RESEARCH ARTICLE

OPERATIONAL CRM AND AND ITS APPLICATION

Dr. Yohanes Suhari[1] and Kristophorus Hadiono Ph.D[2]

1. Associate Professor, Department of Information Technology, Stikubank University, Indonesia.
2. Dean of Information Technology, Stikubank University, Indonesia.

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Manuscript Info	*Abstract*
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Customer Relation Management (CRM) is important part of marketing. CRM is also important part of website as place to creating, maintaining, and expanding customer relationships. The purpose of this research is to design operational CRM features and how far they are applied at the university. The CRM operational features are derived from previous theories and research. CRM operational features that have been built are used as a tool to measure the application of CRM on the university's web in Central Java Province. The observations are then tabulated to see the percentage and rating of the use of the CRM operational feature. Operational CRM features that are relevant to the University are 29 types of features. The feature most widely used by universities is site customizing, the second is the about company / company profile on site and telephone features, while the features that are ranked third are find university, postal address, E-Mail, fax. The number of universities that use more than 50% of the operational CRM features is 19.15%.

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Introduction:-

The number of internet users in Indonesia is increasing every year. The increase in users is of course due to the support of better network infrastructure with higher internet access. Base on statistical data sources estimate internet users in Indonesia in 2000 were only 2 million while on January 31, 2020 internet users had reached 171,260,000 (https://www.internetworldstats.com/stats3.htm#a). The percentage of internet users to the population (273,523,615) in Indonesia is 62.6%.

The website plays an important role for universities to provide information to stakeholders, especially students. The website can also be a means to capture stakeholder aspirations. The role of higher education web sites includes: 1. Introducing the profile and history of higher education, 2. Facilitating communication, 3. Bringing prospective new students, 4. Being a means of official college publications, 5. Branding, 6. Giving a professional impression, 7. Looking for partner companies or other organizations.

One important component on the website is the customer relationship management facility. Customer Relationship Management (CRM) is a comprehensive approach to creating, maintaining, and developing customer relationships [1]. CRM is a business strategy that is combined with technology to effectively manage a complete customer life cycle [2]. The term E-CRM refers to the use of e-commerce tools or electronic channels in CRM [3]. Sometimes it is not distinguished between the terms CRM and E-CRM because of technological developments that already use electronic bases.

Corresponding Author:- Yohanes Suhari
Address:- Stikubank University, Jl. Tri Lomba Juang No.1 Semarang, Indonesia.

In modern marketing, CRM is an important concept. Anton proposed features for CRM containing [4]: 1. Contacting the company and information gathering features (domain fault repair, site customization, alternative channels, local search engines, membership, mailing lists, site tours, site maps, introduction for first - time users, chat, electronic bulletin boards), 2. E-Commerce features (on-line purchasing, reviewing presales on-line information, customization possibilities, purchase conditions, product preview, links), 3. Post sales support features (FAQs , problem solving, complaining ability, spare parts). Based on the results of reviews from various sources, Feinberg identified 16 features on E-CRM, namely [5]: Affinity program, Product highlights, Request for catalog, Quick order ability, Easy of check out, Ability to track order status, Gift certificate purchase, Store locator, On sale area, Member benefits, Order, Speed of download page, Account information, customer Service page, Company history / profile, Posted privacy policy. The dimensions of E-CRM according to Hamid and McGrath are 12, namely [6]: Information quality, Ease of navigation, Consumer service quality, Fulfillment, Integrated marketing channels, Online community, Rewards, Personalization level, Site security, Value-added services, Perceived trust, Price attractiveness. Referring to the research conducted by Hamid and McGrath [6] then a repeat study was conducted by Hamid, et al. [7], with 14 dimensions of E-CRM, namely: Information quality, Quality services, Ease of navigation, Consumer service efficiency, Payment options, Security and privacy policy, Multimedia features, Personalization level, Rewards, Channel integration, Reservation and tracking, Use of social media, Lower rates, Fulfillment of service. The characteristics of organizations engaged in services will be different from the characteristics of organizations engaged in goods. Higher education is one of the organizations engaged in services. Based on the background above, the objective of this research are: 1. Design the operational CRM features on the University website, 2. Analyze the application of operational CRM on the University website

Literature Reviews and design of the features of operational CRM:
University and Information:
Lee and You [8] conducted a study to solve an important problem: How is the possibility of the internet being implemented to meet the needs of students in the search process? School graduates seeking information about universities, according to Whiteside, Mentz [9], must find useful information relating to the priorities offered in the form of studies, accreditation, rankings and achievements, accommodation facilities, study fees and locations on the website structure.

Kittle and Ciba [10] present the characteristics most emphasized by higher education institutions, which are considered as important factors for prospective students in choosing a particular educational institution: programs offered by universities, quality policies, location and added value. In certain cases, prospective students look for entry requirements and information about study programs, university location maps, contacts and communities that are on the university's website.

According to Saichaie [11], participants were very concerned about the admission requirements presented on the website. Thus, three important areas of higher education institution sites are: Registration (information about the admission process), Faculty (academic life and learning information), and Virtual excursion (events representing institutions). Students who will enter also show the following [12]: university infrastructure, library, computer use, quality of study and research programs and other extracurricular factors (sports, leisure, canteen, etc.). Hoyt et al.
[13] proved that students with higher than average abilities were interested in university rankings, overall students, the possibility to study in accredited programs, scholarship assignments. The main criteria for selecting institutions relate to reputation information, study costs and location.

Customer Relation Management (CRM):
There are various definitions of CRM. Customer Relationship Management (CRM) is a comprehensive approach to creating, maintaining, and developing customer relationships [1]. CRM is a set of practices that provide an integrated view of customers in all business areas to ensure that each customer receives the highest level of service [14]. CRM enables sustainable one-to-one relationships with customers.

CRM can be classified into several types:

Operational CRM:
An area related to business process automation that involves front-office. These areas include sales automation, marketing automation, and customer service automation.

Analytical CRM:
This includes capturing, storing, organizing, analyzing, interpreting and using data created from the business side of the business. The integration of CRM analytical solutions with CRM operations is important to consider.

Collaborative CRM:
This involves using collaborative services and infrastructure to create interactions between companies with various channels. This allows interaction between customers, companies and their employees.

CRM Features:
The study conducted by Anton and Postmus identified 25 features in E-CRM, namely [4]: Features of contacting companies and gathering information
1. Domain fault repair. This function directs the web visitor to the right site after he typed in the wrong Internet address.
2. Check customization. One of the most important advantages of web-based CRM is the volume of information available to customers. Sites that offer customization features allow users to filter the content they see. The future of web-based CRM will truly be entirely a "one-to-one" website. When properly customized at the first visit, customers at the next visited, can choose to only see their own preferences.
3. Alternative channels. There are various ways to contact the company are offered, for example, e-mail, fax, toll- free numbers, postal addresses, call back buttons, and voice over IP.
4. Local search engine. This is allows visitors to search for keywords to find specific answers quickly on a website.
5. Membership. visitors can request a password. With this password he can continue browsing on password protected web pages on the website.
6. Mailing list. To receive more information, visitors can register their e-mail address to receive e-mail automatically.
7. Site tour. Visitors can take guided tours through the website.
8. Site map. This is a hierarchical diagram of the pages on a website, also called a site overview, site index, or site map.
9. Introduction for first-time users. Visitors, who enter the site for the first time, can surf the introduction page. This page contains information about "How to use the site most efficiently."
10. Chat. By allowing visitors to interact with each other and with the site, they create content for that site. The chat feature allows visitors to engage in real-time conferences between two or more users on a website.
11. Electronic bulletin board. Script-driven forums allow visitors to share information with others and can help a website more better serve customer needs. Visitors can post messages or can respond to messages posted on special webpage.

E-Commerce Features:
1. On-line purchasing. Visitors can buy services or products on-line.
2. Reviewing presales information on-line. Visitors can read product information on the website.
3. Customization possibilities. Visitors can customize their services or products online before ordering. For example, visitors might want to change the PC configuration before ordering.
4. Purchase conditions. Purchases and contract terms can be viewed online. Conditions of purchase contain shipping policies, return policies, guarantees, commitments and other company guarantees.
5. Product preview. Customizing products can be seen before buying. Products can be seen in movies or demos.
6. Links. Visitors can easily and seamlessly link to complementary products from other companies. (External links)

Post Sales Support Features:
1. FAQs. Frequently asked questions and answers are available to read.
2. Problem solving. Customers can solve problems with their own products or services using on-line self-help.
3. Complaining ability. Complaints and problems can be expressed online. The website has a special area for customers to enter their complaints and get answers.
4. Spare parts. Allow to ordering spare parts and complementary products on-line.

Web Based CRM Feature Attributes:
1. Availability. Are special features available on the websites I visit?
2. Ease in finding. Where are the features positioned on the website? How many clicks to move from the Home page? How easily can these features be accessed? How clear is that?
3. Intuitive. Can visitors understand the feature without reading the manual? How clear is that?
4. User friendly. Is this feature easy to use? Doesn't it threaten visitors to use this feature? Is the feature comfortable to use, friendly or fun to do?

Feinberg and Kadam in their research identified by adding 16 features to E-CRM, namely [15]:
1. Affinity program. Affiliation with philanthropic agency or organization
2. Product highlights. Special benefits the product / service that are highlighted.
3. Request for catalog. Allows the user ask for a catalog.
4. Quick order ability. Features that allow users finish buying a product in just three clicks.
5. Ease of check out. Users can exit / check out the system easily.

6.   Ability to track order status. The user allows track the delivery status of the product ordered.
7.   Gift certificate purchase.
8.   Store locator. This feature helps consumers to find the location of products for sale if consumers want to buy products directly to the store.
9.   On-sale area. Shows the place or homepage where the item is located by giving a special mark.
10.   Member benefits. Describe the benefits of shopping or becoming a member of the site.
11.   Order. This feature allows users to place orders in just three clicks.
12.   Speed of download page. It should be considered that the website can work quickly a maximum of 15 seconds is complete if the consumer downloads something from the website.
13.   Account information. If the user has registered with the site, the feature allows the user to view information about him self that has been given to the site.
14.   Customer service page. This page provides customer relationship services in more detail.
15.   Company history / profile. This page provides a store background / profile, which will be linked to the company's website.
16.   Posted privacy policy. Privacy concerns are increasing with increasing internet penetration. The company keeps consumer data confidential.

Based on various literatures above and adjusting to universities that are engaged in services, as well as colleges "not" for profit purposes, the proposed operational CRM features of universities are as follows:
1.   About company / Company profile on site
2.   Site map
3.   This is a hierarchical diagram of the pages on the Web site, also called a site overview, site index, or site map.
4.   Find university
5.   Directions for finding the location of university
6.   First time user information
7.   Visitors, who enter the site for the first time, can surf to an introduction page. This page contains information about "How to use the site most efficiently."
8.   Local search engines
9.   Site tour
10.   The visitor can follow a guided tour through the web site.
11.   Request catalog (Faculty & Programs)
12.   Major information
13.   Product information online (Competence)
14.   Majors and curriculum competencies
15.   Product information online (Curriculum)
16.   Product highlights
17.   The advantages of each department
18.   Customer service pages
19.   On sale area
20.   Special registration page for prospective new students
21.   Purchase conditions (new student enrollment)
22.   Online purchase (online new student enrollment)
23.   Frequently ask question (FAQ)
24.   Electronic bulletin board
25.   Script-driven forums allow visitors to share information with others and can help shape a web site to better serve the customer needs. A visitor can post a message or can respond to a posted message on a special web page.
26.   Complaining ability
27.   Special location facilities for complaints
28.   Problem solving (Help facility)
29.   Membership (Membership for the general public)
30.   Member benefits
31.   Privacy policy posted (Information privacy policy posted)
32.   Mailing list
33.   Your account information
34.   Postal address
35.   E-Mail
36.   Telephone
37.   Fax

38.   Online chat
39.   Voice Over Ip (Voip)
40.   Call back button
41.   External links
42.   Affinity programs
43.   Site customizing

Research Methods:-
Research Design:
The use of the internet as a CRM front-end is realized by providing a public service packaging website. The website makes it easy for the public or prospective students to provide convenience services related to information / promotion to the general public, to the public complaints service. In this study an assessment of the website at both public and private universities in Central Java Province. The website is analyzed to find out the extent of implementing the CRM operational features. Researchers as the general public analyze the website one by one to see the extent to which CRM features are implemented.

Population:
The population of this study is the University's website in Central Java. The number of universities in 2019 in Central Java Province is 50 (sources of the Higher Education Database of the Ministry of Research, Technology and Higher Education in Indonesia). Because the size of population is small, all populations are used as research objects.

Types and Sources of Data:
The type of data used is qualitative data. Researchers list and analyze the components of CRM that exist at each University website. The data source used in this study is primary data. Primary data sources are data obtained directly on the research object.

Research Instruments:
In this research, the instrument used to research is a list of operational CRM features (33 features) that have been made by researchers. The list of features is used to record and analyze the presence or absence of operational CRM features on the website. The list of operational CRM features was developed based on the theory and results of research conducted by previous researchers.

Data Analysis Technique:
Based on the research objectives, the list of operational CRM features developed was then used to assess how far the use of operational CRM features was available at universities in Central Java Province. The analysis was carried out by tabulating the presence or absence of each feature on the university's website so that the percentage of use of each feature could be found for the university's website in Central Java Province. The results of this study will answer the extent of the application of operational CRM in universities in Central Java Province.

Results and Discussion:-
Research Description:
This study takes the object of research University website in Central Java. The number of sites that studied in this research is 50 sites. Sites could be used as many as 47 and 3 sites could not be used because could not be opened. After observing each website the following results are obtained:

Table 1:- Percentage of Universities that Use Operational CRM Features.

No	Operational CRM Features	Percentage
1	Site customizing	100%
2	About company / Company profile on site	98%
3	Telephone	98%
4	Find university	91%
5	Postal address	91%
6	E-Mail	91%
7	Fax	91%
8	Request catalog (Faculty & Program)	87%
9	Purchase conditions (new student enrollment)	87%
10	On sale area	83%
11	Local search engines	74%

12	Online purchasing (online new student enrollment)	**62%**
13	Customer service pages	**57%**
14	Online chat	**57%**
15	Site map	**47%**
16	External links	**45%**
17	Product information online (Competence)	**32%**
18	Affinity program	**23%**
19	Product information online (Curriculum)	**17%**
20	Site tour	**11%**
21	Frequently ask question (FAQ)	**11%**
22	Problem solving	**4%**
23	Voice Over Ip (Voip)	**4%**
24	Information first time user	**2%**
25	Product highlights	**2%**
26	Privacy policy posted	**2%**
27	Mailing list	**2%**
28	Your account information	**2%**
29	Call back button	**2%**
30	Electronic bulletin board	**0%**
31	Complaining ability	**0%**
32	Membership	**0%**
33	Member benefits	**0%**

Discussion:-

Based on Table 1, the results obtained, the most widely used feature is customizing, which is 100%, although the scope of the customized is still limited to setting the page size and page displacement. General understanding of customize, is the user can change something on the website in accordance with needs.

The second place is about company / company profile on site and telephone facilities which is 98%. The company profile mostly contains the organization's history and the organization's vision and mission. The website mostly includes telephone numbers. Only two percent of universities do not include telephone numbers but they do include email addresses.

Features that rank third are: Find university, Postal address, E-Mail, and Fax. Find university contains instructions for finding the location of university. Directions for the location of the university use the facilities provided by

Google Maps. Postal address although now less popular along with the development of internet technology but is still widely used by universities for ease in shipping to find its location. E-mail and Fax occupy the same position in providing alternative facilities for sending mail. Fax limitation is for sending letters from individuals usually do not have a fax device, so they prefer to use email facilities.

The fourth sequence of the many universities that use the feature is the request catalog (Faculty & Program) & purchase conditions (new student enrollment), which is 87%. The intended catalog request is information about the Faculties and Programs that are owned by the university. There are some websites of university, namely 13% that do not display the list of Faculties and Programs they have, in which case the information is important to the community. Purchase conditions (new student enrollment) means the terms and conditions to be accepted as a new student.

Universities that provide pages specifically for new student registration (On Sale Area) are 83%. Universities that do not have special pages for registering new students are 17%. Website equipped with local search engine facilities as much as 74%. Universities have online registration facilities (online new student enrollment) as much as 62%. Website has information on facilities and services (Customer service pages) as much as 57%. Chat facilities (Online chat) as much as 57%. Websites that have site map (i.e. page hierarchy diagrams) are 47%. External links, i.e. links with other organizations provided on the web are 45% of universities. Competence (Product information online - Competence) is important for the community to understand a study program and what abilities will be obtained when later studying at the venue, unfortunately the only 32% of universities that provide information on their website. Collaboration between universities and other institutions is important for improving student competency. The amount of cooperation with other agencies also shows confidence in the quality of higher education. The number of universities showing cooperation (Affinity program) is as much as 23%. The curriculum of majors between universities can be different and this can be a special of features of majors at the university. The number of universities that display feature of curriculum is only 17%.

The number of universities websites in which there are site tour and Frequently Ask Question (FAQ) facilities are 11%. Site tour helps direct users to the desired object. FAQ is a facility to answer user questions whose answers are already in the database, which is usually for questions that are often asked by visitors. Problem solving facilities (help users if something goes wrong) and Voice Over Ip (Voip) is a facility that allows long-distance voice conversations through the internet as much as 4% of the many universities. Facilities such as: first time user information, product highlights, privacy policy posted, mailing lists, your account information, and call back button each are 2% of the number of universities. Facilities such as: electronic bulletin board, complaining ability, membership, member benefits, there are no colleges that use it.

University ranked at the top in terms of completeness of its E-CRM features is Diponegoro University, which has used 73% of the features of the questionnaire created. Second place is Sultan Agung Islamic University, which uses 64% of the features. The third rank is Muria Kudus University and Dian Nuswantoro University which uses E-CRM features by 55%.

Conclusion:-
Based on the results of this study, the following conclusions are obtained:
There are 29 types of E-CRM features used on the university's website. The most widely used feature is site customizing, and the feature that is ranked second is about company / company profile on site and telephone, while the features that are ranked third are find university, postal address, E-Mail, fax.

Only 19.15% of universities have implemented more than 50 percent of e-CRM features.

Suggestion:-
The object of this research is the University in Central Java. The Higher education is not only universities. Besides universities, other higher educations are Academies, Institutes, Polytechnic. They are different characteristics from universities. Research needs to be tested on other than universities. CRM is important for universities to get, improve, and maintain good relations between students, parents of students, and the general public. The results showed that many CRM features were not yet included on its website. Website needs to be added by CRM features.

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