 million every month, from customers classified as both corporate and individual. The business processes in this company are still running conventionally. There are several problems experienced by the company in managing customer relationships, such as; the admin feels overwhelmed to handle customers that live far away from the company, the difficulty to directly arrange a consultation schedule between the time of the customer and consultant - which often resulting in collision of schedules with other customers, the difficulty in providing a detailed information about the developmental product production to customers - since there is no adequate infrastructure, there are a lot of customer files collected which consumed a lot of storage space, the hard time for leaders to access reports quickly and in real-time - such as production progress report that is being worked on as well as financial reports of production. The solution to improve the services is to apply the concept of online Customer Relationship Management or Electronic Customer Relationship Management (E-CRM).

E-CRM is now easily obtained by using open-source ERP software, which can be implemented by MSMEs. One of the open source is Odoo; which has a complete module package such as Marketing & Sale, Accounting & Finance, Human Resources, and Supply Chain Management. CRM is a part of ERP in the Marketing & Sale package and can be used free of charge. Research conducted by Terminanto et al. on the Implementation of enterprise resource planning using Odoo module sales and CRM. Case study: PT Ecosains Hayati. This research explained that the use of the ERP concept with Odoo in Sales and CRM can improve the efficiency of work sales.

This research aims to evaluate the use of CRM systems on MSMEs, to determine the level of usability and convenience of business doer towards the ERP concept

contained in Odoo. Furthermore, this research tries to find out whether the CRM system contained in Odoo can fulfill the needs of MSMEs, and management of customer relationships can be helped; so that the leader of a company can choose the right decision to improve the company's services to its customers.

RELATED WORKS

Research conducted by Tuomas Laakso discussed the implementation of CRM software on MSMEs. The result of research on determining CSF in implementing CRM is one of the factors, which is training on the users to operate the system. Furthermore, this research emphasized that each CRM implementation is different in terms of company size, needs, business fields, and others. Also, it is difficult to give concrete advice about what specific software must be obtained by a company; because it is very dependent on the situation [2].

Research conducted by Rini Asmara and Imam Gunawan discussed the implementation of web-based CRM. This research showed a new system implementation research; make companies be able to interact and make relationships with customers easier; previously conventional interactions are changed into electronic media by making information systems based on E-CRM (Electronic Customer Relationship Management) [3].

Research conducted by Terminanto discussed sales and CRM implementation using Odoo. The result showed that the implementation of the ERP system can improve the efficiency of work sales, and features on Odoo can fulfill the needs of users [4].

RESEARCH METHOD

Some elements which became the main key of the method in this study are the survey and assessment method. The type of data in this study used a primary data type; which means that the data was obtained directly from the source by distributing an electronic questionnaire (Google Form). The survey was conducted in several MSMEs and students who have ever used CRM.

A. Research Instrument

The research instrument is a tool used in research for data collection [5]. The research instrument used in this study was a questionnaire. The questionnaire contains the respondent's identity and several questions arranged in a structured manner using a Likert scale to find out the user's perception of Perceived Usefulness and Perceived Ease-of-Use.

Table1. Questionnaire

No.	Statement	Response				
		1	2	3	4	5
Perceived Uselfuness						
1	Using E-CRM at work will allow me to complete tasks faster					
2	Using E-CRM will improve my work performance					
3	Using E-CRM at work will increase my productivity					
4	Using E-CRM will increase utilization in my work					
5	Using E-CRM, it will be easier to do my work					
6	I feel happy that E-CRM is useful in my work					
Perceived Ease Of Use						
7	E-CRM management is easy to learn					
8	I am easily pleased to do what I want with E-CRM					
9	My talk with E-CRM is very clear and understandable					
10	I agree that using E-CRM is very clear and understandable					
11	I became trained in using E-CRM					
12	I am happy that E-CRM is easy to use					

1.1. Validity Test

A validity test was used to determine the level of validity of each question in a questionnaire. Validity is a measurement that shows the level of validity of an item/instrument. The items/instruments are considered valid if they can do and measure what they should[5]. Validity test is carried out on all questions in the questionnaire - by correlating the score of each item with the total score, using the Pearson Correlation (Pc) technique. The value of Pc found will then be compared with the value of r-table; where, if the value of Pc is greater than r-table (Pc > r-table), then the question (item) is considered valid [6].

1.2. Reliability Test

Measurements are considered reliable if they get the same fixed results from the symptoms of unchanged measurements conducted at different times. Reliability is an index that shows the extent to which a measuring device can be trusted. It can also be said that reliability shows the consistency and stability of a measurement scale by using Cronbach's alpha value on the result of the analysis[6].

B. Questionnaire Data Analysis

Descriptive analysis is an analysis of the structure of the research instrument, where the analysis is carried out based on the results of the respondents' statements on each item in each indicator. This descriptive analysis data is presented in the form of tables and diagrams. The filling out of the questionnaire is also determined by using a likert scale of 1-5; Where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree. 5 = Strongly Agree.

THEORETICAL FRAMEWORK

Literature review contains supporting theories in the research to be conducted. These theories include MSMEs, E-CRM, Odoo, and TAM.

1. Micro, Small and Medium Scale Enterprises (MSMEs)

According to the Law of the Republic of Indonesia Number 20 Year 2008 Concerning Micro, Small and Medium Scale Enterprises Paragraph 6 [8], can be described as follows:

1.1. Criteria for Micro Business:

Having a net asset of no more than Rp 50,000,000 (fifty million rupiahs) excluding land and buildings for business premises; or Having annual sales of no more than Rp.300,000,000.00 (three hundred million rupiahs).

1.2. Criteria for Small Business are as follows:

Having a net asset of more than Rp 50,000,000 (fifty million rupiahs) up to a maximum of Rp 500,000,000.00 (five hundred million rupiahs) excluding land and buildings for business premises; or Having annual sales of more than Rp. 300,000,000.00 (three hundred million rupiahs) up to a maximum of Rp. 2,500,000,000.00 (two billion five hundred million rupiahs).

1.3. Criteria for Medium Business are as follows:

Having a net asset of more than Rp.500,000,000.00 (five hundred million rupiahs) up to a maximum of Rp10,000,000,000.00 (ten billion rupiahs) excluding land and buildings for business premises; or Having annual sales of more than Rp. 2,500,000,000.00 (two billion five hundred million rupiahs) up to a maximum of Rp 50,000,000,000.00 (fifty billion rupiahs).

2. Electronic Customer Relationship Management (E-CRM)

In general, CRM is a tool needed to quickly gather relevant data and identify the most valuable customers from time to time. E-CRM is a form of customer management carried out by the use of information technology. E-CRM also helps companies to obtain and store customers' data, as well as to conduct two-way relationships. Until today, E-CRM has already developed with an emphasis on changing policies and procedures, which designed to increase sales and customer retention[3].

3. Odoo

Odoo is an ERP application that is open source and fully integrated (Terrminanto). Odoo Software contains all ERP concepts, including Marketing & Sale (M / S), Accounting & Finance (AF), Supply Chain Management (SCM) and Human Resources (HR). E-CRM is a part of Odoo that is included in the concept of Marketing
& Sale, which has the function of managing data and customers' relationships with the company [7].

4. Technology Acceptance Model (TAM)

Testing to assess the perceived usefulness is done by many methods; one of the most influential is the Technology Acceptance model [8]. According to TAM, the main factor that led to the intention to use technology is perceived usefulness (PU) and perceived ease-of-use (PEOU). In the use of TAM, PU measures the extent to which users trust the technology used to improve their work, and PEOU measures the extent to which users feel confident that it will be easy to use the technology. TAM testing is also carried out by applying the likert scale for each question, which is worth 1-5; from left to right. The research of Jamer R Lewis [9] discussed assessing the possibility of technology acceptance using item format by determining the amount of direction. The higher the result from left to right, the better it will be.

RESULT AND DISCUSSION

This research evaluated the use of E-CRM produced by Odoo, where MSMEs with conventional business processes can facilitate company and employee performance in managing customer relationships.

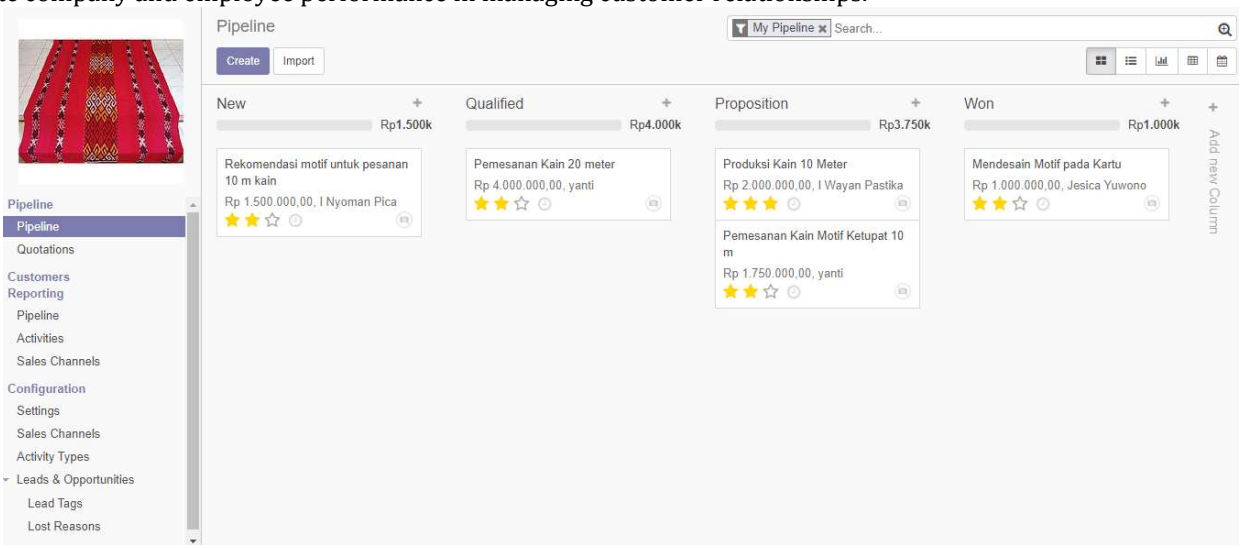

Fig1. The Display of the CRM module on Odoo

Customer Relationship Management on Odoo is a module intended for customer relationship management. The company can see the opportunity for sales, manage it into several stages, and analyze sales results. The CRM module also has a calendar feature that helps companies to determine the schedule of meetings with potential customers. This Odoo CRM module is integrated online and offline. The Customer Relationship Management module has several sections including Leads, Pipeline, and Quotations. Leads is the process where companies collect relevant data about potential customers that provide profits to the company and make them a regular customer of the company. Pipeline is a collection of activities conducted by a company to its customers; such as bid requests, bids received by the company, bids that are being worked on and offers which have been completed.

1. Questionnaire Testing

Based on the results of the questionnaire distributed to 20 people with a statement consisting of PEOU and PU - covering 18 questions; the following validity test results were obtained.

Correlations

		X1.1	X1.2	X1.3	X1.4	X1.5	X1.6	X2.1	X2.2	X2.3	X2.4	X2.5	X2.6	TOTAL
X1.1	Pearson Correlation	1	,818**	,161	,764**	,503*	,098	,638**	,931**	,108	,503*	1,000**	,818**	,796**
	Sig. (2-tailed)		,000	,497	,000	,024	,680	,002	,000	,651	,024	,000	,000	,000
	N	20	20	20	20	20	20	20	20	20	20	20	20	20
X1.2	Pearson Correlation	,818**	1	,376	,934**	,690**	,295	,522*	,793**	,324	,690**	,818**	1,000**	,927**
	Sig. (2-tailed)	,000		,102	,000	,001	,207	,018	,000	,164	,001	,000	,000	,000
	N	20	20	20	20	20	20	20	20	20	20	20	20	20
X1.3	Pearson Correlation	,161	,376	1	,339	,589**	,523*	,000	,160	,574**	,589**	,161	,376	,620**
	Sig. (2-tailed)	,497	,102		,144	,006	,018	1,000	,499	,008	,006	,497	,102	,004
	N	20	20	20	20	20	20	20	20	20	20	20	20	20
X1.4	Pearson Correlation	,764**	,934**	,339	1	,645**	,165	,488*	,870**	,303	,645**	,764**	,934**	,878**
	Sig. (2-tailed)	,000	,000	,144		,002	,486	,029	,000	,195	,002	,000	,000	,000
	N	20	20	20	20	20	20	20	20	20	20	20	20	20
X1.5	Pearson Correlation	,503*	,690**	,589**	,645**	1	,083	,539*	,495*	,091	1,000**	,503*	,690**	,774**
	Sig. (2-tailed)	,024	,001	,006	,002		,728	,014	,027	,702	,000	,024	,001	,000
	N	20	20	20	20	20	20	20	20	20	20	20	20	20
X1.6	Pearson Correlation	,098	,295	,523*	,165	,083	1	-,339	,000	,911**	,083	,098	,295	,451*
	Sig. (2-tailed)	,680	,207	,018	,486	,728		,144	1,000	,000	,728	,680	,207	,046
	N	20	20	20	20	20	20	20	20	20	20	20	20	20
X2.1	Pearson Correlation	,638**	,522*	,000	,488*	,539*	-,339	1	,594**	-,372	,539*	,638**	,522*	,472*
	Sig. (2-tailed)	,002	,018	1,000	,029	,014	,144		,006	,106	,014	,002	,018	,036
	N	20	20	20	20	20	20	20	20	20	20	20	20	20
X2.2	Pearson Correlation	,931**	,793**	,160	,870**	,495*	,000	,594**	1	,123	,495*	,931**	,793**	,778**
	Sig. (2-tailed)	,000	,000	,499	,000	,027	1,000	,006		,606	,027	,000	,000	,000
	N	20	20	20	20	20	20	20	20	20	20	20	20	20
X2.3	Pearson Correlation	,108	,324	,574**	,303	,091	,911**	-,372	,123	1	,091	,108	,324	,495*
	Sig. (2-tailed)	,651	,164	,008	,195	,702	,000	,106	,606		,702	,651	,164	,027
	N	20	20	20	20	20	20	20	20	20	20	20	20	20
X2.4	Pearson Correlation	,503*	,690**	,589**	,645**	1,000**	,083	,539*	,495*	,091	1	,503*	,690**	,774**
	Sig. (2-tailed)	,024	,001	,006	,002	,000	,728	,014	,027	,702		,024	,001	,000
	N	20	20	20	20	20	20	20	20	20	20	20	20	20
X2.5	Pearson Correlation	1,000**	,818**	,161	,764**	,503*	,098	,638**	,931**	,108	,503*	1	,818**	,796**
	Sig. (2-tailed)	,000	,000	,497	,000	,024	,680	,002	,000	,651	,024		,000	,000
	N	20	20	20	20	20	20	20	20	20	20	20	20	20
X2.6	Pearson Correlation	,818**	1,000**	,376	,934**	,690**	,295	,522*	,793**	,324	,690**	,818**	1	,927**
	Sig. (2-tailed)	,000	,000	,102	,000	,001	,207	,018	,000	,164	,001	,000		,000
	N	20	20	20	20	20	20	20	20	20	20	20	20	20
TOTAL	Pearson Correlation	,796**	,927**	,620**	,878**	,774**	,451*	,472*	,778**	,495*	,774**	,796**	,927**	1
	Sig. (2-tailed)	,000	,000	,004	,000	,000	,046	,036	,000	,027	,000	,000	,000	
	N	20	20	20	20	20	20	20	20	20	20	20	20	20

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Fig2. The Display of the Correlation of Questionnaire Result

Based on the formula, it is known that r table is 0.444. From here, it can be seen that all answers to the questionnaire are valid; where the biggest calculation result is 0.927, while the smallest is 0.427. This value is greater than the result of the calculation of the value of r.

After the validity test is conducted, the next step is the reliability test - which is based on the value of Cronbach's alpha; if the value is greater than 0.6, then it is considered reliable. The reliability test results are as follows figure 3.

Reliability Statistics

Cronbach's Alpha	N of Items
,905	12

Fig3. Reliability Test Results

The answer to the questionnaire is 0.905. It can be said that the questionnaire can be trusted.

2. Descriptive Testing

Based on the questionnaire; it gives a result of a percentage of each aspect by using the following formula.

$$Y = \frac{P \times 100}{Q \times R}$$

Information:

Y = Percentage value
P = The number of respondents' answers per variable
Q = The number of respondents
R = The number of questions

Table2. Recapitulation of PU Value

Item PUS	1	2	3	4	5	Amount
1	0	0	0	11	9	20
2	0	0	0	9	11	20
3	0	0	4	8	8	20
4	0	0	1	8	11	20
5	0	0	1	9	10	20
6	0	0	4	7	9	20
Amount	0	0	10	52	58	120
%	0	0	8,33	43,33	48,33	91,67

Table3. Recapitulation of PEOU Value

Item PEOU	1	2	3	4	5	Amount
1	0	0	0	15	5	20
2	0	0	0	11	9	20
3	0	0	0	9	11	20
4	0	0	0	9	11	20
5	0	0	0	11	9	20
6	0	0	0	9	11	20
Jumlah	0	0	0	64	56	120
%	0	0	0	53,33	46,67	100

Based on the answers from respondents, it can be seen that for the perceived ease-of-use, the respondent gives the highest average percentage of 48.33%; which means that the respondent considers that Odoo-based E-CRM is easy to use. While for the perceived usefulness, the percentage is 53.33%, which means that Odoo-based E-CRM is considered useful in its use.

CONCLUSION

The respondents' perceived ease-of-use gave the highest average percentage of 48.33% "agree", which means that the respondents considered that Odoo-based E-CRM is easy to use - while for the perceived usefulness, the percentage is 53.33% "strongly agree", which means that Odoo-based E-CRM is considered useful in its use. Odoo-based E-CRM is considered very helpful for companies to manage relationships with their customers. For future researches, it is expected to evaluate in terms of the security of open source applications for the E-CRM used, as well as integration with other parts of the company such as accounting, production, and inventory.

REFERENCES

[1] "Saturated Sectors: Finding Gaps In The Ecommerce Market In 2020," *Merchant Machine*, 2019. [Online]. Available: https://merchantmachine.co.uk/saturated-sectors/.

[2] T. Laakso, "Customer Relationship Management Software Implementation in SMEs," no. February, 2017.

[3] R. Asmara and I. Gunawan, "IMPLEMENTASI ELECTRONIC CUSTOMER RELATIONSHIP MANAGEMENT (E-CRM) BERBASIS WEB PADA CV.PUPLAS.COM"," *J. Sains dan Inform.*, vol. 4, no. 1, pp. 46–52, 2018.

[4] A. Terminanto, R. Hidayat, and A. N. Hidayanto, "Implementation of enterprise resource planning using Odoo module sales and CRM. Case study: PT Ecosains Hayati," in *IOP Conference Series: Materials Science and Engineering*, 2017.

[5] Sugiyono, *Metodologi Penelitian Kuantitatif, Kualitatif, dan R&D*. 2016.

[6] E. P. Kusumah, *Olah Data Skripsi Dengan SPSS 22*. 2016.

[7] Noprianto, W. Budhysantika, and Widoyo, *Dasar-dasar OpenERP: Sisi Teknikal Dan Cotoh Kasus*. 2014.

[8] F. D. Davis, "User acceptance of information technology: system characteristics, user perceptions and behavioral impacts," *Int. J. Man. Mach. Stud.*, vol. 38, no. 3, 1993.

[9] J. R. Lewis, "Comparison of four TAM item formats: Effect of response option labels and order.," *J. Usability Stud.*, 2019.