

**FLOOD INDUCED HEALTH AND FOOD SAFETY WEB INFORMATION  
SCORING TOOL**

**LING YOKE MING**

**UNIVERSITI TEKNOLOGI MALAYSIA**

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requirements for the award of the degree of  
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To my beloved Family and Friends

To my respected supervisor

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## **ABSTRACT**

Recently, flood occurs everywhere and it brings terrible effect towards human's health. So, community need to have flood induced health and food safety (FIHFS) knowledge to protect themselves. But, FIHFS information is too comprehensive and scattered and often, community feels difficulties to find FHFS information they needed. The FIHFS information web scoring tool research studies have been proposed to solve this problem. Qualitative and quantitative method had been used in this research to find FIHFS knowledge from community. Document review method is used to find the FIHFS criteria based on the FIHFS knowledge from community. After that, content analysis method from website had been applied to extract FIHFS criteria. In order to validate reliable FIHFS content, a rubric is designed. The rubric in this research used to achieve higher level agreement of the website addresses after rubric validation process had been taken. In addition, rubric is used as reference for assessors evaluated the website address to found which contains relevant FIHFS information. A prototype of FIHFS web information scoring tool had been developed as one stop center website to combine the list of website addresses which contains relevant FIHFS information that serve as reliable reference for community. The useful FIHFS information can give convenient and awareness for community who are in need to make preparation and prevention of health and food safety problem due to flood.

## ABSTRAK

Pada masa kini, banyak banjir berlaku dan membawa kesan buruk terhadap kesihatan manusia. Jadi, masyarakat perlu mempunyai sedikit pengetahuan tentang maklumat kesihatan dan keselamatan makanan akibat banjir (*FIHFS*) untuk melindungi diri mereka sendiri. Tetapi, maklumat *FIHFS* berada dalam situasi yang menyeluruh dan menyebar dan masyarakat berasa susah untuk mencari maklumat *FIHFS* tersebut. Kajian penyelidikan *web FIHFS* maklumat alat penilaian telah dicadangkan untuk menyelesaikan masalah ini. Kaedah kualitatif dan kuantitatif telah digunakan dalam kajian ini untuk mencari pengetahuan *FIHFS* daripada masyarakat. Dokumen kaedah ulasan tersebut digunakan untuk mencari kriteria *FIHFS* berdasarkan pengetahuan *FIHFS* dari masyarakat. Setelah itu kaedah analisis kandungan daripada laman web telah dilaksanakan untuk memuatkan kriteria *FIHFS* yang boleh dipercayai untuk mencipta rubrik. Rubrik dalam kajian ini digunakan untuk mencapai kesepakatan *website link* yang mempunyai relevan maklumat *FIHFS* di tahap yang lebih tinggi selepas proses validasi rubrik. Selain itu, rubrik digunakan untuk menilai *FIHFS* maklumat yang relevan dan sebagai acuan bagi penilai untuk mengesahkan alamat website. Sebuah prototaip *web FIHFS* maklumat alat penilaian dibangunkan sebagai satu website pusat berhenti untuk kombinasi senarai alamat website yang mengandungi maklumat relevan *FIHFS* yang mengesyorkan sebagai acuan baik bagi masyarakat untuk merujuk. Maklumat *FIHFS* dapat memberikan kesedaran dan kemudahan bagi masyarakat yang memerlukannya membuat kesiapan dan pencegahan terhadap banjir.

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## **CHAPTER 1**

### **PROJECT OVERVIEW**

#### **1.1 Introduction**

Flood as a natural phenomenon has always been a terrible disaster for the human being in terms of health and other related problems. Food can be considered as the main cause of the problems since in its preparation process, contaminated floodwater will be used which can lead to food poisoning cases. Thus, communities need to have useful flood induced health and food safety (FIHFS) information to prevent the occurrence of such incidents. The research is designed to identify FIHFS criteria and provide the community with relevant FIHFS information.

FIHFS information is in scattered situation in internet and communities may face difficulty to have access to the FIHFS information they need. However some of this information is not relevant when communities search on the website. Thus, this research regarding FIHFS web information scoring tool is proposed to provide the relevant FIHFS information and consolidate it for communities to make necessary preparation and prevention. A rubric instrument is developed for evaluating relevant FIHFS information with the website addresses provided and also as a collaboration

tool to assess the website which can be used as a good reference for communities after validated by different assessors. A prototype will be eventually developed to combine the list of high level agreement website addresses which contain relevant FIHFS information.

## **1.2 Project Background**

Flood occurs due to unstable weather. Recently, many states at Malaysia had been seriously struck by flood for example Johor, Terengganu and Kelantan and had terrible influences over people's lives. Many cases of flood induced health problems are occurred while flood happens. So, communities need to have FIHFS knowledge to protect themselves and their families. In addition, FIHFS information is numerous on the internet and in scatter situation. A lot of FIHFS information appears when people look for it. Nevertheless, finding the relevant FIHFS information which people really need is difficult. Unfortunately, there is no one stop center website for communities to get the relevant FIHFS information. Research of FIHFS web information scoring tool is introduced to validate and combine the list of website addresses which contain relevant FIHFS information in a single visit followed by developing a prototype and using the rubric design concept.



### **1.3 Problem Statement**

The main problem that needs to be addressed in this research is the spread of FIHFS information on the internet and also relevant FIHFS information is difficult to identify. This is because some appeared FIHFS information is not related with what communities needed and also, not having a one stop center website for communities to refer to and find the relevant FIHFS information when they search for it on the web.

The problem statement for this research is: “How to identify relevant flood induced health and food safety information and develop scoring tool?” The problem can be solved by identification of relevant FIHFS information and develop scoring tool using several methods. Development of rubric as a scoring tool is due to validating website addresses which contain relevant FIHFS information. Several methods such as qualitative and quantitative, document review, and performing the content analysis from website is used for designing the rubric instrument. Moreover, rubric is used to achieve higher level agreement of relevant FIHFS information between different assessors such as group experts and non-experts in the rubric validation process. A rubric instrument in this research is used to minimize different opinions occurred among different assessors. In addition, the prototype developed in this research will serve as the one-stop-center website to combine the list of relevant FIHFS information website addresses which can be served as good reference for communities after rubric validation process is taken.

## **1.4 Project Objectives**

The objectives of the project are as follows:

- i. To identify the criteria of flood induced health and food safety information.
- ii. To conduct a content analysis on websites which provide flood induced health and food safety information.
- iii. To propose dimensions such as evaluative criteria, quality definition and scoring methods collected from previous objectives for rubric development.
- iv. To develop a prototype as a one-stop-center website which links to highly relevant FIHFS information website addresses.

## **1.5 Project Scope**

The scope of the project will include the following:

- i. Develop a prototype as a one-stop-center website for combine the list of high level agreement website addresses which contain relevant FIHFS information.
- ii. Analyze large amounts of websites that related with FIHFS information and extract important FIHFS criteria through content analysis.
- iii. Design a rubric instrument to evaluate high quality websites which contain relevant FIHFS information.
- iv. Conduct a rubric validation process among different assessors to achieve higher agreement of website addresses which contain relevant

FIHFS information and could serve as a good reference for communities.

## **1.6 Importance of Project**

Designing a rubric instrument to evaluate high quality websites which contain relevant FIHFS information is the main contribution of this project. A lot of website addresses which contain FIHFS information are provided but, evaluating them by using the rubric instrument to predict relevant FIHFS information is what the researcher does at the first step. Then, the high level agreement website addresses which contain relevant FIHFS information will be combined by the research prototype which will serve as the one-stop-center website for further references.

In addition, the importance of this project is to identify FIHFS criteria from several methods such as qualitative and quantitative, document review, and performing content analysis from website to provide highly FIHFS relevant information. The FIHFS knowledge which is gained from communities and experts is analyzed by qualitative and quantitative methods. For example, the method used to prevent flood induced health and food problem and others. Then, the document review method was used to identify reliable FIHFS criteria. Various resources were reviewed such as journals, and papers. The literature criteria such as flood induced problem and flood induced health safety and food safety were identified. In addition, content analysis from websites was performed to extract evaluative criteria which will be used for designing rubric instrument.

A rubric instrument in this research has an important role to evaluate relevant FIHFS information with website addresses provided. Three critical features such as

evaluative criteria, quality definition and level of performance (scoring method) collected from survey, literature and websites were used for rubric development. The rubric instrument was created as the reference for different assessors to achieve higher agreement on website addresses which contains relevant FIHFS information after rubric validation process had been taken. This is because different assessors have their own opinion about relevant FIHFS information. Without rubric method, different opinions about selected relevant FIHFS information website addresses will be appeared. Unifying and clarifying results among different assessors can be achieved when the rubric instrument is developed. In addition, rubric instrument can be reused in other areas by modifying some criteria features.

Furthermore, the other importance of this research is to evaluate and combine the list of website addresses which contains relevant FIHFS information in the prototype which can be used as one stop center website for community. This action can bring convenience for those communities who need FIHFS information. Prototype developed in this research used for evaluating and combining relevant FIHFS information website addresses in one stop center website after rubric validation process is taken for community to make preparedness and prevention.

## **1.7 Summary**

In conclusion, the rubric instrument is designed for achieving higher level agreement of relevant FIHFS information website addresses among different assessors after rubric validation process. Furthermore, rubric instrument is used to evaluate relevant FIHFS information and as a collaboration tool for assessors to assess the website which can be served as a good reference for communities. Moreover, a good and effective prototype is developed for combining the list of website addresses which contains relevant FIHFS information that is needed by

communities. Communities can get more knowledge regarding relevant FIHFS information so that they can make preparation and prevention earlier before flood happens.

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