

## The Development of Halalan Toyibban Product Innovation Framework for Diabetic Bar

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**Abstract:** The main purpose of this study is to propose an innovation framework for halal product development to cater for Muslim patients suffering from diabetes. While various diabetic supplement and food bar are available in the market, none of it is halal. Observing this gap, this research aims to become the seeding ground for halal innovation for such product. By taking this approach, this research will be able to provide not only a valuable product in the form of halal diabetic diet bar but it will also produce the guideline for halal product innovation through the establishment of innovation framework for halalan toyibban diabetic diet bar that could be used by other food manufacturers in the future. The halalan toyibban approach is a complete halal assurance approach that will guarantee the halal integrity of the product.

**Key words:** Halalan toyibban, diabetes, halal innovation, innovation framework, halal product

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### INTRODUCTION

Toyib as a quality standard for goods or products. In this matter, Al-Sonhadji said: "Allah commands the believers to eat good and pure things that Allah has provided and be grateful if they really worship Him." Good and pure food are divided into two categories: Good and pure in quality and Good and pure because it is halal. Food that is of good quality is well known. Besides having good taste it also has necessary vitamins and nutrients. As for halal food, it is a term defined by religion. At times, a particular food type is not of quality but halal status. So men are asked to give priority to food of good quality, both in terms of decency or healthy when choosing food and lawful in terms of religious requirement as well. Therefore, the halalan toyibban concept must be understood in an integrative way, by its internal and external aspect. It is important that this concept be absolutely understood as it is a standard to measure quality of consumerism. Most scholars whom studied the Muslim diet focus squarely on the halal aspects of food consumption, however, such approach is incomplete the toyibban aspect of the Muslim diet is equally crucial especially when dealing with Muslim that require not only halal but customized diet due to health reason.

This study focus on the toyibban part of food quality with the development of alternative, healthier food choice

for patients suffering from diabetes. People with diabetes have a higher chance of developing certain serious health problems, including heart disease, stroke, high blood pressure, circulation problems, nerve damage and damage to the kidneys and eyes. One of the methods to manage this disease will be through controlling the diet of the patients however the modern lifestyles and unavailability of carbohydrate free or low carbohydrate meals always made this approach challenging for the patients. For Muslim patients the approach will present them with another issue as most of these products do not come with a halal guarantee, presenting them with a huge hindrance in trying to manage their disease.

**Objectives:** The research objectives for this study are; to develop halalan toyibban product innovation framework for halal food manufacturer and to innovate halalan toyibban health product for diabetic patients.

**Justification of the study:** As Malaysia is a predominantly Muslim society, clarification on halal status of its foods chain is crucial. As halal food innovation is needed to support the ever growing need for more food, that halal component of the process could not be avoided. This research will provide the groundwork to understand how a halalan toyibban process and product can be implemented as part of halal food technology without

Table 1: Malaysia diabetic statistic

Variables	Values
Total adult population (1000s) (20-79 year)	19,887
Prevalence of diabetes in adults (20-79 year) (%)	16.6
Total cases of adults (20-79 year) with diabetes (1000s)	3,303.0
Number of deaths in adults due to diabetes	34,576
Cost per person with diabetes (USD)	565.8
Number of cases of diabetes in adults that are undiagnosed (1000s)	1,716.2

compromising the halal integrity of the Muslim food supply chain. Another prominent impact is specifically towards the diabetic Muslims society. This research will serve as the seed for further halalan toyibban based or disease management. The deliverables of this project is hoped to fill the existing gap on the right approach to manage this disease without overlooking the religious aspect and belief of the sufferers.

**Literature review:** Diabetes is a wide spread condition among the world population. International Diabetes Federation (2016) reported that there were 415 million diabetics in the world. Out of this massive number, 3.3 millions are from Malaysia. The statistic of the diabetic stricken population is alarmingly high (Table 1). Thus, the problems and struggle of these patients have become well known and with the increase in the number of diabetics, a proper disease management scheme is crucially needed in order to ease and enable the patients to live a better and healthier lifestyles. While medical scientist are looking for the ultimate cure for diabetes, another approach have been suggested in order to control the suffering which is through food management. Diabetes is a disease that is closely link to the consumption of food. Diabetes patients have been medically advise to control their diet and in particular, control their level of blood glucose through a massive reduction in the amount of carbohydrate intake. While it seems particularly simple to follow such approach, most patients with careers and family found these quiet taxing as the food choice will be significant reduce when they undertake this approach.

## MATERIALS AND METHODS

This project is composed of different stages of product innovation processes. The research includes both laboratory work as well as field work.

### Initial stage

**Customer focus:** Interview and focus group discussion will be done in order to collect customer's actual needs. Structured interviews questions will be used. Respondent are a group of pre identified diabetes patients. Consent form will be given for personal data collection. This phase will be coordinated by the dietician in this group.

Performing gap analysis-comparison study will be done to identify issues with the currently available products serving similar purpose. Several 'top' prepacked products will be selected and analysed in term of ingredients, halal status and glycemic index level. This phase require laboratory work for the preliminary assessment that focus on nutrition analysis, etc.

**Second stage:** Concept development-based on extensive literature review and information gathered from Initial stage, formulation of the product will begin. Sourcing of raw material will be done and several types/alternatives formulation will be formed.

**Third stage:** Prototypes of product will be put into production at DASTO production facility internal laboratory assessment will be done on nutritional content and halal verification testing through PCR Method (current method acceptable by Jabatan Kimia Malaysia).

External product assessment-prototypes will be given to a focus group consisting of diabetics patients for 4 months and their blood glucose level will be monitored during that period. This phase will be coordinated by the dietician in this research group. After completion of step 4, the product will be send for classification by Food Quality and Safety Division, Ministry of Health and for halal certification by JAKIM. This study uses qualitative approach with multi methods of data collection. The data collection methods are survey, semi structured interview and focus group discussion. Respondents of this study are private companies and Malaysia Islamic regulatory office, i.e., JAKIM.

## RESULTS AND DISCUSSION

**Diabetes and the toyibban diet:** The halalan toyibban diet addresses the importance of wellness and wholesomeness of the consumed meals, beside the halal and haram part of the diet itself. This part is rarely paid attention to by the Muslim population, even less by contemporary researchers honing onto the study on this particular group. Like any other communities, dietary habits are not only related to a single, particular aspect of the community. It can be determined by social cultural elements, social economy and even the diaspora locality of the studied community, in this case it is crucial and necessary for the diabetic group of the population. A diabetic person will require not only properly selected meals but must also adhere to a strict control on the amount of carbohydrate in each meal in order to avoid an elevated level of their blood glucose sugar. Those who

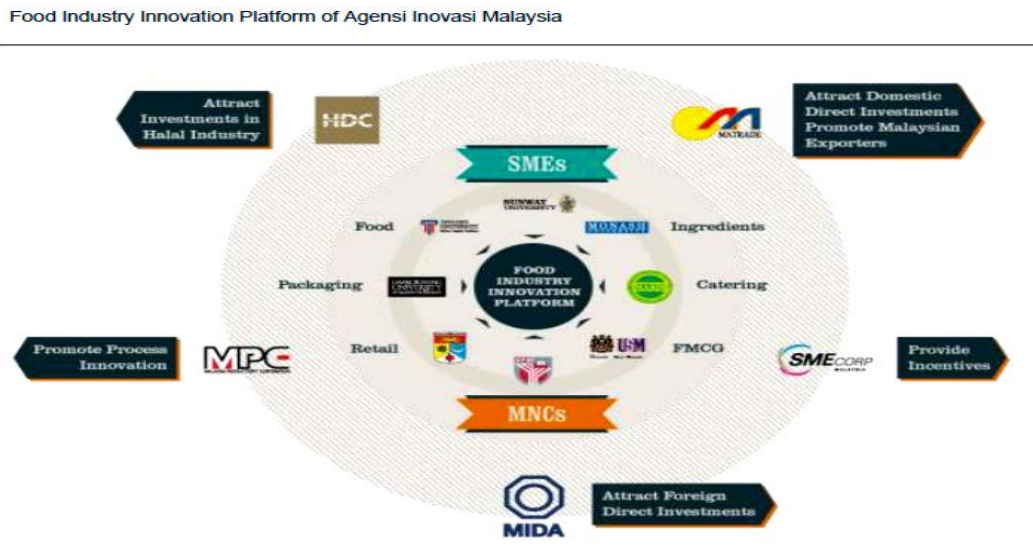


Fig. 1: Food industry innovation platform of Agensi Inovasi Malaysia

suffer from the disease usually had to make an effort to cook their own food and on numerous accounts struggled to eat out normally while trying to maintain and control their blood glucose level. One of the alternatives, more convenient for diet for a diabetic person is the conveniently pre packed meals such as the Atkin's products.

**Diabetes and its specific diet:** Over the past few years, a significant amount of research has shown that low-carb diets are effective not only for weight loss but for improving many measures of risk for heart disease and diabetes. Now a new study from the prestigious Albert Einstein College of Medicine shows that a low-fat diet has no advantage over a low-carb diet modeled on the Atkins Diet program in the treatment of diabetes. Atkins Diet (AD) is one of the most popular pre packed meals available for diabetes patients all over the world. Various assortment of meal choices are available made easier with online purchasing system put in place by the company. This type of diabetic diet basically focused on low carbohydrate. In 2006, researchers reported that a 20% carbohydrate diet was significantly superior to a 55-60% carbohydrate diet with regard to bodyweight and glycemic control in 2 groups of obese diabetes patients observed closely over 6 months (Nielsen and Joensson, 2006). Last year, a follow-up study with the original participants found that despite some weight regain, overall weight, BMI and Hemoglobin A1c were still significantly lower 44 months later (Nielsen and Joensson, 2008). This goes to show that there is a manageable Method in controlling the diabetic condition of a person and low carbohydrate diet is one of the better

alternatives. However as mentioned earlier, the consumption of such product in Malaysia need to include that halal status of the products, in order to cater to the majority Muslims.

**The innovation process of halal food:** Malaysia needs to leverage on innovation and focus on producing premium halal products if it wants to realise its ambition of becoming a hub for the global halal industry, says an industry member. Halal Industry Development Corp's managing director cum chief executive officer, Datuk Seri Jamil Bidin said the country needs to produce premium halal products to differentiate itself from the producers of mass products. Malaysia would have to leverage on innovation of halal products and turn the country into a place for value added activities of halal products including imported products. NIAM (2016), under the Prime minister's office has developed a Food Industry Innovation Platform (Fig. 1) which connects Malaysian and foreign companies and research institutes to catalyze innovations in the sector. One of the goals is to establish a consumer sensory laboratory to conduct research on consumer behavior. This goes to show how important halal food innovation has become to the Malaysian economy. This approach is now seen as the catalyst for Malaysia to become the leading halal food producer in the world.

## CONCLUSION

Halal product such as specially formulated health supplement is very rare in the market. Product that caters especially for the special need niche of the community

suffering from certain ailments are usually sourced from overseas, without any guarantee of its halal status. This poses a serious problem to the ever growing population of Muslims around the world, especially those in need of specialized and customized food to meet their health need. One such community that suffers from such predicament is those suffering from diabetes. The disease limited their food options, making it difficult for them to lead a normal, active life while trying to manage their condition. While non halal options alternative foods are widely available, Muslims patients who suffer from diabetes are not as lucky as most of these products are straight forward non halal while the others did not disclose their halal status. Such predicament posed a challenge for this group of diabetic patients. Thus, it is hoped that this research will be able to fulfill the gap and resolve the matter for Muslim diabetic patients.

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