

# Factors that Influence the Intention to Adopt Halal Logistics Services among Malaysian SMEs: Formation of Hypotheses and Research Model

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## Abstract

This study was aim to understand the influence of adoption factors on the intention of adopting an innovation (Halal Logistics) among Malaysian Halal SMEs. This research employed a quantitative research design using survey research method. Four objectives were established. The first is to formulate a model that identifies the influence of adoption factors on innovation (Halal Logistics) adoption intention among Malaysian Halal SMEs. This was achieved through literature reviews and preliminary study. Five halal compliant logistics service providers (LSPs) were contacted through phone and email correspondences. Seven research hypotheses were derived and seven factors that influenced the innovation (Halal Logistics) adoption intention were identified: the presence of familiarity with innovation, status characteristics, position in social network as internal factors as well as benefit, geographical setting, societal culture and political condition as external factors. The second objective is to develop an instrument that can be used to measure the influence of adoption factors on adoption intention among Halal SMEs.

**Keywords:** Halal, Halal logistics, innovation adoption, diffusion of innovation theory

## 1. Introduction

### 1.1 Problem Background

This study tries to explore the factors that influence the adoption of halal logistics services among small medium enterprise (SMEs). The researcher will attempt to identify factors that contribute to SMEs' decision on employing halal logistics services. According to Sungkar et al. (2008), Halal integrity means that the halal product are being sourced, produced, stored and distributed in the manner coherent with the Islamic values, where these are in line with the modern and universal values such as high quality and safety, hygienically produced with respect for animal welfare and fairly traded. This posit that, in order for the integrity of halal food is maintained, SMEs not only need to ensure that the production or manufactured of the food is accordance to halal standard but the handling of the halal product throughout the halal food supply chain is also complied to halal standard and guideline. The outcome of this study is to identify the internal and external factors that influence the decision on adopting halal logistics service (HLS) among SMEs. Among these factors, this study also ascertain the critical factor that influence the most on the decision of SMEs on adopting HLS and finally this study proposed a model based on the factors that can promote the adoption of HLS among SMEs.

### 1.2 Halal Industry

Government's intention in making Malaysia as a global Halal hub; has created a new playing field in which the participation of Muslims' SMEs is very much desired. The Halal hub will create opportunities for the Muslims SMEs to penetrate the Halal market such as the Middle East, the OIC countries and the rest of the world. A study done by Abdul, Ismail, Hashim, and Johari (2008) shows that out of 136 SMEs, only 64.9 per cent of these SMEs have obtained Halal certification and 44.3 per cent of these entrepreneurs are Muslims. However, there are

another 35.1 per cent of SME who still do not obtained halal certification. This is quite a big number since Malaysia is a Muslim country and being the first country to introduce Halal status and Halal logo in 1971 and halal standard MS1500 was first introduced in 2004. From this study, we can also see that non-Muslim entrepreneurs are more than the Muslim entrepreneurs. The concept of halal is well accepted and adopted by the non-Muslim businesses since they can see the huge potential of business opportunity. Nevertheless, the non-Muslims are facing a huge challenge in adopting the halal standard. This indicates that halal control is needed to ensure that the integrity of halal product is safeguarded. This is because non-Muslim entrepreneurs will not take halal as responsibility but more as business needs or to gain trust from Muslim customers. Therefore, for a control is needed to guarantee the wholesomeness of halal product.

### *1.3 Concept of Halal Toyibban*

Halal should not only be viewed in the perspective of how the product is produced but also in the perspective of how it is being handled throughout the process of reaching the consumers. This complete supply chain cycle is called "from farm to fork". This concept should ensure that there will not be any cross-contamination between halal product and non-halal substance which will result the halal product turn to be non-halal (haram). Standard 1500: 2004 - Halal Food: Production, Preparation, Handling and Storage – General Guidelines (1st Revision) incorporates the Good Manufacturing Practices, Food Manufacturing and hygiene sanitary requirement. The concept of halal shall not be viewed in the perspective of consumable goods only, in fact there are 7 categories of halal area besides than food and beverages; and one of them is halal logistics. Halal logistics role is to ensure the integrity of halal product can be sustained throughout all logistics process and therefore win customer's trust.

### *1.4 Current Adoption of Halal Logistics*

The needs of halal logistics has been expanded by researcher in her, Husny et al., (2011) previous study which concluded that there are clear need of halal logistics control from the perspectives of halal authorities or agencies (JAKIM, HDC and IHIA) and consumer (PPIM). This also shows that the awareness on the importance of maintaining the integrity of halal food throughout the halal supply chain has gradually increased among the halal product consumers. Even though this situation has been understood by most food producers or food manufacturers particularly SMEs; only a few of them had decided to adopt halal logistics services. This statement has been supported by phone interview sessions and email correspondence between researcher and five halal logistics operators listed by HDC.

Interviews and email correspondents done showed that all 5 halal logistics operators confirmed there is little or no demand from SMESs on their halal logistics services. Among the factors identified so far is higher cost rate, no policy of enforcement of using HLS, lacking on government support and SMEs knowledge and awareness on halal logistics is still low. However, these identified factors are from the perspective of halal logistics service provider (Halal LSPs). A study need to be carried out to identify the factors from the Halal LSPs perspective and literature reviews and; to verify these factors with actual response from SMEs. Based on the verification process, the researcher hope to propose a model that will outline the critical factors that should be given priority by the government in order to increase the participation and adoption HLS among SMEs. Therefore, the government able to act appropriately in planning the necessities to promote SMEs to employ halal logistics services and ensure the integrity of our halal product is maintained and controlled.

## **2. Literature Review**

### *2.1 Halal Logistics: An Innovation*

Logistics is a common service business, well understood and used by all. It is the services that used, as an enabler of the whole process product supply chain from procuring the raw material until delivering it to the end consumers. Where else halal logistics can be viewed as a service innovation. According to Business Dictionary, the process of translating an idea or invention into a good or service that creates value or for which customers will pay is call innovation. Business Government Australia explains that business innovation could mean implementing new ideas, creating dynamic products or improving your existing services. Innovation can be a catalyst for the growth and success of your business, and help you adapt and grow in the marketplace. This clearly shows that halal logistics is an innovation of service

Innovation as defined by Rogers (1995) is an innovation as "an idea, practice, or object that is perceived as new by an individual or other unit of adoption". According to Rogers, the third stage of adoption process is decision to adopt the innovation after knowledge and persuasion. In terms of halal logistics, studies done by Zakaria (2008) and Abdul, et al. (2008), shows that SMEs are aware and have of the importance of halal and the need to

maintain the integrity of Halal product throughout the supply chain. Studies such as Omar & Jusoh (2011) and Dali, Nooh, Nawai & Mohammad (2008) show that SMEs have the knowledge on what is halal logistics.

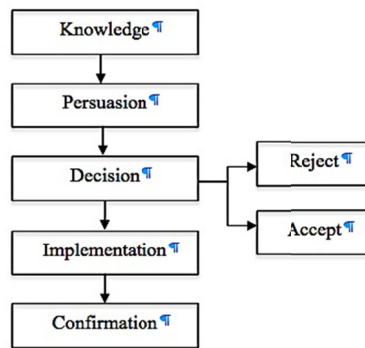


Figure 1. Five stages of the adoption process diagram (Adopted from Rogers, 1995)

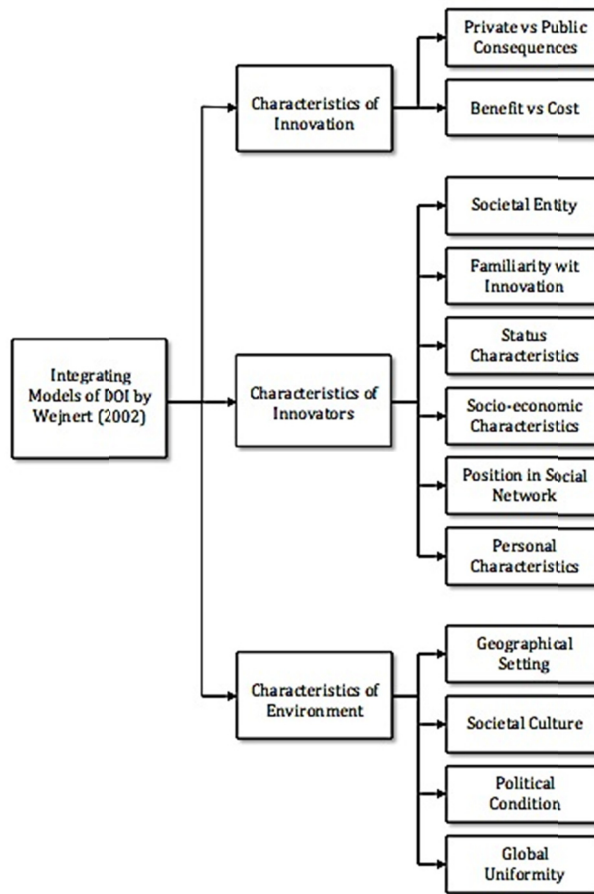


Figure 2. Integrating model of diffusion of innovation, a conceptual framework (Adopted from Wejnert, 2002)

2.2 Stages of Innovation Adoption

Government has done significant number of campaigns, expos, conference, and seminars. Incentives are also given by the government aims to promote and persuade SMEs and consumer about the halal product supply chain. World Halal Research (WHR) conference, Malaysian International Halal Showcase (MIHAS) and SME Mentoring Program conducted by HDC is the events to name a few. Malaysian government has provided the relevant infrastructure such as halal parks that provide logistics infrastructure needed for halal industries. Therefore, with the knowledge and the persuasion given by the government on halal product handling or halal

logistics, SMEs should already be in the stage of deciding on adopting the halal logistics services as shown in Figure 1. With that in mind, researcher investigated an integration diffusion of innovation model conducted by (Wejnert, 2002). Wejnert had used Rogers's theory in diffusion of innovation as her main reference for this integrating model. She studied other researcher's work that used DOI theory in various areas. Her outcome of her work is very comprehensive where she had categorized her findings into three (3) categories of characteristics. According to her, these categories of characteristics may influence the actors to adopt the innovation. Characteristics mentioned are (1) characteristics of the innovation, (2) characteristics of adopters and (3) characteristics of the environment. Figure 2 illustrates the integrating model of diffusion of innovation done by Wejnert (2002).

### 3. Results

#### 3.1 Formation of Research Model: Halal Logistics Adoption Intention Model

Based on the literature review that has been discussed in the previous section that includes the concept of Halal, SMEs and Innovation Adoption, a research model will be develop and hypotheses will be constructed. Wejnert's Integrating Models of Diffusion of Innovation (Wejnert, 2002) is the basis for this research model. In order to come out with the model that is suitable to the variables that are studied (SMEs Intention to Adopt Halal Logistics), a pilot survey has been conducted to verify and finalize the research model that also lead to the development of the research hypotheses.

Malaysian International Halal Showcase (MIHAS) 2014 was chosen as the venue for pilot study as here local and international Halal companies in various sizes from micro until multinational are gathered in one place to showcase their products. Result from achieved from the reliability test for pilot study, showed that there are a few redundancies in constructs and there are also irrelevant constructs with the nature of the study data sample. Therefore, these constructs had been combine and eliminated as shown in Table 1 and Table 2

Table 1. Combination of data constructs

	<i>New Constructs</i>	<i>Constructs Combine</i>
	INTERNAL FACTORS	
1	Familiarity with Innovation	Familiarity with Innovation Socio-economics Characteristics
2	Personal Characteristics	Status Characteristics Personal Characteristics
	EXTERNAL FACTORS	
3	Culture	Societal Culture Global Uniformity

Table 2. Deleted data constructs

	<i>Constructs</i>
	INTERNAL FACTORS
1	Societal Entity
	EXTERNAL FACTORS
2	Private vs Public consequences

Based on pilot study outcome, a research model that connects innovation, adoption and intention to adopt is proposed in Figure 3. In this research model the factors that influence adoption is categorized into two: Internal factors (adopter characteristics) and external factors (innovation and environment characteristics). This figure shows the graphical representation of the independent, moderating and dependent variables of the proposed research model. This model is a reconceptualization of integrating model of diffusion of innovation done by (Wejnert, 2002)

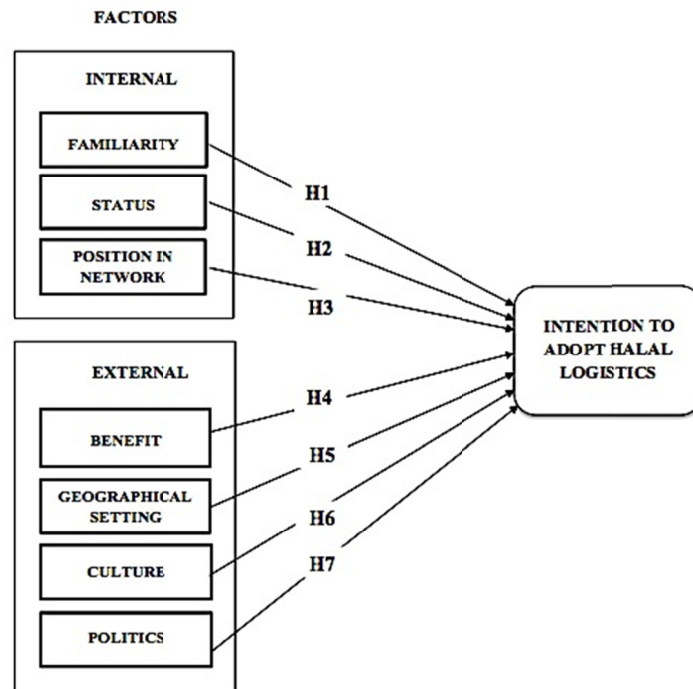


Figure 3. Factors influencing the intention to adopt halal logistics services

Consequently, hypotheses had also been formulated as follows:

**H1. SMEs familiarity with innovation positively influence the intention to adopt HLS**

**H2. SMEs status characteristics positively influence the intention to adopt HLS**

**H3. SMEs position in social network positively influence the intention to adopt HLS**

**H4. SMEs perceived benefit of innovation positively influence the intention to adopt HLS**

**H5. SMEs geographical setting positively influence the intention to adopt HLS**

**H6. Societal culture positively influence the intention to adopt HLS**

**H7. Political condition positively influence the intention to adopt HLS**

Table 3. Final constructs for the study

Factors	Constructs	References	No of items
Internal	Familiarity with innovation	Meyer and Rowan (1997), Weimann and Hans-Bernd (1994), Valente (1995), Newell and Swan (1995), Feder and Umali (1993), Chaves (1996)	5
	Status Characteristics	Herbig and Palumbo (1994a), Oakley, Hare, and Balazs (1992)	6
	Position in social network	Michaelson (1993), Rosero-Bixby and Casterline (1993), Valente (1995), Coleman, Katz, and Mezel (1966), Rosero-Bixby and Casterline (1993), DeMaggio and Powell (1983), Newell and Swan (1995), Burt (1987), Hannan and Freeman (1987)	5
External	Benefit	Fliegel and Kivlin (1966), Greve (1998), James (1993), Wejnert (2002)	6
	Geographical setting	Wejnert (2002), Omrod (1990), Satiel, Bauder, and Palakovich (1994) Strang and Tuma (1993)	5

Societal Culture	Straub (1994), Herbig and Miller (1991), Rogers (1992), Rosero-Bixby and Casterline (1994), Myrdal (1968), Herbig and Palumbo (1994a), Rothwell and Wisseman (1986), Ruttan (1988), Beteille (1977), Offe (1991)	5
Political Condition	Wejnert (1996), Bakardjieva (1992), Fleury (1998), James (1993), Rasler (1996), MacLeod (1991), Zhou (1993)	5
Adoption Intention	Newly developed for this study	3
Total items		40

For this study, there are seven independent constructs; which formed 38 items in the questionnaire survey. Three items are newly developed as the dependent constructs that will indicate the level of HLS adoption by Malaysia SMEs as shown in Table 3.

#### 4. Discussion

This study attempt to explore the key topics and their relationship in the central importance of this research: namely halal industry in Malaysia, halal concept, halalan toyibban, halal logistics, halal certification, Small Medium Enterprises, diffusion of innovation theory by Rogers (2003) and integrating models in diffusion of innovation by Wejnert (2002). This study also explored the link between innovation, adoption and factors that influence the intention of adopting the innovation of halal logistics services. The knowledge gain from the literature reviewed in this study able to provides the foundation for the research model and the formation of the research hypotheses for a study on identifying factors that may influence the intention to adopt Halal logistics services among Malaysian SMEs

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