Implementation Knowledge Management System to Manage Halal Food in LPPOM MUI

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Abstract: Indonesia is a Muslim Majority Country. The Halal food product is a necessity. It is also a global life style. In fact, foods are imported from many countries. Imported food materials were not easy to identify which halal or not. Determining halal foods are not easy, even need for cross-disciplinary science. The Islamic Scholars for example, must work with IT experts in determining halal food. LPPOM MUI as an institution that has duties and responsibilities regarding the granting of halal certification to a food product, must have a system to obtain, store, distribute, and use knowledge about halal food. The purpose of this research is to develop the proposed of Knowledge Management Governance System to Achieve Management of Halal Food Knowledge. This research method uses Rapid Development Cycle system development method and COBIT method, which implemented in LPPOM MUI. The results of this study can meet the information needs to the society about knowledge of halal food which later as reference LPPOM MUI in directing and controlling the management of halal food knowledge

1 INTRODUCTION

The halalness of a food product in Indonesia that is majority Muslim is a necessity. It is also a global life style. In globalization era, the amount of food that is imported from various countries. Imported food material was not easy to identify halal or not. If there is no guarantee halal of a food product, it will be difficult for Muslims to choose halal food and drinks.

Determining the halalness of a food is not easy, even the need for cross-disciplinary science. The ulamas for example, should work together with scientists in determining halal. Testing the halalness of food and beverage products requires a deep knowledge of the origin of materials, processes, distribution, in addition to legal knowledge of fiqih. Therefore Muslims need to be equipped with sufficient knowledge on this issue.

The fast growing halal food industry requires the management of halal food knowledge. In knowledge management, it is hoped that the public is well protected from consuming non-halal food which is of course contrary to Islamic or Sharia law. Knowledge of halal food becomes an important need for the community. Information about halal food knowledge must be easily accessible to the public.

Therefore, knowledge management of halal food needs to be set and managed properly. To be able to set and manage knowledge management properly, it needs a control mechanism in the form of policy, guidance and procedure. In knowledge management, there are four processes: capturing, storing, disseminating, and using knowledge. Therefore, this process should be directed and controlled so that knowledge management can run well.

In Indonesia, the regulations for halal product guarantee is regulated in UU No. 33 tahun 2014 about "Jaminan produk halal" and confirmed by Peraturan Presiden RI No. 165 tahun 2015 on the Establishment of the Halal Product Guarantee Organizing Board (BPJPH). BPJPH is a government-formed body to organize Halal Product Assurance (JPH). The Indonesian Council for Food, Drug and Cosmetics Assembly (LPPOM MUI) is the body responsible for carrying out the task.

LPPOM MUI as an institution having duties and responsibilities regarding the provision of halal certification to a food product must have a system to obtain, store, distribute, and use knowledge about halal food. The system is useful for the society in facilitating

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the acquisition or utilization of such knowledge. This is in accordance with LPPOM MUI's mission to provide information about halal product from various aspects as a whole (UU RI NO 33 tahun 2014) So the direction and control (governance) of halal food knowledge management must be done by LPPOM MUI well, so that people will get accurate and comprehensive knowledge about halal products.

Research conducted [Zyngier, S], in its title Knowledge Management Governance: *A Multifaceted Approach to Organizational Decision and Innovation Support*, presents an initial investigation of governance strategies for managing knowledge and the relationship between strategy and organizational structure. He found that the federation information transfer model was 'best fit' with a model of stakeholder governance that ensures accountability and responsibility for the task of meeting the needs of all the organization's stakeholders. Furthermore, the established governance structure can predicate to the organization the ability to effectively define strategies for managing knowledge.

According to research [Patrick Onions], as an organizational function, knowledge management requires direction and control of ongoing activities at both strategic and operational levels. Performance management encourages activities toward continuous improvement and organizational goals. Governance ensures performance management is practiced, enforced and tailored to the needs of the organization. The study recommends that governance be applied to knowledge management in large organizations. A governance model will be proposed consisting of two standards, a maturity model for direction and knowledge criteria for control, as well as a process for prescriptive standards. Action Research is used to develop and implement the combination of these new standards and processes in a multinational company, and the qualitative results obtained are discussed empirically.

[Frada Burstein] presents research that examines the role of government as a framework to ensure effective share of knowledge management strategies. Knowledge management governance is considered and conceptual frameworks are developed to manage the appropriate management of knowledge management within the organization. This refers to the results of research on knowledge management governance practices at major and existing scientific research facilities in confectionary producers. We conclude that implementing knowledge management strategies through such a framework ensures the anticipated delivery of benefits in an authorized and regulated manner.

[Siti Zakiah] reviewing the research that utilizes the governance role as a lens to test the effectiveness of the share of knowledge management strategies. Governance of knowledge management is considered and a conceptual model is developed to manage the appropriate management of knowledge management within the organization. This refers to preliminary results in the practice of knowledge management governance at major scientific research facilities and suggests that the implementation of strategies through the framework operate to ensure the share of anticipated benefits in an authorized and regulated manner.

[Earl, M. J] Take research to explore how knowledge management can be a tool for an effective tracking system in the supply chain of the halal food industry. It starts with an overview of the halal concept followed by a discussion of the search system in the halal food industry as well as the different search systems that have been applied in other food industries globally. The concept of Knowledge Management is then discussed and coupled with how it can be used as a tool in the search system. And propose how knowledge-based systems can contribute as a search system that can be effectively done in the halal food supply chain.

This paper aims to produce the implementation of knowledge management of halal food knowledge management system on LPPOM MUI. So that it can meet the information needs to the community about halal food knowledge which later as reference LPPOM MUI in directing and controlling the management of halal food knowledge.

2 LITERATURE REVIEW

Web Based Information System is a set of interconnected segments that capacity to gather, process, store, and circulate data to help basic leadership and oversight inside the association. Web or WWW (Word Wide Web) is another technique that keeps running in the quickly developing web world. This medium can make handfuls or even several applications that keep running on the Web. PHP is one of the generally utilized application program in web media today. For database, MySQL is a database the board framework that can keep running in online media with the goal that this database is anything but difficult to be overseen by clients. As per [Earl, M. J] ,MySQL is a RDBMS (Relational Data Base Management System).

A. PHP Programming

PHP was first presented by [Swastika, Windra], a man who is knowledgeable about programming on the server side. PHP is an electronic programming dialect. This dialect has points of interest that is perfect with different kinds of databases, notwithstanding support from different sorts of working frameworks. PHP is progressively reasonable and ordinarily utilized when joined with MySQL database. MySQL with PHP as though the two things can not be isolated. PHP and MySQL more often than not keep running with Apache webserver over Linux working framework.

B. Database with MySQL

MySQL database is an powerful, stable, and simple database. MySQL is broadly utilized in web database frameworks utilizing PHP. PHP has a product bundle called PHPTriad. This is a product bundle comprising of PHP, Apache, MySQL, Perl, and PHP MyAdmin. Consequently PHPTriad likewise gives database offices. At that point PHPTriad has a place to store information, and to recover your information. Like other SQL (Structured Query Language) database frameworks, MySQL likewise accompanies SQL directions and grammar, with the accompanying preferences

1. The concept of MySQL databases that provide high-speed data presentation system
2. The price is relatively cheap, even to some extent can be obtained for free
3. The syntax uses simple commands.
4. Can run in multiple operating systems like Windows, Linux, MacOs, Unix (Solaris, AIX, and DEC Unix), FreeBSD, OS/2, Irix.
5. Support for user is widely available [K. E. Kendall dan J. E. Kendall].

C. Rapid Application Development (RAD)

RAD is a system development strategy that emphasizes the speed of development through extensive user engagement in construction. Fast, repeatable and improved functional processes on the prototype eventually developed into a final system (or a version). [Tiwana, A]. Figure 1 is a diagram explaining the route in RAD.

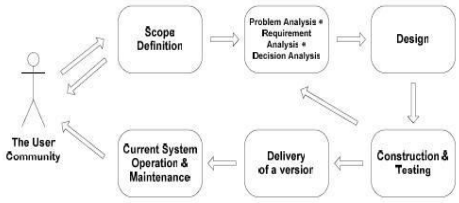

Figure 1: RAD Strategy [Tiwana, A]

Rapid Application Development (RAD) is one of the prototyping methods that have these following stages [Setiarso]:

1) Requirement Planning

In this phase users and analysts meet to identify the application or system objectives and identify the terms of the information generated from those objectives. This phase requires an active role from both parties. It also involves users from several different levels within the organization. The orientation in this phase is to solve organizational problems. Although information technology and systems can direct some of the proposed systems, the focus will always remain on achieving organizational goals

2) Workshop Design

This stage is a stage for structuring and enhancing frameworks that can be portrayed as a workshop. Amid the RAD structure workshop, the client reacts to the current working model and breaks down, enhances modules utilizing programming dependent on client reaction.

3) Implementation

The analyst works strongly with the client amid the structure workshop to plan the business and non-specialized parts of the association. When these perspectives are affirmed and frameworks are manufactured, the framework is tried and acquainted with the association.

D. Knowledge Management System

Knowledge Management fundamentally seems to answer the topic of how to oversee learning. Awareness is required to apply a knowledge management approach into an association. It has been demonstrated that an association that regards

its information assets as its primary resource will have the capacity to support increasingly creative associations that prompts the intensity of the association against its rivals.

[Sugiarti] defines Knowledge Management as a sorted out learning the executives to make business esteem and produce upper hand ". Carl Davidson and Philip Voss translate Knowledge Management as how individuals from better places begin conversing with one another. Davidson and Voss additionally said that really overseeing learning is the manner in which associations deal with their workers and to what extent they spend to utilize data innovation.

E. System Development Method

The system development process is an activity, method, best practices and automated tools that stakeholders use to develop sustainable improvement of information systems and software [Tiwana,]. System development method that will be used in this research is RAD with Object Oriented approach.

F. Unified Modelling Language

UML (Unified Modeling Language) is a dialect for envisioning, characterizing, fabricating and recording the antiques of a product framework. UML is characterized as a group of graphical documentation bolstered by a solitary model, which helps the portrayals and plan of programming frameworks, particularly frameworks constructed utilizing object-arranged programming. Question situated UML does not rely upon the improvement procedure nor does it rely upon the programming dialect and innovation.

[Sugiarti] UML is a modeling language that should be used in conjunction with software development methodologies. Without methodology, UML is just a series of meaningless diagrams. Software development methodology is a step by step guide in software application development. Software development methodology is intended to make the development of an application more efficient and planned. The modeling methodology used in this research is Unified Software Development Process (USDP)

3 METHOD

A. Data Collection

The research that will be conducted is the type of research is case study with qualitative approach. A qualitative approach is a process of research and understanding based on a methodology that investigates a social phenomenon and a human problem. Case studies include an in-depth and contextual analysis of similar situations in other organizations, in which the nature and definition of the problem experienced today. Case studies are essentially an intensive study of an individual or group that is viewed as having a particular case. This research is called qualitative because this research is a series of activities to obtain data or information is reasonable about a problem in the condition of aspects / areas of a particular activity object by doing case studies on the object of research include in-depth and contextual analysis of the existing situation to get a more in-depth picture and live interview on site.

Methods of data collection conducted consist of:

1. Interview

Interviews were conducted with stakeholders related to halal food in the LPPOM MUI both at the head office or at the branch office

2. Questionnaire

The questionnaire was conducted open and closed. Being open to information about halal food knowledge needs. This questionnaire was conducted to the community.

3. Observation

Observations were made by collecting data through direct observation of phenomena occurring at research sites such as halal food knowledge management, food science management systems, and existing infrastructure.

4. Documentation

Data collection through document is done by studying facts or data contained in the documentation file of the pilgrims.

In developing Knowlegde Management System by conducting pre-research to identify emerging problems related to halal food knowledge management and organizational readiness in implementing it. From the results of these studies will be the basis in building the implementation of KMS halal food LPPOM MUI.

4 DISCUSSION

4.1 Use Case Diagram

Implementation of knowledge management of halal food knowledge management system in LPPOM MUI is to help meet the information needs of the community about halal food knowledge which later as LPPOM MUI reference in directing and controlling the management of halal food knowledge.

This KMS system has 11 use cases as shown in figure 23. Use case diagram.

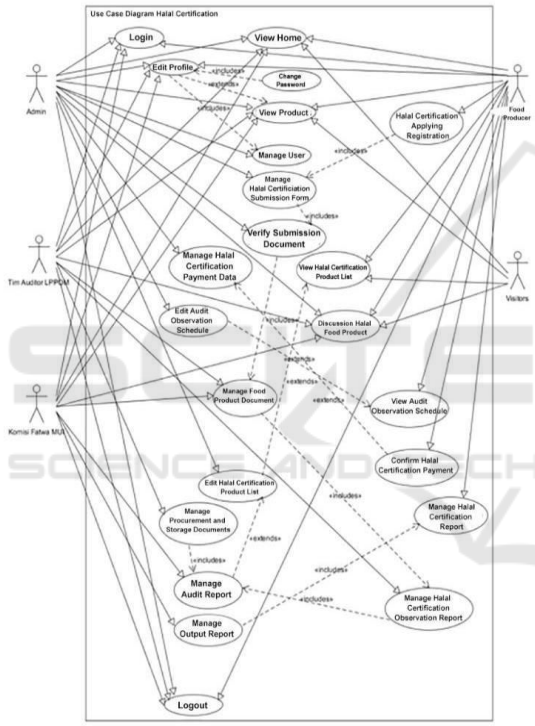

Fig 1: Usecase Diagram

This proposed system requires 10 tables in the database. Six of them are master tables, the rest are transaction tables. The database tables include user tables, activity types, discussion activities and others.

4.2 User Interface & Implementation

Implementation

The design of the application begins with designing UML diagrams using the Astah Community tools. The PHP programming language code set is used to build this KMS application. A number of other tools used in this application development are MySQL, XAMPP Apache HTTP Server, and Notepad ++. Meanwhile, to test the application, the researcher used Google Chrome and Mozilla Firefox. Application testing is done with blackbox test type.

This stage displays some user interface views.

1. Login

Fig 2: Home Login

Figure 2 is a description of the actors involved in KMS implementation of halal food management in LPPOM MUI must first login.

Fig 3: Sharing knowledge

Figure 3 is a sharing of knowledge and experience between food entrepreneurs to get halal certification LPPOM MUI.

4 CONCLUSIONS AND RECOMMENDATIONS

1.Conclusion

1. The fast growing halal food industry requires the management of halal food knowledge. Through knowledge management, it is hoped that the public is well protected from consuming non-halal food which is of course contrary to Islamic or Sharia law. Knowledge of halal food becomes an important need for the community. Information about halal food knowledge must be easily accessible to the public. Therefore, knowledge management of halal food needs to be managed and managed properly. To be able to manage and manage knowledge management properly, it needs a control mechanism in the form of policy, guidance and procedure.

2. With the need is required for the Implementation of Knowledge Management System of halal food management LPPOM MUI. To share knowledge between food entrepreneurs and society in general to share about the filing and get halal certification LPPOM MUI. Four processes are capturing, storing, disseminating, and using knowledge. Therefore, this process is directed and controlled so that knowledge management can run well.

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