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**Topic: E-learning site for food industry on Halal certification**

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## **ABSTRACT**

The rapid growth of the Halal industry, it is important to research e-learning site for food industry on Halal certification because e-learning site for food industry on Halal certification is the important elements in gaining global market shares and retaining consumers.

The objectives of this study are to provide an understanding of Halal certification system and highlight issues e-learning site for food industry on Halal certification analysis perspective. The study adapted an e-learning site for food industry on Halal certification analysis approach to determine the Halal certification process, the actors, information of Halal and so forth. In this value e-learning site analysis, semi-structured interview and document review are conducted. The questionnaire is used in this study.

The results of this study will be on the issues of e-learning site for food industry on Halal certification. The findings are important in developing Halal ecosystem and also provide motivation for researcher to resolve the issues by providing more focus in niche area.

Keywords:

**Halal:** Permitted in Islam.

**Haram:** Prohibited in Islam.

**Mashbooh:** Dubious in Islam.

**Shariah:** Islamic Law.

**Hadith:** Sayings of the Prophet.

**Sunnah:** the life, actions, and teachings of Prophet.

# **INTRODUCTION**

Halal is an Arabic word meaning lawful or permitted. The opposite of halal is haram, which means unlawful or prohibited. Halal and haram are universal terms that apply to all facets of life. However, we will use these terms only in relation to food products, meat products, cosmetics, personal care products, pharmaceuticals, food ingredients, and food contact materials.

While many things are clearly halal or haram, there are some things which are not clear. Further information is needed to categorize them as halal or haram. Such items are often referred to as mashbooh, which means doubtful or questionable.

All foods are considered halal except the following (which are haram):

- Swine/Pork and its by-products
- Animals improperly slaughtered or dead before slaughtering
- Alcoholic drinks and intoxicants
- Carnivorous animals, birds of prey and certain other animals
- Foods contaminated with any of the above products

Foods containing ingredients such as gelatin, enzymes, emulsifiers, and flavors are questionable (mashbooh), because the origin of these ingredients is not known. (ifanca.org/index.php, 2010)

The basic guidance about the Halal food laws is revealed in the Quran (the divine book) from God (the Creator) to Muhammad (the Prophet) for all people. The food laws are explained and put into practice through the Sunnah (the life, actions, and teachings of Prophet) as recorded in the Hadith (the compilation of the traditions of Prophet Muhammad).

In general, everything is permitted for human use and benefit. Nothing is forbidden except what is prohibited either by a verse of the Quran or an authentic and explicit Sunnah of Muhammad. These rules of Shariah (Islamic law) bring freedom for people to eat and drink anything they like as long as it is not haram (prohibited). (Riaz and Chaudry, 2004)

The content of this research will primary be based on three elemental impacts of e-learning site for food industry on Halal certification. The first aspect of this research is to analyze and evaluate the content of internet site which are about Halal Certification and literature review. In addition these sites are from different countries. The second aspect of this research is to prepare a survey questionnaire according to analysis and to make a survey of 277 participants. Within the third section the aim of this paper is to enter to data in system and analyze them with using Chi-Square Test in excel. The final aim of this paper is interpreted analyzing data, according to an e-learning site for food industry on Halal Certification.

# **A BRIEF OVERVIEW OF HALAL CERTIFICATION SYSTEMS**

## **What is a Halal Certificate?**

A Halal certificate is a document issued by an Islamic organization certifying that the products listed on it meet Islamic dietary guidelines, as defined by that certifying agency.

## **Types of Halal Certificates**

Registration of a site certificate — this type of certificate signifies that a plant, production facility, food establishment, slaughterhouse, abattoir, or any establishment handling food has been inspected and approved to produce, distribute, or market Halal food. This does not mean that all food products made or handled at such a facility are Halal certified. A site certificate should not be used as a Halal product certificate.

Halal certificate for a specific product for a specific duration — this type of certificate signifies that the listed product or products meet the Halal guidelines formulated by the certifying organization.

Such a certificate may be issued for a certain time period or for a specified quantity of the product destined for a particular distributor or importer. If the certificate is for a specific quantity, it may be called a batch certificate or a shipment certificate. Meat and poultry products, for which each batch or consignment has to be certified, generally receive a batch certificate.

## **Duration of the Certificate**

The duration for which a certificate is valid depends on the type of product:

A batch certificate issued for each consignment is valid for as long as that specific batch or lot of the product is in the market, generally up to product expiration date or “Use By” date.

If a certified product is made according to a fixed formula, a certificate may be issued for a one-, two-, or three-year period. The product remains Halal certified as long as it meets all the established and agreed-on production and marketing requirements. Often a system of occasional unannounced plant visits is used to confirm the plant’s status.

## **Who is authorized to Issue Halal Certificates?**

Any individual Muslim, Islamic organization, or agency can issue a Halal certificate, but the acceptability of the certificate depends on the country of import or the Muslim community served through such certification.( Riaz and Chaudry , 2004)

# **HALAL CERTIFICATION PROCESS**

The halal certification process starts with choosing an organization that meets one's needs for the markets to be serviced. If the target is a specific country, it is better to use an organization that is approved, recognized, or acceptable in that country. If the market areas are broader or even global, then an organization with an international scope would better meet one's needs. The process starts with filling out an application explaining the production process, the products to be certified, and regions the products will be sold or marketed in, along with specific information about the component ingredients and manufacturing process and information about other products manufactured in the same facility. Most organizations review the information and set up an audit of the facility. At this time, it is advisable to negotiate the fees and clearly understand the costs involved. During the review of the ingredient information or the facility audit, the organization might ask for replacement of any ingredients that do not meet its guidelines. Generally, the company and the halal-certifying agency sign a multiyear supervision agreement. Then a halal certificate can be issued for a specific shipment of a product or for a given period of a few months to several years. Overall, the process for halal certification of food products is not complicated, as explained in Figure 1. ( Riaz and Chaudry , 2004)

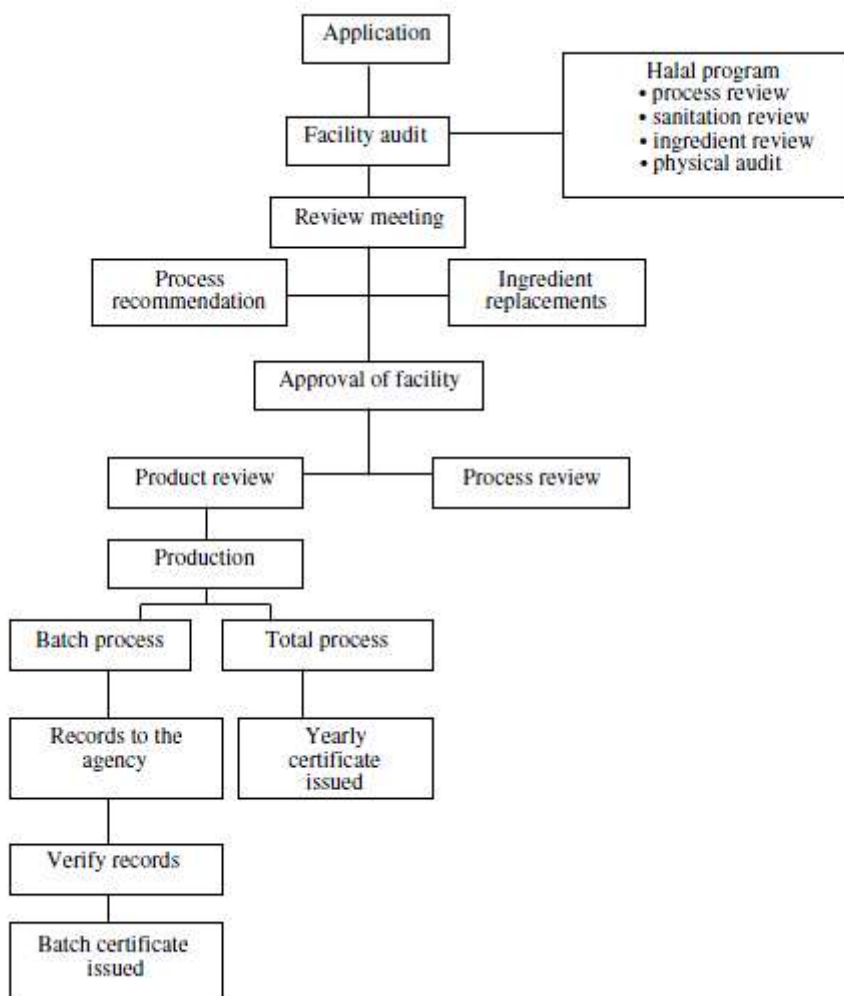


Figure 1. Flowchart of the Halal Certification Process

## **EXPECTATIONS of PROJECT**

This project's goal is to determine knowability of Halal certification from e-learning environment. According to research some popular Muslim countries have different authorities about Halal certification system. This area is growing from sectors. For this reason producers want to get more values in this area. The part of different society is known Halal certification system. On the other hand most of Muslims do not know about it. When this area grows, automatically internet area of this also growing in a parallel direction. In this century, most people spend time in internet. They are searching, buying, and learning so on stuff from internet. Factories want to give information from this area to customers. Because it is so easy and convenient.

With expanding global markets, innovative food companies are leading the charge by carving a new niche to gain a competitive edge in the marketplace. The Halal food market potential in the world is not limited to Muslim countries. Countries such as Singapore, Australia, New Zealand, and South Africa (with very small Muslim populations) have become significant contributors to the world Halal trade. (Riaz and Chaudry , 2004)

Table 1 below from IslamicPopulation.com (2010) shows the percentage of Muslim population by continents in the year of 2008.

<b>Continent</b>	<b>Total Population</b>	<b>Muslim Population</b>	<b>Muslim%</b>
Africa	967 million	462.36 million	47.81
Asia	4050.6 million	1103.75 million	27.24
Europe	735.2 million	51.46 million	7
North America	331.7 million	7.13 million	2.19
South America	576.85 million	2.41 million	0.42
Oceania	33.54 million	0.50 million	1.49
Total	6694.89 million	1627.61 million	24.31

Table 1: World Muslim Population in 2008 (IslamicPopulation.com, 2010)

## **RESEARCH METHODOLOGY**

A survey was conducted to gather users' requirements in order to implement the e-learning site for food industry on Halal certification. This survey is also important to collect and analyze the users' understanding on Halal certification concept. The questionnaire consists of 10 questions, distributed to 277 participants. Respondents involved in this survey are from the Halal and non-Halal, different gender, educational level and age groups participants. The questionnaire was created with the objective to see the readiness of users to move to new concept the e- learning site for food industry on Halal Certification its benefit for users.

### **Research Design**

In this study, as a case study of the Halal Certification System because it has vast experienced in certifying domestic and international Halal food products. The summary of the research design is shown in Figure 2.

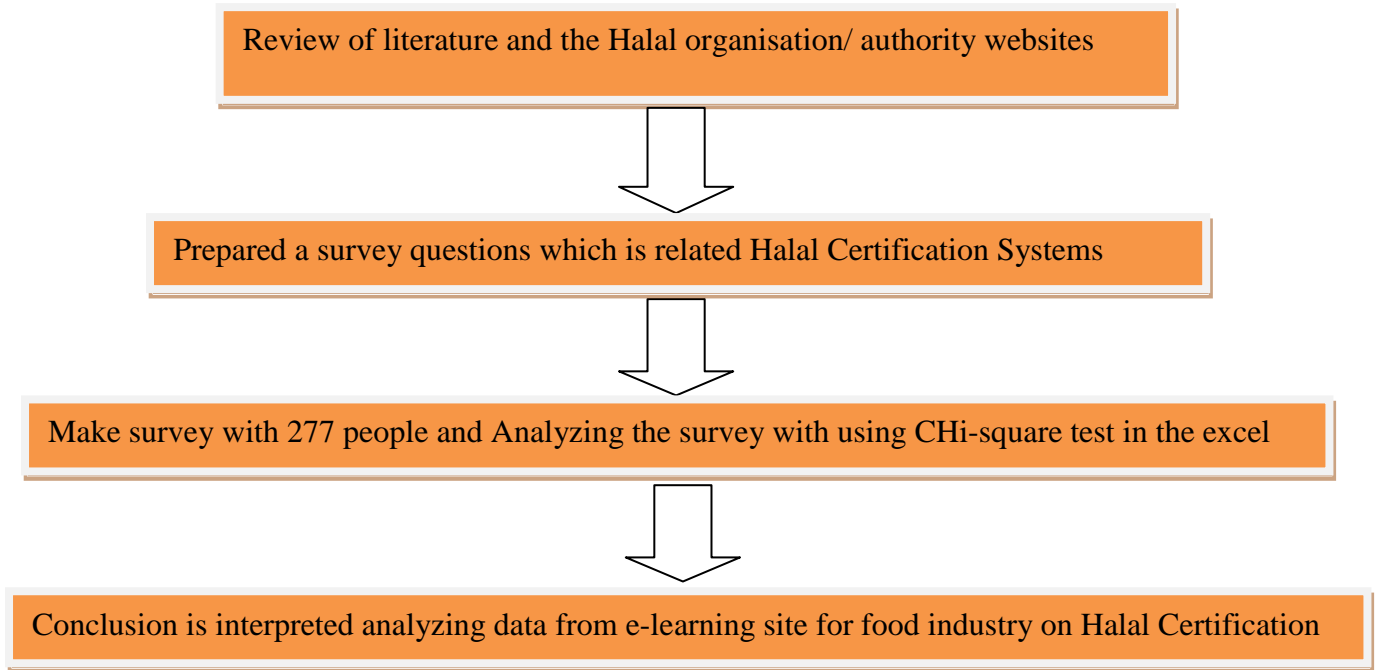


Figure 2. Research design

#### **Stage one: Review of literature and the Halal organisation/ authority websites**

In this stage, the Halal manual procedures, Halal Certification Standards, articles from the journals and slides presentation, books were reviewed in order to gain the understanding of the Halal certification systems. The related authority websites such as JAKIM, HDC and Ministry of Domestic Trade and Consumer Affairs (KPDNHEP) and differnt countries web pages were also reviewed.

#### **Stage two: Conduct interviews with the experts in Halal Certification Process**

The survey questions were used in this study. The survey questions are used as the statistical validity is a prime objective. The questions listed in a appendices were used as guideline during the interview.

#### **Stage three: Make survey with 277 people and Analyzing the survey with using CHI-square test in the excel**

These data were collected during the interviewed and analyzing with using Chi-square test in the excel.

#### **Stage four: Conclusion and Research Findings are interpreted analyzing data from e-learning site for food industry on Halal Certification**

The result will be interpreted and concluded analyzing data, according to an e-learning site for food industry on Halal Certification.

# **CHI-SQUARE TEST STATISTIC**

## **$\chi^2$ Test of Independence**

- Similar to the  $\chi^2$  test for equality of more than two proportions, but extends the concept to contingency tables with r rows and c columns

$H_0$ : The two categorical variables are independent (i.e., there is no relationship between them)

$H_1$ : The two categorical variables are dependent (i.e., there is a relationship between them)

**The Chi-square test statistic is:**

$$\chi^2 = \sum_{\text{all cells}} \frac{(f_o - f_e)^2}{f_e}$$

- where:

$f_o$  = observed frequency in a particular cell of the r x c table

$f_e$  = expected frequency in a particular cell if  $H_0$  is true

- $\chi^2$  for the r x c case has (r-1)(c-1) degrees of freedom  
(Assumed: each cell in the contingency table has expected frequency of at least 1)

**The Expected cell frequencies:**

$$f_e = \frac{\text{row total} \times \text{column total}}{n}$$

- where:

row total = sum of all frequencies in the row

column total = sum of all frequencies in the column

n = overall sample size

**The decision rule is:**

Reject null hypothesis if;

Chi-Square test statistic > Critical value or

p-Value < Level of Significance



- Where  $\chi^2_U$  is from the chi-squared distribution with  $(r - 1)(c - 1)$  degrees of freedom (Berenson, Levine and Krehbiel, Basic Business Statistics 2006 Prentice-Hall, Inc.)

## **RESEARCH FINDINGS**

From the data collected, analysis showed 80% of the participants, who are younger than 21 years old, have known Halal Food. 95% of the participants, who are between 21 and 24 years old, have known Halal Food. 78% of the participants, who are older than 24 years old, have known Halal Food. This result is showed that who are between 21 and 24 years old, they have known Halal Food better than others. On the other hand, who is bigger than 24 years old, they have lowest knowledge about Halal Food. Data provides strong evidence of discrimination.

When it is analyzed aware of any authority in participants country for Halal Certification from different age groups. The analysis is showed 57% of the participants, who are younger than 25 years old, have been aware of authority in their countries. On the other hand, 41% of the participants, who are older than 24 years old, have been aware of authority in their countries.

It is analyzed checking any website about Halal Certification from different age groups. The analysis is showed 54% of the participants, who are younger than 21 years old, are checked any website about Halal Certification. 66% of the participants, who are between 21 and 24 age groups, are checked any website about Halal Certification. 24% of the participants, who are older than 24 years old, are checked any website about Halal Certification. The analysis is showed, who are between 21 and 24 age groups, participants have seen or checked any web site about Halal Certification highest value. On the other hand, who are older than 24 age, participants have been least desirable about this topic.

The data is analyzed seeking products with Halal logo on it in the market from different age groups. The analysis is showed 66% of the participants, who are younger than 21 years old, are seeked products with Halal logo on it in the market. 71% of the participants, who are between 21 and 24 age groups, are seeked products with Halal logo on it in the market. 47% of the participants, who are older than 24 years old, are seeked products with Halal logo on it in the market. The analysis is showed, who are between 21 and 24 age groups, participants have seeked products with Halal logo on it in the market more than other age range of participants. Data provides strong evidence of discrimination.

When it is analyzed checking products ingredients on the internet from different age groups. The analysis is showed, 35% of the participants, who are younger than 25 years old, are checked products ingredients on the internet. On the other hand, 55% of the participants, who are older than 24 years old, are checked products ingredients on the internet.

From the data collected, analysis is showed 94% of the participants, who are educated in high school, have known Halal Food. 95% of the participants, who are educated under-graduate, have known Halal Food. 78% of the participants, who are educated high education, have known Halal Food. The analysis is showed, under graduate and high school students have

known what is Halal Food better than high educational students. Data provides strong evidence of discrimination.

When it is analyzed the awareness of any authority in participant country for Halal Certification from different educational level participants. The analysis is indicated 58% of the participants, who are educated in high school, have been aware of authority in their countries. On the other hand, 27% of the participants, who are educated higher education, have been aware of authority in their countries. Data provides strong evidence of discrimination.

The data is analyzed seeking products with Halal logo on it in the market from different educational level participants. The analysis is showed 65% of the participants, who are educated in high school, are seeking products with Halal logo on it in the market. 69% of the participants, who are educated under-graduate, are seeking products with Halal logo on it in the market. 38% of the participants, who are educated high education, are seeking products with Halal logo on it in the market. The analysis is showed, under graduate participants have seeking products with Halal Logo on it in the market more than other education level participants. Data provides strong evidence of discrimination.

The data is analyzed aware of products which is not Halal in the market from different educational level participants. The analysis showed 77% of the participants, who are educated in high school, have been aware of products which is not Halal in the market. 82% of the participants, who are educated under-graduate, have been aware of products which is not Halal in the market. 49% of the participants, who are educated high education, have been aware of products which is not Halal in the market. Data provides strong evidence of discrimination.

The data is analyzed checking products ingredients on the internet from different educational level participants. The analysis showed 29% of the participants, who are educated in high school, are checked products ingredients on the internet. 45% of the participants, who are educated under-graduate, are checked products ingredients on the internet. 57% of the participants, who are educated high education, are checked products ingredients on the internet.

From the data collected, analysis is showed 98% of the muslim participants have known Halal Food. 54% of the participants non-muslim have known Halal Food. Data provides strong evidence of discrimination.

The analysis is showed 59% of the muslim participants have information about Halal Certification System. On the other hand, 8% of the participants non-muslim have information about Halal Certification System. Data provides strong evidence of discrimination.

The data is analyzed aware of any authority in participating country for Halal Certification from different religion participants. The analysis is showed 60% of the muslim participants have been aware of authority in their countries. On the other hand, 6% of the non-muslim participants have been aware of authority in their countries. Data provides strong evidence of discrimination.

The data is analyzed checking any website about Halal Certification from different religion participants. The analysis is showed 40% of the muslim participants are checked any website

about Halal Certification. On the other hand, non-muslim participants have not ever checked any website about Halal Certification. Data provides strong evidence of discrimination.

The data is analyzed seeking products with Halal logo on it in the market from different religion participants. The analysis is showed 72% of the muslim participants are seeked products with Halal logo on it in the market. 4% of the non-muslim participants are seeked products with Halal logo on it in the market. The analysis is showed, who are muslim participants have needed products with Halal logo on in it in the market. Data provides strong evidence of discrimination.

The data is analyzed aware of products which is not Halal in the market from different religion participants. The analysis is showed 84% of the muslim participants have been aware of products which is not Halal in the market. 21% of the non-muslim participants have been aware of products which is not Halal in the market. Data provides strong evidence of discrimination.

The data is analyzed Halal logo of Bosnia and Herzegovina from different religion participants. The analysis is showed 59% of the muslim participants are known Halal logo of Bosnia and Herzegovina. 7% of the non-muslim participants are known Halal logo of Bosnia and Herzegovina. Data provides strong evidence of discrimination.

According to analysis of the data, if a website about Halal certification is created, 8% of the muslim participants would require training, 44% of the muslim participants would require list of halal providers, 22% of the muslim participants would require how it is done, 26% of the muslim participants would require ingredient. On the other hand, 3% of the non-muslim participants would require training, 31% of the non-muslim participants would require list of halal providers, 12% of the non-muslim participants would require how it is done, 54% of the non-muslim participants would require ingredient. The analysis is showed ,if muslim participants want to learn about Halal Certification on the internet, web site shoul include list of halal provides. Additionally training is lowest desirable values. On the other hand, web site should be included ingredient for who believe other religions. Data provides strong evidence of discrimination.

From the data collected, analysis showed there is no significant difference between gender and questions. Conclude that the decision regarding questions does not depend on gender.

From the data collected, analysis is showed 91% of the participants have known what is Halal Food. However 49% of the participants do not have any information about Halal Certification System and do not be aware of any authority in their contries for Halal Certification. Those analysis showed that, products of Halal Food are well-known but Halal Certification System and its authority are not strongly known.

The analysis is showed 68% of the participants have seen or checked any website about Halal Certification. 32% of the participants have found the information on that website about Halal Certification enough and useful. On the other hand 65% of the participants have seen or checked any website about Halal Certification but 35% of the participants do not have found the information on that website about Halal Certification enough and useful.

The analysis is showed 73% of the participants have been aware of products which is not Halal in the market. 27% of the participants have checked products ingredients on the

internet. On the other hand 56% of the participants have been aware of products which is not Halal in the market but 44% of the participants do not have checked products ingredients on the internet.

If create a website about Halal Certification, who checked products ingredients on the internet, 4% of the participants have wanted training, 45% of the participants have wanted list of halal providers, 17% of the participants have wanted how it is done, 34% of the participants have wanted ingredient.

## **CONCLUSION**

This paper discussed on the Halal certification system, website about Halal certification and e-learning site for food industry on Halal certification. The analysis showed that the participants have knowledged about this issue.

The world is now much more accessible because of improved communication systems and transportation. It has become truly a global supermarket. The demand for halal foods and products in countries around the world is on an increase, as Muslim consumers are creating an educated demand for halal foods and products. In the past, many Muslim countries met most of their food requirements domestically or imported them from other Muslim countries. However, population increases are outpacing food supply, and Muslim countries now import food from agriculturally advanced countries. When Muslim countries have become a developed about this issue, they have also need to developed an internet site of this area.

In this century, people are related to learn object with using internet. This area is grown very fast daily. For this reasons, entrepreneurs have wanted to get more pieces in the internet area. Because, entrepreneurs can reach customers easily and quickly. The survey and research are showed, when people have analyzed Halal certification system on internet they can easily find information, knowledge, list of Halal providers, ingredient of products, training and so forth on internet.

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# APPENDICES

## 1. HALAL CERTIFICATION - SURVEY

Age:		Religio	Islam	Christianit	Other	Non
Gender:	Male	Female	Educational Level:			

- 1- Do you know what Halal Food is?
- 2- Do you have any information about Halal Certification System?
- 3- Are you aware of any authority in your country for Halal Certification?
- 4- Have you ever seen or checked any website about Halal Certification?

YES	NO
YES	NO
YES	NO
YES	NO

*If your answer NO for the question 4, pass to 6.*

- 5- Have you found the information on that website about Halal Certification enough and useful?
- 6- Do you seek products with Halal Logo on it in the market?
- 7- Are you aware of any products that you know is not Halal in the market?
- 8- When you buy a product, do you check its ingredients on the internet?
- 9- Which logo below shows that product is Halal in Bosnia and Herzegovina?

YES	NO
YES	NO
YES	NO
YES	NO


☐
☐
☐

- 10- If you want to learn about Halal Certification on the Internet, What should that web site include? (like definitions, additive information etc.)
  - a) Training
  - b) List of Halal providers
  - c) How it is done
  - d) Ingredient

## 2. Chi-Square Test Statistic in Excel

According to analyzing data, religion depend on knowability of waht is Halal Food.

Observed Frequencies			
Do you know what Halal Food is?			Total
	yes	no	
islam	225	4	229
other	26	22	48
Total	251	26	277

Expected Frequencies			
Do you know what Halal Food is?	0		Total
	yes	no	
islam	207,5054	21,4946	229
other	43,4946	4,5054	48
Total	251	26	277

Calculations	
fo-fe	
17,49458484	-17,49458484
-17,49458484	17,49458484

(fo-fe)^2/fe	
1,474951863	14,23895837
7,036749512	67,93169721

Data	
Level of Significance	0,05
Number of Rows	2
Number of Columns	2
Degrees of Freedom	1

Results	
Critical Value	3,8415
Chi-Square Test Statistic	90,6824
p-Value	0,0000
Reject the null hypothesis	

**Ho:** Knowability of waht Halal Food and religion are independent

**Ha:** The religion and knowability of waht Halal Food are somehow related

Reject null hypothesis if:

Chi-Square test statistic > Critical value or

p-Value < Level of Significance

Hence we reject Ho and conclude that the decision regarding religion depend on knowability of waht Halal Food. The analysis showed, who are muslim participants have known what is halal food. Data provides strong evidence of discrimination.

