

HALAL ISSUES IN PASTRY AND BAKERY PRODUCTS: THE HALAL GATEKEEPERS OF BAKERY INGREDIENTS

Wan Rusni Wan Ismail¹, Rafidah Aida Ramli², Zarifah Mohd Zain³, Hasniza Abdullah⁴,
Amirul Hakim Zulkifli⁵ and Hanisah Azahar⁶

¹Department of Culinary Arts, ²Department of Foodservice Management, ³Department of Tourism Management, ⁴Department of Hotel Management, ⁵ & ⁶Department Culinary Arts.

Faculty of Hotel and Tourism Management, Universiti Teknologi MARA, 13500 Pulau Pinang, Malaysia

rusni.wi@uitm.edu.my

ABSTRACT

The bakery and pastry industry is one of the fastest growing “cottage” industries in Malaysia. Being a Muslim-majority country, halal is a very important factor in securing the market share. Unlike other ready-to-eat products which ingredients come from raw materials, most ingredients and additives used in bakery and pastry industry are processed food components which raised the uncertainty on their halal status. Using qualitative semi-structured interview, important findings have emerged pointing to somewhat serious issues pertaining to ambiguous ingredients in bakery and pastry application which requires immediate actions. A total of 12 pastry chefs were interviewed about their perception of the halal issue of baking ingredients. Results indicate strong awareness among the practitioners regarding the ambiguous ingredients in pastry and bakery products. However, the uncertainty and doubts of these ambiguous ingredients are often washed away by the trust they put in the ingredient’s suppliers, mentors and halal label on the packaging. Putting trust on other people in finding halal ingredients sounds positive and doubt-free. However, this might also lead us to becoming too complacent with what we use in pastry and bakery products without putting much effort to inspect the halal status of each ingredient we use. Recommendations to enlighten this matter require actions from all responsible parties including the chefs, suppliers, authority (JAKIM) as well as the end-user. This is also in accordance with the Islamic teaching which said that finding the halal food or things are the responsibilities of everyone.

Keywords: Pastry and Bakery; Ingredients; Halal; Ambiguous; Halal Gatekeeper.

INTRODUCTION

The food industry responds to the needs and desire of the consumer. The availability of prepared convenience foods has become increasingly important. Consequently, the availability of halal prepared foods will serve a very useful purpose. Basically, halal requirements are in accordance with the conventional quality standards (ISO, HACCP, Codex, GHP, GMP, etc). Muslims are making their decision based on the ingredients information on the labels that might indicate whether the particular food item is lawful for Muslim consumption (Talib &

Zainuddin, 2010). The concept of halal is associated with what is good, healthy, safe and high in quality assessment. Halal (حلال, Halal) is an Arabic term which means permissible. In English, it is most frequently referred to as food that is permissible to be consumed according to Islamic laws. In Arabic, it refers to anything that is permissible under Islam. Products of food or drink for Muslim consumption must be approved for dietary laws as specified in the Holy Quran or the Hadith and Sunnah.

Due to advancement in food technology and distribution, Muslims today are more exposed to various ingredients and manufactured foods. The finished food products made from halal animals are no longer halal if they have been contaminated with haram products. Therefore, Muslim community needs to know whether the additives, ingredients or finished foods are free from any haram substance before consuming them. They require some protection to ensure that information on food labels and elsewhere presented to them is accurate (Eliasi & Dwyer, 2002). Hidden ingredients from various sources present another serious problem for Muslim consumers (Riaz & Chaudry, 2003). The high demand for transparency in the food industry has enhanced the development of methods for the analysis of food ingredients. In the scope of food production, the person who prepares food is responsible in determining the list of ingredients used. The commotion pertaining to halal issue has been immense whereby the Muslim consumers in Malaysia have begun to question the effectiveness of current halal orientation adopted by Malaysia's food industry. A clear division of halal or haram food products is not always possible because of the ambiguities in their food production (Talib & Zainuddin, 2010).

Food is regarded as halal for consumption if there is an assurance that the food is halal throughout the food supply chain and this is not an easy process. Raw materials, especially meat, meat related ingredients as well as food preparations have always received the biggest attention. In contrast to general believe, halal is not just pork free. It also includes the by-product of pork. Other animals that are not halal include carnivorous animals, birds of prey and land animals without external ears. Halal animals and poultry if inappropriately slaughtered or dead before slaughtered, or killed in name anyone other than Allah will be deemed haram or non halal (Al-Qaradawi, 1999). Many cases have been brought to the public attention pertaining to fraud on meat products. There are also reported incidences whereby meat that is labelled, certified or sold as halal may not be so. Therefore, the objective of this study is to investigate chef's perception towards ambiguous ingredients used in bakery and pastry application. The finding of this study is important because limited research have been conducted specifically about pastry and bakery products and looking from the experienced chefs' perspectives. Considering this matter, the findings are valuable to add new output related to the food industry context.

LITERATURE REVIEW

Issues with Halal Ingredients Status in Bakery and Pastry Products

Identifying the halal status of meat and poultry is not as difficult as identifying the halal status of bakery and pastry ingredients or products. Unlike meat and poultry which are categorized as raw materials, most ingredients used for bakery and pastry products are processed ingredients. For instance, the gelatine; a food ingredient which has long been used as gelling and foaming agent (Karim & Bhat, 2008). Gelatine is the output of collagen derived from animal skin, white connective tissue and bones which had been through the partial process of hydrolysis (Karim & Bhat, 2008). Thus, if the animals used to produce gelatine is considered

not halal –either because it is from pork or not slaughtered and handled as per the Islamic requirement- the gelatine is not permissible for Muslims consumption.

The number of bakery and pastry premises approved by Jabatan Kemajuan Islam Malaysia (JAKIM) is very low and based from the Halal Directory data by JAKIM, only three premises in Pulau Pinang and two premises in Perak have acquired the halal certification. This may be due to the ingredients used in bakery and pastry productions which come from variety of sources, including meat-based sources. The status of the ingredients is sometimes hidden, unclear and ambiguous. Not only must the ingredients be reviewed for permissibility, but also suppliers of the ingredients must be Muslim approved as halal (Latif, 2006; Regenstein, Chaudry, & Regenstein, 2003).

Technical Terms and Ingredients Sources That Lead to Ambiguity

Unlike other food service businesses that uses mostly fresh raw materials, pastry and bakery business utilized mostly processed ingredients (Gisslen, 2012). The main issue here is not due to the use of the processed product per say but when the ingredients itself is no longer in its original forms it is difficult to determine its Halal status. Certain ingredients from vegetables and plant sources such as flour and sugar are not really an issue however certain ingredients especially those that are from animal origin are the main concern. Ingredients such as stabilizers, emulsifiers and conditioners are widely used in this industry to ensure a good product characteristics and stability (Wassermann, 2009). Apart from that pork and its derivatives has been implicated in the production of gelatine, sodium stearoyl lactylate, shortening and they are commonly used in baked and pastry products (Ahmad Fadzillah, Che Man, & Jamaludin, 2011). Besides problem with the sources, ingredients use for pastry products can really be ambiguous especially to those who are not from food science background. For instance, the term of emulsifier, glycerine, hydrogenated shortening, lecithin, L-cysteine just to name a few are very common ingredients in pastry kitchen (Gisslen, 2012). However, for layman including chef these scientific terms will add into another challenge for them to identify where and how these ingredients are made of. There is an attempt by previous researcher to identify whether some of the bakery ingredients are porcine-free however all the ingredients tested are mostly dried ingredients which consist of various type of flour, butter and emulsifier (Azim & Salam, 2015). However, for non-technical audience such as chef and public, product such as flour does not fit into ambiguous criteria however ingredients that uses technical terms including chemicals can be quite ambiguous in term of its content. L-cysteine for instance is one of the ingredients use in bread products as a dough conditioner and dough improver is made from doubtful sources either human hair, pig bristle or feathers (Rowlatt, 2009).

Halal Supply Chain and Vague Label

On the other hand, animal origin ingredients are no longer a concern especially when the products are Halal certified. Therefore, in order to ensure the finished products are Halal it need to follow a proper Halal supply chain management (Tiemann, Van der Vorst, & Che Ghazali, 2012). However, it is a common practice especially for the home bakers to purchase items from the middleman or independent bakery supply store due to small and low capital operation. These small business owners often purchase ingredients in small quantities which encourage independent bakery supply store to purchase the ingredients in bulk and later repack into smaller quantity. According to Malaysia Chamber of commerce and industry (EUMCCI) 2016 there are total of 12 major suppliers for bakery and pastry products in Malaysia and these are

the giant companies that responsible in distribution and wholesale of pastry and bakery ingredients in Malaysia and all are owned by non-Muslim.

Since there are only few major players in this industry therefore it is not a surprise that most of bakery shop including those with chain bakery stores will also get their supplies from the similar sources with home bakers. It is unclear whether all products from these suppliers are certified Halal because when the ingredients are repacked by independent bakery suppliers there are very limited information is printed on the packaging. Most of the time the information is only revolved around the name of the ingredients and shelf life. Thus, there is no way of knowing the Halal status of these ingredients especially when the packaging doesn't feature any endorsement for Halal.

Problem with Pastry and Bakery Ingredients Substitute

In pastry and bakery productions each ingredient used has its own functions and purpose for instance dough conditioner or improver is added into the dough to improved gluten development, aid in yeast fermentation and to delay staling (Gisslen, 2012). Thus, if the dough conditioner is from doubtful sources can it be substitute with other ingredients? The challenge is to find the substitution that share similar function that will provide similar result. For chef that rely on standardize formula to produce a consistent product and quality, decision to substitute is not as easy as it look.

Problem with cost and final product consistency is another issue for instance if the amount of sugar used is increase as a replacement for dough improver to achieve the purpose of slowing down staling process, the finish product will become much sweeter. Such replacement can be problematic especially when dealing with lean dough (low sugar and low-fat yeast product) made for savoury filling. Furthermore, by adding more sugar into the formula it will not help to improved gluten development as yeast action will slow down because sugar attract moisture thus inhibit yeast growth. Apart from that high amount of sugar can caused product to become much darker due to caramelization process (Gisslen, 2012).

Besides dough improver, other ingredients such as glycerine is one of the most common ingredients in fondant or rolled icing. Given the properties of glycerine as an excellent solvent and dehydrating properties that very crucial in fondant making it is indispensable ingredient in pastry kitchen. However, glycerine is also by product of soap making is also derived from both animal and plant source. Thus, without Halal certification it is almost impossible to verify its Halal status (Al-mazeedi, Regenstein, & Riaz, 2013). Apart from that precision in measurement and consistency in ingredients use are among the key factor in producing quality product thus substitution will not always be the answer to this problem (Gisslen, 2012). Hence it is important to get the Halal certified products rather than using substitution options.

Halal Gatekeeper

JAKIM serves as Halal gatekeeper in Malaysia, however the application is not compulsory and based solely on voluntarily basis on the part of the manufacturers. This decision has created various issues including loopholes in the overall Halal food productions system as a lot of products including ambiguous ingredients managed to escape the crack of the system and never go through the proper Halal verification process. Thus, lot of ingredients with ambiguous Halal status are widely used in the pastry and bakery products, where Muslims are among the main consumers of these products. As the ingredients are sold amongst halal ingredients, the consumers considered these unverified ingredients to be halal.

METHODOLOGY

Research Instrument

The data presented in this paper were obtained through semi-structured interviews with various knowledgeable and experienced pastry chefs in Malaysia. It helps to provide clear set of instructions for interviewers besides helping the researcher to obtain reliable, comparable and qualitative data. Semi-structured interviews are often preceded by observation, informal and unstructured interviewing in order to allow the researchers to develop a keen understanding of the topic of interest necessary for developing relevant and meaningful semi-structured questions (Bernard, 2006). Apart from that, it also allows deeper explores on the real experiences, behaviour and action of the respondents when facing the situation related to this topic (Kumar, Talib, & Ramayah, 2013). It is the most suitable instrument to deploy as this exploratory study requires in-depth opinion from each knowledgeable and experienced respondent.

Sample Size

It is quite common for a qualitative study to use a smaller sample size compared to quantitative study as the aim of this method is not to generalise the findings. Instead, it is to ensure that the research question is adequately answered by knowledgeable and experienced respondents (Marshall, 1996). This is also parallel with an argument which accentuates that five to twenty persons is sufficient to conduct a qualitative study as long as it provides a consistent and reliable results in the end (Berg, 2004). As for this study, the new theme stopped emerging after 12 interviews which indicated that data saturation level had been reached at that point of research.

Sampling Technique

Purposive sampling is very common in qualitative study due to its richness of information although without numerous resources available (Berg, 2004). This particular sampling technique involves the process of identifying and selecting individuals that has the knowledge or experience with the phenomenon of interest (Patton, 1990). The population of this research is among pastry and bakery chef which was chosen using purposive sampling. This population was deployed as they were expected to be providing the researcher with the most accurate and relevant information about the topic. Informants chosen for this study is pastry and bakery chefs from the industry because they are the right sample to the answer questions and the objectives for this study. These informants also involved directly with the production and purchasing of the ingredients as they are not only the chefs but also the owner of the business.

Content Analysis

Since semi-structured interviews contain open-ended questions and discussions which may expand from the original interview guide. It is generally best to tape-record all the interviews to avoid missing of data for the analysis. The interviews were recorded and replayed in Windows Player which then transcribed manually using Microsoft Word. Next, the data were analysed using thematic analysis to discover the emerging theme or pattern. Content analysis is a qualitative method for identifying, analysing and reporting patterns (theme) within data. A theme captures something important about the data in relation to the research question and represents some level of patterned response or meaning within the data set (Patton, 1990). Figure 1 showed emerging themes from content analysis where the halal ingredients status is determined through three sources which are Halal logo, supplier and mentor. These sources act

as Halal gatekeeper where informants place strong trust and rely on the information provided by gatekeeper to determine the halal status of the bakery ingredients.

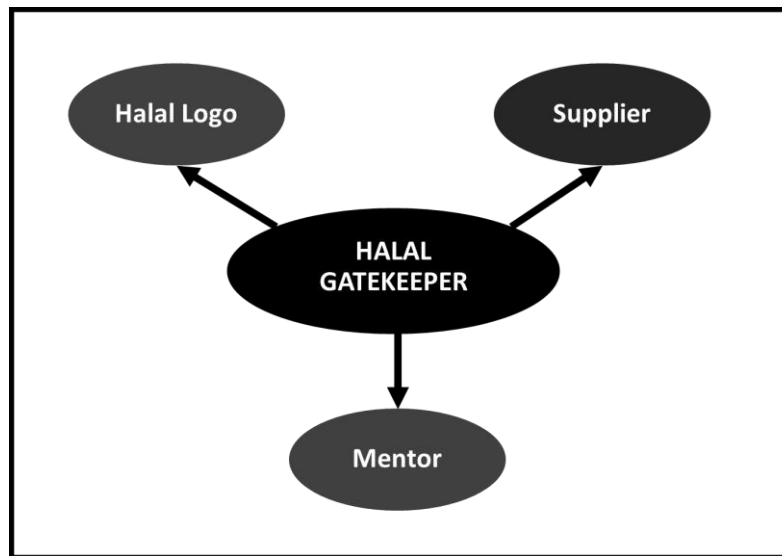


Figure 1: Emerging Themes

RESULT AND DISCUSSION

Ambiguous Ingredients

All informants agreed that there are several ambiguous ingredients used in their daily pastry and bakery production are listed in table 1.

Table 1: List of Ambiguous Ingredients

Despite of the concerns among chefs related to these products, however they still continue with

Ingredients	Origin	Products
Gelatine	Animal part	Jelly product, Icing, Desserts
Shortening	Animal & vegetable fat	Cake, pie, tart and icing
Bread improver	Chemical substance	Bun and bread
Cherry tip	Fruit & liqueur	Cake & biscuit garnish
Marshmallow	Gelatine (animal origin)	Cake garnish
Ovalette	Emulsifier from vegetable or animal	Cake
Filling – kaya	Food Additive	Bread
Chicken floss	Processed meat	Bread
Sausage	Processed meat	Bread
Bread softener	Chemical substance	Bread
Cream cheese	Milk protein and rennet (animal origin)	Cake, tart, pie
Glycerine	Animal & vegetable fat	Cake, icing

the use of these ingredients due to the complication in the substitution and recipe balance. Changes in the formulation not only have significant impact on the finish products yield but also will impact the cost of production (Gisslen, 2012). Informants doubt in relations to these ingredients are sounded due to the origin of these ingredients are made from animal, while certain ingredients that are chemical substance are unknown whether it is from animal or vegetables base. However, for Muslim consumers who purchase products from these bakeries, they probably are oblivious about the status of the ingredients that goes into the products and

continue to consumed these products due to the trust they placed on the sellers that are also a fellow Muslims (Ali, Xiaoling, Sherwani, & Ali, 2017). This in fact highlighted the problem of Halal status reliance on the sellers as there is there is no way for the consumers to verify the validity of the status. Thus, the importance of third-party agency such JAKIM is very important as they already have the established procedures to determine the products Halal status. The problem with some of the ingredients listed in table 1 is mainly since these ingredients are not listed as Halal in JAKIM database or any Halal certification body database, thus the Halal status is still unknown.

Trust on Halal Label (Halal Logo)

The Halal logo is the main criteria which signifies the status of the bakery and pastry ingredients. The trust of chef depends on the availability of original halal logo approved by JAKIM. As for the imported products like cheese and chocolate, the chefs would approve products with the Halal logo from Foreign Halal Bodies and Authorities which recognized by JAKIM.

Informant 1

As we are producing product for Muslim customers, it is my responsibilities to prepare good products which means it must be halalan thoyyiban. In order to achieve that level, first step is by selecting correct ingredients. Ensure that all the ingredients used have a legal Halal logo produced by JAKIM.

Informant 2

Halal logo is very crucial, because it is a sign of approval given by JAKIM where it shows the status of the ingredients. For me, all the item that we want to purchase should have the correct halal logo, so we will become more confident to use it. I take a special class organized by JAKIM itself in order to gain more knowledge and understanding on it.

Informant 8

Pastry and bakery products usually involved certain imported ingredients. Instead of looking for JAKIM halal logo (local ingredients) we need to identify correct halal logo produced by other countries. For example, the halal logo produced Australia, Brunei and United State of America.

Informant 11

We use variety of ingredients in pastry and bakery production. The brand that we use is certainly Halal according to the logo at the packaging and it is free from Non-halal ingredients. So, I don't feel any doubt using that brand.

The chefs' trust on halal logo corresponds with a research statement which said that the goods are required to be certified by Islamic Development Department of Malaysia (JAKIM) in order to be recognized as halal products and to be exported legally or even be sold in the market particularly to Muslim in Malaysia (Abd Aziz, Aziz, & Abd Aziz, 2015). The reliance on Halal certification body is the most direct approach in the Halal verification endeavour by these informants which is good but how these informants check for the Halal status especially when the ingredients are broken down to smaller packaging by the supplier and without the proper information and label found on the ingredients.

Trust On Supplier

There is also situation where the Halal logo is not available at each ingredient due to re-packaging of bulk ingredients into small packaging for sale. In this case, the chefs' trust will then be shifted from Halal logo to the suppliers of the items. A supplier is an entity that supplies goods and services to another organization. This entity is part of the supply chain of a business, which may provide the bulk of the value contained within its products.

Informant 5

I just issued the ingredients according to the choice of store assistant as they are the person responsible to choose what brand of product they should buy. I don't have a reason to feel worried with the ingredients because I trust the person in-charge have done their job well.

Informant 12

Hmm...Feeling doubtful in buying ingredients, it is rarely happening. Because I'm loyal to the single bakery store so I put 100 % trust on them.

Informant 10

No, I've never checked the Halal certificate because I already know what status of the ingredients needed. For example, if I want to buy custard, I just buy it. The supplier also would feel fed-up if I keep asking for the halal certificate. In this area, there are 4-5 supplier and they are selling the product that are permitted.

Informant 3

I buy all the ingredients at Muslim bakery store at Penanti (My Cake and Ingredients House). The owner himself confirmed that all the items are Halal.

The trust on suppliers can be defined as the willingness of the chefs to rely on their trading partners in whom they or their organization have confidence (Kwon & Suh, 2014). This actually requires transparency from the supply chain partners, especially with respect to information sharing of the firms guarded information such as the ingredients, process of production and sources of the ingredients (Kadir Abd, Raja Mohd Rasi, Omar, & Abdul Manap, 2016). The transparency from the suppliers allow the chefs or the end-user to trace the ingredients and packaging through all stages of production, thus recording the processes applied along the way, by who, where, when and how (Japar Khan, 2008). Once more, the problem with verification is another issues as it is unclear whether the supplier possess the information on the ingredients Halal status. It is quite a concern especially when suppliers do not aware about the status but making a Halal claim due to the profit orientation which placing Muslim consumers in vulnerable position of consuming non-Halal products.

Trust on The Mentor

Some of the informants refer to their mentors in dealing with matters concerning bakery and pastry ingredients. Mentors usually are the trusted and experienced person who train and counsel the informants before or during the production of bakery and pastry products.

Informant 10

I have my own mentor which is Chef Faizal Ng. He is in Perak Chef Association, so whenever I face any doubt, I would directly ask him either the doubtful item can be used or not.

Informant 12

Most of the cooking teacher also find the item there (the store where I buy my ingredients), so whatever brand used by the instructors I keep using the same ingredients. I trust them well.

Informant 4

Normally when there are any issues, I refer to my best friend; Chef Rashid (Chef at Damiral's Bread, Perda). He is more experienced in this industry, so I will never feel doubtful anymore.

The trust on mentors is also depends on prior knowledge of the mentors towards Halal concept. However, the verification is still the problem due to unfounded claim without proper evidence and third-party verification. For instance, if the ingredients do not have any sort of Halal verification, how the mentor know the ingredients are Halal? It seems like the ways to escape with this problem is through placing the accountability to other parties, hence become the justification for the chefs to use these ingredients in their products.

CONCLUSION

The nature of bakery and pastry ingredients that comprises of manufactured ingredients often adds to the complexity in the effort to determine its Halal status. It is quite impossible to just rely on the naked eye to differentiate between Halal and non-Halal ingredients because they look very much similar in appearances. Besides that, the reliance on the supply chain without proper evidence of Halal endorsement is a dangerous undertaking as supplier can always claim that the products they sold are Halal but without a proper verification chefs are putting their Muslim consumers at risk of consuming unlawful ingredients. Despite of many chefs are quite confident with their decision and methods in selecting Halal ingredients however they also a not completely free from doubt as certain ingredients are still considered ambiguous but still decided to use the ingredients due to lack of substitution. From chefs' perspectives, as long as the ingredients used work perfectly and the cost permitted they will continue to use them because the majority of chefs are not well versed with the technical and scientific terms of the ingredients but their expertise lies in the application of the ingredients. Issues on the lack of proper information on the packaging use for finished products in the bakeries are also a problem and it does not allow for consumers to check and verify whether the products are made entirely from Halal ingredients. In fact, it is a common practice for the bakeries to pack their products in the plain plastic packaging that allow for the establishment to change the products without involving large printing cost. Therefore, it is imperative for the ingredients to have Halal certificate because it will help bakeries business that planning to get Halal certification because currently number of bakeries that are Halal certified are very scarce probably because of the issues on ingredients status. Currently JAKIM does not place a compulsory requirement for business owner to obtain Halal certification however JAKIM should also encourage certain SME industry that using a lot ingredients or materials that are still ambiguous to obtain Halal certification. This will eventually create

a demand for Halal ingredients that will encourage ingredient manufacturers to comply with Halal regulations and ensure that their products are certified Halal.

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