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## Quality Assurance Development of Halal Food Products for Export to European Countries

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### Abstract

This paper deals with the crucial problems of Halal food manufacturing that occur in accordance with changed requirements and regulations of export to European area. Because of a steady increase in the number of Halal food product consumers, particularly chicken and poultry, the quality assurance has been developed to increasingly responsive consumption. Therefore, the certification applied to the products is not only on food safety but also with an emphasis on Halal manufacturing process. There are many organizations of Halal and food safety certifiers, which conduct totally different ways to properly follow the quality assurance for manufacturers/exporters. This research focuses on exporters of Halal chicken and poultry products for United Kingdom, France and Germany markets by the use of Halal certifier interviews, Halal market surveys, and integrated data of regulations and requirements in these countries. The result shows that manufacturers who need to export to these countries have to follow EU regulation especially food safety. For the Halal regulations and requirements, they have to follow the organization of Halal certifiers located in each area of each country since consumers in each area tend to purchase brands or products that have credibility based on the Halal certifiers in that area. Moreover, we also find an important additional requirement of EU regulation that the stunning process has to follow the requirement of animal welfare, which invariably conflicts with Islamic ceremony.

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### 1. Introduction

The food industry is an evergreen industry and Halal food is the fastest growing trend in the world market. Customers' demand for Halal food is increasing not only in the Islamic country but also in Europe. There are approximately 15 - 17 million Muslims in Europe. Also currently, people with Muslim background dwell in the EU-27 countries (population: 500 million) including both citizens and non-citizens of European member states,

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but a majority of them hold French, British, German as nationality. France, with 5 million latent Muslims (8 % of the population), originating from Algeria, Morocco, and to a lesser extent Turkey, Tunisia and sub-Saharan Africa, is called to be the largest home to EU Muslims. The United Kingdom is home to 1.5 - 2 million Muslims (around 3 % of the population), most of them originating from South Asia, particularly Pakistan. Germany is in a very different situation. It is home to 3.3 million Muslims (about 4 % of the population), of which an overwhelming majority, at least 2.3 million, trace their origin to Turkey, including a large proportion who are still Turkish citizens [1].

Halal Food is clean and safety food without anything dirty as well as free from prohibited ingredients (Haram) which are lawfully enforced by Islamic law [2]. Muslims shall have foods which are lawful according to Islamic law with good for health. Phrase "Foods which are lawful according to Islamic law or Halal food" has wide meanings. Firstly, sources of food are lawfully acquired, free from thievishness or corruption, those are ethical Halal. Secondly, Halal, in terms of types or categories of things namely, it is considered as things to be consumed such as animals or ingredients that are contained in any food approved by Islam or not, those are physical consideration that they are permitted. In addition to the both conditions above, It also focuses on "Processing" or stages of manufacturing commencing from slaughtering, washing and cleansing, packaging, storing, transporting, selling, etc. Any practice relates to personnel and premise hygiene which assure for safety, good manufacturing practice, storage and distribution. Measures are applied to food chain which assures that the steps of food preparation are safe to consume.

Halal food certification refers to the examination of food processes in its preparation, slaughtering, cleaning, processing, handling, disinfecting, storing, transporting and management practicing. The application of Halal should apply to all stages of processing "from farm to table" [3]. Halal food certification is directly concerned with the both the food hygiene and the safe food. Food hygiene is important to be applied by food producers in providing foods that are safe and suitable for consumption. They also need to ensure that consumers are provided with clear and easily understood information by labeling or other appropriately. This prevents food from contamination in food borne pathogens. Food hygiene practice should apply throughout the food supply chain from primary production through to final stage for consumption; setting out the key hygienic controls and conditions at each stage of production. Safe food is the food that does not cause any harm to the consumers when it is prepared and/or eaten according to its intended use. In order to assure the food is safe, the food producers should take necessary steps to comply with Good Manufacturing Practice (GMP) and Good Hygiene Practice (GHP). Good Manufacturing Practice is where the producers apply the combination of manufacturing and quality control procedures to ensure the products are consistently manufactured to their specifications. The Codex General Principles of Food Hygiene and the Malaysian Standard MS 1514 on General Principles of Food Hygiene lay down a firm foundation in hygienic practices in ensuring food hygiene. These principles are internationally recognized and the guidelines can be used together with other specific and appropriate codes of hygienic practice.

This research emphasizes to exporters of Halal chicken and poultry products for United Kingdom, France and Germany markets by using of Halal certifier interviews, Halal market surveys and synthetic data of regulations and requirements in these countries. The information provides the quality assurances that are developed recently for the manufacturers and exporters to EU countries who need to be familiar with especially Halal market, food safety, food hygiene, Halal regulations and requirements. Moreover, these are investigated the organization of Halal certifiers located in each area of each country since consumers' behaviors in each area tend to follow brands or products that have creditability from a Halal certifier in that area.

## 2. Halal Food Trends

In 2010, the global Halal food market is worth around US \$651 billion. The Halal market in Europe alone represents US \$67 billion. It is considered to be a high trend and is the third from 5 areas of global Halal food market as shown in Table 1 [4].

Table 1. The global Halal food market sizes classified by region

Global Halal Market Sizes classified by Region in US \$ billions				
Region	2004	2005	2009	2010
<b>Asian Countries</b>	369.6	375.8	400.1	416.1
<b>Africa</b>	136.9	139.5	150.3	153.4
<b>Europe</b>	64.3	64.4	66.6	67.0
France	16.4	16.5	17.4	17.6
Russian Federation	20.7	20.8	21.7	21.9
United Kingdom	3.4	3.5	4.1	4.2
<b>American</b>	15.3	15.5	16.1	16.2
<b>Australasia</b>	1.1	1.1	1.5	1.6

Source: World Halal Forum

### 2.1 Chicken and Poultry Products Import

The history information of the Halal chicken and poultry products are coded by Harmonized Commodity Description and Coding System (HS) in group 02 (HS02). Table 2 shows that import is a high trend in each country.

Table 2. Import value of chicken and poultry products

Countries	Import Value (\$1000, US)					Average per year
	2006	2007	2008	2009	2010	
Germany	3,081,461	3,655,286	4,276,675	3,781,936	3,931,783	3,745,428
France	3,341,805	3,862,908	4,395,318	4,132,516	4,091,316	3,964,773
United Kingdom	4,052,085	4,646,052	4,856,597	4,482,896	4,569,265	4,521,379

[Source: International Trade Centre]

### 2.2 Marketing Potential

The ranking of marketing potential in each country is shown in Table 3, which identifies in more details of Halal chicken and poultry products group in HS 02.

Table 3. Marketing Potential of chicken and poultry products

Countries	HS code	Import Value (\$1000, US)			Potential
		2008	2009	2010	
Germany	HS 020714	240,650	223,630	268,659	Fair
France	HS 020713	295,249	287,139	302,726	Most likely
United Kingdom	HS 020713	584,682	511,977	711,519	Highest

### 3. EU and Halal Regulations

Council Directive 93/119/EC of December 22, 1993 on the protection of animals at the time of slaughtering or killing establishes the common minimum rules for the protection of animals at the time of slaughtering or killing in the Community. The protection of animals at the time of slaughtering or killing has been covered by Community law since 1974, and has been substantively reinforced by Directive 93/119/EC. Animal welfare is a Community value that is enshrined in the Protocol (No 33) on protection and welfare of animals annexed to the Treaty establishing the European Community (Protocol (No 33)). The protection of animals at the time of slaughter or killing is a matter of public concern that affects consumer attitudes towards agricultural products. The European Food Safety Authority (EFSA), established by Regulation (EC) No 178/2002 of the European Parliament and of the Council of January 28, 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety. Official controls in the food chain have also been reorganized by the adoption of Regulation (EC) No 882/2004 of the European Parliament and of the Council of April 29, 2004. Official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules and Regulation (EC) No 854/2004 of the European Parliament and of the Council of 29 April 2004, laying down specific rules for the organization of official controls on products of animal origin intended for human consumption. Regulation (EC) No 853/2004 of the European Parliament and of the Council of 29 April 2004 laying down specific hygiene rules for food of animal origin. Regulation (EC) No 882/2004 provides for certain action to be taken by the competent authority in case of non-compliance, in particular with regard to welfare rules. Those Regulations emphasize the responsibility of food business operators to ensure food safety. Slaughterhouses are also subjected to a pre-approval procedure, whereby the construction, layout and equipment are examined by the competent authority to ensure that they comply with the corresponding technical rules on food safety. Animal welfare concerns should be better integrated into slaughterhouses, their construction and layout, as well as the equipment used therein.

The Council Regulation (EC) No 1099/2009 of 24 September 2009 on the protection of animals at the time of killing [5] as a brief above has adopted regulation to be the article 1-30, which all countries that would like to export Halal products have to follow the EC No 1099/2009. It will be completely regulated before January 1, 2013. Therefore, manufacturers and exporters not only adopt new regulation EC No 1099/2009 with the protection of animals at the time of killing but also follow the Halal Islamic ceremony. Moreover, the Welfare of Animals Slaughtering and Killing Regulations 1999-400 (WASK 99-400) is the law in UK that has to be followed for daily halal slaughter and, for Udhia/Qurbani slaughtering that takes place once a year at the time of Hajj, the pilgrimage to Mecca, when Muslims have to sacrifice an animal as part of the annual ritual. The law in the United Kingdom directs that for halal slaughtering:

- An MHS (Meat Hygiene Services) licensed Muslim slaughterer
- EU approved and licensed slaughterhouse
- in the presence or supervision of an Official Veterinary Surgeon

For slaughterhouses within the EU and outside EU the requirements are that:

- A licensed and trained Muslim slaughterman must be present at the slaughtering station performing halal slaughter with the rendition of Tasmiyah (Bismillah-i-Allahu-Akbar) on each individual bird/animal.
- Halal slaughtering must be done in the presence of qualified meat inspector/s and/or approved veterinarian/s.
- Slaughterhouse/s must be approved/accredited for quality control systems e.g. ISO/GMP/HACCP/BRC *e.t.c.*

Ethics and ethos of animal welfare are always being complied with and more importantly, a discipline and decorum is being established for meat hygiene and environmental health laws [6].

### 3.1 Association Halal Certifier

There are many associations Halal certifier in Europe. This paper only shows the associations that are creditable and researchers had surveyed. There are three principles of association Halal certifiers in France as followed:

- 1) Gande Mosque De Paris
- 2) Association Culturelle Des Musulmans D'Ile De France Mosque De Evey
- 3) Ritual Association of the Great Mosque of Lyon (ARGML)

There are two principles of association Halal certifiers in Germany as followed:

- 1) Islamisches Zentrum Aachen
- 2) Halal Control e.K. (HC)

And there are five principles of association Halal certifiers in United Kingdom as followed:

- 1) Halal Food Authority (HFA)
- 2) Halal Monitoring Committee (HMC)
- 3) UK Halal Corporation (UKHC)
- 4) Islamic Cultural Centre (ICCUK)
- 5) Muslim World League

### 3.2 Halal Certification Process

The Halal certification system applied in EU accountants for the slaughtering houses, processed foods and services. The area of processed food is subject to the following certification guidelines:

- Laboratory testing of a food sample presented by the manufacturer, the tests being conducted in appointed universities in EU.
- Upon approval of the lab test, the manufacturer applies to the Central Islamic Committee of EU for plant inspection.
- Halal certification is issued only after every step of the manufacturing process has been approved.

The service sector plays a major role in providing Halal products and services to the Muslim consuming market. The process of preparing and delivering the products or services must strictly be followed the requirements for Halal certification. Moreover, researchers interview Halal certification organizations about Halal certification process in three countries show in Table 4.

Table 4. Three Organization of Halal Certification Process in EU

<b>France (ARGML)</b>	<b>United Kingdom (HFA)</b>	<b>Germany (HC)</b>
<ul style="list-style-type: none"> <li>• Project definition</li> <li>• Contract project</li> </ul> <p>Cost: depending on the product to be certified, frequency and quantity of production, etc.</p> <ul style="list-style-type: none"> <li>• 1<sup>st</sup> Audit</li> <li>• Technical sheet review, lab tests</li> <li>• Monitoring procedure definition</li> <li>• Halal certification</li> </ul>	<ul style="list-style-type: none"> <li>• First Priority</li> <li>• Bond of Confidentiality</li> <li>• Contractual Agreement</li> <li>• Audit/Inspection</li> <li>• Responsibility (Suppliers)</li> <li>• GMOs (Manufacturers)</li> <li>• Responsibility (HFA)</li> </ul>	<ul style="list-style-type: none"> <li>• Pre-validation Process</li> <li>• Audit/Inspection Process</li> <li>• Implementation/Validation Process</li> <li>• Approval Certification</li> <li>• Control/Re-Audit</li> </ul>

### 3.3 Safety and Hygiene Food

The new regulations merge harmonically with simplified detailed and complex hygiene requirements previously contained in a number of Council Directives covering the hygiene of foodstuffs and the production and placing on the market of products of animal origin. They innovate a single, transparent hygiene policy applicable to all food and all food operators right through the food chain "from the farm to the fork", together with effective instruments to manage food safety and any future food crises throughout the food chain. Community legislation covers all stages of the production, processing, distribution and placing on the market of food intended for human consumption. 'Placing on the market' means the holding of food for the purpose of sale, including offering for sale, or any other form of transfer, whether free of charge or not, and the sale, distribution and other forms of transfer themselves. The new hygiene rules were adopted in April 2004 by the European Parliament and the Council. They became applicable on January 1, 2006. Besides new EU Regulation, each country applies difference things for food safety and hygiene as in Table 5.

Table 5. Example of Food Safety and Hygiene in EU

• France (ARGML)	• Germany (HC)	• United Kingdom (HFA)
<p><b>Hygienic conditions of operations</b></p> <ul style="list-style-type: none"> <li>- Employees (cleanliness.)</li> <li>- Materials and place of processing (cleaned thoroughly, no contact with other meats, no sawdust, clear separation with other meats, etc.)</li> <li>- ARGML controller (healthy condition)</li> </ul> <p><b>Inspection post-mortem and halal stamping</b></p> <ul style="list-style-type: none"> <li>- Clear lighting for accurate inspection</li> <li>- ARGML controllers stamp the meat only after the control of the veterinary services, to ensure that the meat is healthy for human consumption</li> </ul> <p><b>Equipment of slaughterhouses</b></p> <ul style="list-style-type: none"> <li>- Floor and wall easy to clean, breathable rooms, proximity of hand washing devices</li> <li>- Halal slaughtering and meat processing should occur first</li> <li>- Complete &amp; clear separation with other meat processing</li> <li>- A system to keep the animal steady during slaughtering</li> <li>- Fowl processing should always keep moving forward</li> </ul>	<p>General guidelines for use of the term “Halal” CAC/GL 24-1997 Codex Alimentarius</p> <ul style="list-style-type: none"> <li>• Malaysian Halal Standard MS 1500:2009, buy online under <a href="http://www.sirim.my">www.sirim.my</a></li> <li>• Fatwa of MUI on Foods and LP-POM MUI Halal Assurance System, free download under <a href="http://www.halalmui.org">www.halalmui.org</a></li> <li>• HC Guidelines (additions)</li> <li>• OIC (Organization of the Islamic Conference)</li> <li>• OIC Standards-General guidelines on Halal food</li> <li>• GCC (Gulf Cooperation Council)</li> <li>• GSO 9/1995 “Labeling of Prepackaged Foods”, GSO 1931/2009 “Halal Food, Part (1): General Requirement”</li> <li>• World Halal Council</li> </ul>	<p>Halal Food Authority takes it for granted and are appreciative of the fact that all slaughterhouses and abattoirs in the UK have established HACCP systems in their premises and operations, and are approved by the EU. No carcass comes out of the abattoir without having been passed by the Veterinary Officer, both for quality and to be deemed to be fit for human consumption. As a majority of slaughterhouses partaking in halal slaughter are neither owned, leased nor at times operated by the Muslim fraternity, a number of these abattoir do both halal and non-halal slaughtering. It has to be ensured that the carcasses are not mixed, whilst within the compounds or on their way to chosen destination. Along with the MHS inspectors' stamp there should be a tag or a marking on the halal carcass to differentiate and identify. Perhaps the MHS stamp itself could have the word H for halal inscribed on it together with the number of the abattoir. Halal Food Authority would be pleased to audit and authenticate contractually the halal validity of products. [6]</p>

In summary, food hygiene contains steps and procedures that control the operational conditions within a food establishment, allowing for favorable environmental conditions for production of food that are safe and suitable for human consumption. Food hygiene is the basis for the production and preparation of safe food. Unsafe food may cause food poisoning and food borne illnesses. Thus food safety has impact on individual health.

Food safety has been of concern to humankind since the dawn of history and this concern is growing as food borne diseases has remain one of the most widespread public health problems in this contemporary world that we live in. Hence, there is a need for a preventive and cost-effective food safety assurance method. The HACCP System has proven to be such a system. The HACCP System is a scientific, rational and systematic approach to identification, assessment and control of hazards during production, processing, manufacturing, preparation and use of food to ensure that food is safe when consumed. Hence, the application of HACCP is compatible with other management systems such as ISO 9000 and *Halal*. However for Muslims there is another issue that need to be addressed and that is, the safe food must also be *Halal*. This means that the food chain must be safe as well as *Halal*. Implementing HACCP and *Halal* Systems is the next logical step for food industries. HACCP system ensures that the product is safe whilst the *halal* system ensures that the food can be consumed by anyone including non-Muslims.

#### 4. Conclusion

Currently export halal products to European countries, especially poultry products are becoming more and more demanding market. Likewise, the development of quality Halal products is introduced into the European

market to add more restrictions to it. The study was conducted in three countries in Europe including: United Kingdom, France and Germany. The current rules have been developed Halal imports of European countries in the EU Regulation No.1904/2009 of 24 September 2009 on the protection of animals at the time of killing. There is a note from new exporters and manufacturers from other countries asking for the description of this agency that will be to implement the new regulations by January 1, 2013. In addition, the certifications of Halal poultry products in each of these countries and each organization have a different certification process. For example, in the United Kingdom consumers are divided into two groups, first is religious group, which has endorsed the brand Halal products and the stunning before slaughtering. The second group to be certified Halal brand is said that stunning before slaughtering. In France and Germany, organizations are not emphasized on national Halal certifiers because they trust the international Halal certifiers, which are already registered as members. However, the processes have to follow the EU regulation in terms of animal welfare and food safety and hygiene.

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