UNIVERSITI PUTRA MALAYSIA

*RELATIONSHIP AMONG HALAL TRACEABILITY SYSTEM
ADOPTION, HALAL INDUSTRY ENVIRONMENTAL FACTORS
AND HALAL FOOD SUPPLY CHAIN PERFORMANCE*

NORASEKIN BT AB RASHID

GSM 2016 8

RELATIONSHIP AMONG *HALAL* TRACEABILITY SYSTEM ADOPTION, *HALAL* INDUSTRY ENVIRONMENTAL FACTORS AND *HALAL* FOOD SUPPLY CHAIN PERFORMANCE
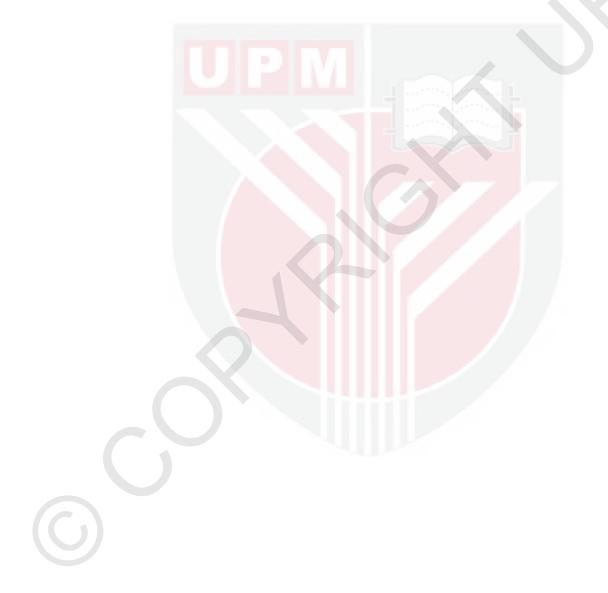
By

NORASEKIN BT AB RASHID

Thesis Submitted to Graduate School of Management, Universiti Putra Malaysia, in Fulfilment of the Requirements for the Degree of Doctor of Philosophy

February 2016

DEDICATION

To my beloved family:
Lokman Hakimi Bin Lot
Liz Dania Eryna Binti Lokman Hakimi
Luqman Darwisy Izzrizq Bin Lokman Hakimi
Liz Dalisa Idzaara Binti Lokman Hakimi

Thank you for the love and laughter, which are so accommodating. I hope this journey inspires us to be more organized and well prepared for balanced prosperity in this world and hereafter.

To my parents:
Haji Ab Rashid Bin Hussin
Hajjah Mek Som Binti Hj Che Mat

To my parents in law:
Haji Lot Bin Omar
Hajjah Wan Azizah Binti Wan Ismail

Your entire support has always made me strong and raised my enthusiasms in completing this study.

**RELATIONSHIP AMONG *HALAL* TRACEABILITY SYSTEM
ADOPTION, *HALAL* INDUSTRY ENVIRONMENTAL FACTORS
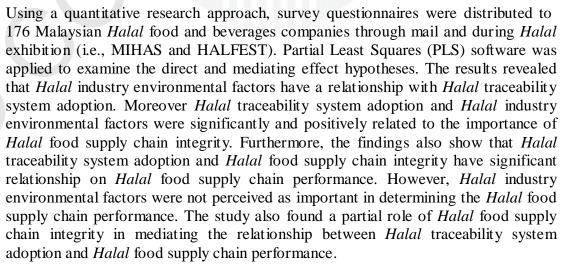AND *HALAL* FOOD SUPPLY CHAIN PERFORMANCE**

By

NORASEKIN BT AB RASHID

February 2016

Chairman : Associate Professor Jamil Bojei, PhD
Faculty   : Graduate School of Management, UPM

Halal has become one of the features being discussed especially in food production
either in Muslim countries or non-Muslim countries due to the increasing demand
from customers worldwide. The increase number of cases on the misuse of *Halal*
logo and questionable status of *Halal* food has raised many concerns among the
Muslim consumers regarding the status of *Halal* food in Malaysia. The various
reports on the issues of fraudulent cases and physical contamination in *Halal* food
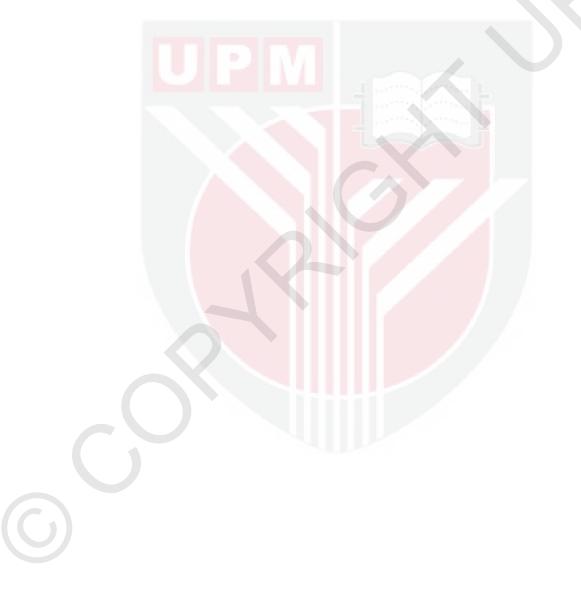also indicate that there are weaknesses in the procedure of determining *Halal* food.

In this case, food companies must be prepared to implement systematic traceability
system to ensure the authenticity of *Halal* products and comprehend the importance
of *Halal* industry environmental factors in enhancing integrity of *Halal* food supply
chain and performance. Accordingly, the main purpose of this study is to examine
the relationship between the *Halal* traceability system adoption and *Halal* industry
environmental factors on *Halal* food supply chain integrity and performance.

Using a quantitative research approach, survey questionnaires were distributed to
176 Malaysian *Halal* food and beverages companies through mail and during *Halal*
exhibition (i.e., MIHAS and HALFEST). Partial Least Squares (PLS) software was
applied to examine the direct and mediating effect hypotheses. The results revealed
that *Halal* industry environmental factors have a relationship with *Halal* traceability
system adoption. Moreover *Halal* traceability system adoption and *Halal* industry
environmental factors were significantly and positively related to the importance of
Halal food supply chain integrity. Furthermore, the findings also show that *Halal*
traceability system adoption and *Halal* food supply chain integrity have significant
relationship on *Halal* food supply chain performance. However, *Halal* industry
environmental factors were not perceived as important in determining the *Halal* food
supply chain performance. The study also found a partial role of *Halal* food supply
chain integrity in mediating the relationship between *Halal* traceability system
adoption and *Halal* food supply chain performance.

The results will be useful to the Malaysian *Halal* food companies in developing proper strategy to enhance supply chain performance and adopting effective traceability system that can assist those companies in handling *Halal* food products without arousing the *Halal* integrity issues. Policy makers could also benefit from this study by providing advisory services and assistance programs that could help the *Halal* food producers in improving their performance.

The study has successfully filled the gap in literature by empirically establishing the relationship between *Halal* traceability system adoption and *Halal* environmental factors on *Halal* food supply chain integrity and performance. The study has also contributed to the existing body of knowledge in food supply chain by integrating the *Halal* context into current research framework.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

HUBUNGAN DI ANTARA PERLAKSANAAN SISTEM PENGESANAN HALAL, FAKTOR PERSEKITARAN INDUSTRI HALAL DAN PRESTASI RANTAIAN BEKALAN MAKANAN HALAL

Oleh

NORASEKIN BT AB RASHID

Februari 2016

Pengerusi : **Profesor Madya Jamil Bojei, PhD**
Fakulti : **Sekolah Pengajian Siswazah Pengurusan, UPM**

Halal telah menjadi salah satu isu yang sering dibincangkan terutama sekali di dalam pengeluaran makanan samada di negara-negara Islam mahupun di negara-negara bukan Islam disebabkan permintaan yang amat tinggi di kalangan pengguna seluruh dunia. Namun begitu, peningkatan kes penyalahgunaan logo Halal dan ketidakpastian status Halal telah menyebabkan pengguna yang beragama Islam musykil dengan status makanan Halal di Malaysia. Pelbagai laporan tentang kes penyalahgunaan serta pencemaran fizikal makanan Halal membuktikan terdapat kelemahan di dalam cara pengesahan makanan Halal.

Maka, syarikat makanan perlu bersedia untuk mengimplimentasi sistem pengesanan yang lebih telus bagi memastikan kesahihan produk Halal dan memahami kepentingan faktor persekitaran industri Halal bagi meningkatkan integriti dan prestasi rantaian makanan Halal. Dengan ini, tujuan utama kajian ini dijalankan adalah untuk menguji hubungan di antara perlaksanaan sistem pengesanan Halal dan faktor persekitaran industri Halal terhadap integriti serta prestasi rantaian makanan Halal.

Menggunakan pendekatan kajian kuantitatif, soalan kaji selidik telah diedarkan kepada 176 buah syarikat makanan dan minuman Halal melalui pos dan semasa pameran Halal (cth: MIHAS dan HALFEST). Perisian *Partial Least Square (PLS)* digunakan untuk menguji hipotesis kesan secara langsung dan pengantara. Keputusan kajian menunjukkan bahawa faktor persekitaran industri Halal mempunyai pengaruh yang besar ke atas penggunaan sistem pengesanan Halal. Selain itu, penggunaan sistem pengesanan Halal dan faktor persekitaran industri Halal mempunyai kaitan yang positif dan signifikan terhadap kepentingan integriti rantaian bekalan makanan Halal. Di samping itu, kajian juga menunjukkan bahawa penggunaan sistem pengesanan Halal dan integriti rantaian bekalan makanan Halal mempunyai pengaruh yang besar ke atas prestasi rantaian bekalan makanan Halal. Walaubagaimanapun, faktor persekitaran industri Halal tidak begitu penting dalam menentukan prestasi rantaian bekalan makanan Halal. Kajian ini juga mendapati

integriti rantaian bekalan makanan Halal memainkan peranan sebagai pengantara separa terhadap pengaruh penggunaan sistem pengesanan Halal dan prestasi rantaian bekalan makanan *Halal*.

Keputusan ini amat berguna kepada syarikat-syarikat makanan Halal di Malaysia dalam membangunkan strategi yang tepat untuk meningkatkan prestasi rantaian bekalan dan menggunapakai sistem pengesanan yang berkesan bagi membantu mereka dalam mengendali produk makanan Halal tanpa membangkitkan isu integriti Halal. Pembuat dasar juga boleh mendapat manfaat daripada kajian ini dengan menyediakan khidmat nasihat dan program bantuan yang boleh membantu pengeluar makanan Halal dalam meningkatkan prestasi mereka.

Kajian ini telah berjaya mengisi jurang ilmu dengan mewujudkan secara empirik pengaruh penggunaan sistem pengesanan Halal dan faktor persekitaran terhadap integriti dan prestasi rantaian bekalan makanan Halal. Kajian ini juga telah menyumbang kepada pengetahuan sedia ada dalam rantaian bekalan makanan dengan mengintegrasikan konteks Halal ke dalam rangka kerja penyelidikan semasa.

ACKNOWLEDGEMENTS

All praises and thanks to Allah. There is neither strength nor power except from Allah, the Exalted, and the Almighty.

I am heartily thankful to my supervisor, Associate Professor Dr Jamil Bojei, whose encouragement, guidance and support from the beginning to the end of this study enabled me to develop an understanding of the subject. His calm attitude helped me all the way. Many thanks also go to Professor Dr Rafikul Islam and Associate Professor Dr Azmawani Abd Rahman, as co-supervisors, for their advices.

My sincere gratitude goes to the directors, managers, executives and staffs in the *Halal* Food Industries, who supported and facilitated this research by approaching the organisations and teams involved in the questionnaire survey. The opinions and responses from personnel in the *Halal* Food Industries on the questionnaire are much valued.

It is my pleasure to thank the respondents from all the organisations for their time and responses during the questionnaire survey. Without their cooperation, I could not have obtained the relevant data.

To my husband, daughter and son, your love and understanding are the main internal motivations for this work. I am amazed by your patience in bearing my limited ability to fulfill my academic, motherhood and wifely responsibilities. Although not familiar with this field of study, my husband was always the first person with whom I cried and rejoiced at every milestone of this research. My warmest thoughts also go to my siblings, who are always genuinely happy with my progress.

Last but not least, thanks to all my PhD buddies who inspired me to embrace all the challenges encountered during this process.

I pray that Allah showers all of you with His blessings.

UPM February 16
Norasekin Ab Rashid

I certify that an Examination Committee met on 17th February 2016 to conduct the final examination of Norasekin Bt Ab Rashid on her Doctor of Philosophy thesis entitled "Relationship among *Halal* Traceability System Adoption, *Halal* Industry Environmental Factors and *Halal* Food Supply Chain Performance" in accordance with Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U. (A) 106] 15 March 2008. The Committee recommends that the student be awarded the Doctor of Philosophy degree. Members of the Examination Committee are as follows:

Yuhanis Binti Abd Aziz, PhD
Assoc. Prof.
Faculty of Economics and Management
Universiti Putra Malaysia
(Chairperson)

Baker Ahmad Alserhan, PhD
Assoc. Prof.
College of Business
Qatar University
(External Examiner)

Abu Bakar Abdul Hamid, PhD
Professor
UTM International Business School
UTM Kuala Lumpur
(External Examiner)

Suhaimi Abd Rahman, PhD
Assoc. Prof.
Faculty of Economics and Management
Universiti Putra Malaysia
(Internal Examiner)

_____
PROF. DATUK DR MAD NASIR SHAMSUDIN
Deputy Vice Chancellor (Academic & International)
Universiti Putra Malaysia

Date:

On behalf of,
Graduate School of Management
Universiti Putra Malaysia

This thesis submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfillment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee are as follows:

Jamil Bojei, PhD
Associate Professor
Faculty of Economics and Management
Universiti Putra Malaysia
(Chairman)

Rafikul Islam, PhD
Professor
Kulliyah of Economics and Management Sciences
International Islamic University Malaysia
(Committee Member)

Azmawani Abd Rahman, PhD
Associate Professor
Faculty of Economics and Management
Universiti Putra Malaysia
(Committee Member)

_____
PROF. DATUK DR MAD NASIR SHAMSUDIN
Deputy Vice Chancellor (Academic & International)
Universiti Putra Malaysia

Date:

On behalf of,
Graduate School of Management
Universiti Putra Malaysia

Declaration by graduate student

I hereby confirm that:
- this thesis is my original work;
- quotations, illustrations and citations have been duly referenced;
- this thesis has not been submitted previously or concurrently for any other degree at any institutions;
- intellectual property from the thesis and copyright of thesis are fully-owned by Universiti Putra Malaysia, as according to the Universiti Putra Malaysia (Research) Rules 2012;
- written permission must be obtained from supervisor and the office of Deputy Vice-Chancellor (Research and innovation) before thesis is published (in the form of written, printed or in electronic form) including books, journals, modules, proceedings, popular writings, seminar papers, manuscripts, posters, reports, lecture notes, learning modules or any other materials as stated in the Universiti Putra Malaysia (Research) Rules 2012;
- there is no plagiarism or data falsification/fabrication in the thesis, and scholarly integrity is upheld as according to the Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-2013) and the Universiti Putra Malaysia (Research) Rules 2012. The thesis has undergone plagiarism detection software

Signature: _____ Date: _____

Name and Matric No.: Norasekin Bt Ab Rashid / GM02925

Declaration by Supervisory Committee

This is to confirm that:
- the research conducted and the writing of this thesis was under our supervision;
- supervision responsibilities as stated in the Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-2013) were adhered to.

Chairman of Supervisory Committee

Signature   :
Name   : Assoc. Prof. Dr. Jamil Bojei
Faculty   : Faculty of Economics and Management, UPM

Member of Supervisory Committee

Signature   :
Name   : Assoc. Prof. Dr. Azmawani Abd Rahman
Faculty   : Faculty of Economics and Management, UPM

Signature   :
Name   : Prof. Dr. Rafikul Islam
Faculty   : Kulliyah of Economics and Management Sciences, UIAM

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

LIST OF ABBREVIATIONS

FAMA	Federal Agriculture Marketing Authority
FSC	Food supply chain
FSCM	Food supply chain management
FTS	Food traceability system
GHP	Good Hygiene Practice
GMP	Good Manufacturing Practices
HACCP	Hazard analysis and critical control point
Hadith	Records of the actions and sayings of the Prophet Muhammad (SAW)
Halal	Lawful, permissible
Halalan Tayyiban	Dietary concept in Islamic law which refer to permissible and good for consumption or use
HALFEST	*Halal* Fiesta Malaysia
Haram	Unlawful, prohibited
HDC	*Halal* Industry Development Corporation
HFSCIn	*Halal* food supply chain integrity
HFSCPer	*Halal* food supply chain performance
HIEF	*Halal* industry environmental factors
HTSA	*Halal* traceability system adoption
IMP3	The 3rd Industrial Master Plan
ISO	International Standard Organization
JAKIM	Department of Islamic Development in Malaysia
KLIFF	Kuala Lumpur Islamic Financial Forum

MAHA	Malaysia Agriculture, Horticulture, and Agrotourism Show
MARDI	Malaysia Agricultural and Development Institute
MATRADE	Malaysia External Trade Development Corporation
MECD	Ministry of Entrepreneurship and Corporation
MIDA	Malaysian Industrial Development Authority
MIHAS	Malaysia International *Halal* Showcase
MITI	Ministry of International Trade and Industry
MNCs	Multinational Corporations
MOH	Ministry of Health
Quran	The book Muslims believe was revealed by Allah through the Angel Gabriel to Prophet Muhammad SAW, the Prophet of Islam
SC	Supply chain
SCM	Supply chain management
Shariah	Islamic law
SMEs	Small and Medium Enterprises
SME Corp	Small and Medium Enterprises Corporation
Tayyib	Good and pure
WHF	World *Halal* Forum
WIFE	World Islamic Economic Forum

CHAPTER 1

INTRODUCTION

1.1   An Overview

This chapter introduces the background of the study concerning on *Halal* issues, *Halal* food supply chain integrity, traceability system applied in *Halal* food companies, *Halal* industry environmental factors and the food supply chain performance. This chapter also details out the problem statement, overall objectives, and an overview of the conceptual framework. The discussion on the scope and justification for the significance of the study will also be presented in this chapter including the contribution of this study. The overall organization of the thesis wraps up this chapter.

1.2   Background of the Study

Halal issues have been conversed and have gained high attention by the former Prime Minister of Malaysia, Tun Dr. Mahathir Mohamad since early 2003 (Talib, Ali, & Jamaludin, 2008). According to Kettani (2010), the percentage of the world Muslim population has increased steadily from 17 per cent in 1950 and estimated to be 26 per cent by 2020. Quoting the sources from PEW Research Center (2013), the global Muslim population will be approximately 2.2 billion by 2030.

The *Halal* market has burst up and grown at tremendous rate (Zalina, 2008). According to Global Islamic Economy Report (2015), the worldwide spending on *Halal* food and beverages products has increased at 10.8 per cent to reach USD1.29 billion in 2013, corresponding to 17.7 per cent of the global expenditure. This expenditure is expected to grow to USD2.54 billion by 2019, equal to 21.2 per cent of global expenditure (Global Islamic Economy Report, 2015). Amongst the reason contributing to this market growth is due to the increasing value and diversity of the consumer market, combined with strong demographic trends across the world (Anne-Birte, 2007). In addition, the Islamic consumer market is the fastest growing in the world (Alam & Mohamed, 2011). This is because the *Halal* food consumption is one of the principles set by Islam to determine the level of faith and it is also act of worshipping Allah (Ghazali & Md. Sawari, 2014). Furthermore, *Halal* food has becomes as a standard of choice for both Muslims and non-Muslims (Nawai *et al.*, 2007). This revealed that the global *Halal* food demand is increasing rapidly consequently the whole *Halal* food market.

Conversely, the huge demand of *Halal* food products has led to the increase of supply for *Halal* certificate and logo (Nurulhuda *et al.*, 2009). In Malaysia, the Department of Islamic Development Malaysia (JAKIM) is the authority that issued the certification for *Halal* products (Badruldin *et al.*, 2012). JAKIM is entrusted with the responsibility to issue the *Halal* status for local products, foreign manufacturing and processing plants intending to export their *Halal* products to Malaysia (Arif & Sidek, 2015). Generally, Malaysia's *Halal* certification issued by JAKIM is highly

recognized and recommended in the international market due to its stringent criteria and is regarded as having a strong industrial and commercial set up to produce and market *Halal* products as well as having strong relationships with the major trading nations of the world, and strong government support (Badruldin, et al., 2012; Muhammad, Isa, & Kifli, 2009).

In addition, the Malaysian Standard entitled "*Halal* Food: Production, Preparation, Handling and Storage – General Guidelines (Second Revision)" (MS1500:2009) is being used by JAKIM as guidance when issuing the *Halal* certificate (Arif & Sidek, 2015). This standard was developed in accordance with International Standard Organization (ISO) methodologies and was the first *Halal* standard to be developed by a Muslim nation (Mukhtar, 2009). To strengthen its application, this standard is recommended to be used together with MS1480 and MS1514. MS1480 is the standard in food safety according to Hazard Analysis and Critical Control Point (HACCP) system, while the MS1514 is the Good Manufacturing Practice (GMP) for food (First Revision). Both standards cover issues of hygiene, sanitation and food safety aspects in the food processing and preparation chain and also consider the permissible sources of *Halal* food.

Furthermore, with the increase number of non-Muslims dominating the food industry, the status of *Halal* food has become doubtful (Arif & Sidek, 2015). This has lead to the barriers and misconceptions in producing *Halal* food. In this respect, many cases of questionable *Halal* food have been reported in the mass media recently. It seems that several suppliers and manufacturers did not realize the peculiarity in the process of handing *Halal* food (Arif & Sidek, 2015). The production of *Halal* food needs a very cautious understanding throughout the supply chain especially if a product has a complex collection of ingredients (i.e., animal or plant source) and processing aids (al-Mazeedi, Regenstein, & Riaz, 2013).

In addition, Muslims want assurance that the products they consume are a true manifestation of Islamic principles, and should be *Tayyib*, meaning wholesome and good (World Halal Forum, 2009). Thus, the *Halal* food supply chain integrity subject disembarks. According to Batu and Regenstein (2014), it is critical that *Halal* food be prepared in accordance with Islamic rules and that product integrity be maintained throughout the supply chain. Consequently, this will increase the importance of perceptive in factors ensuring the *Halal* food supply chain integrity (Zulfakar, Anuar, & Talib, 2014). Therefore, the adoption of *Halal* traceability system among *Halal* food manufacturers should be addressed due to the increasing demands for better *Halal* food supply chain among customers. This is crucial to diminish and to assure that contamination does not exist throughout the process in handling *Halal* food which is in accordance to Islamic principle.

1.3   Problem Statement

Halal is a *Quranic* word meaning lawful, allowed, and legal or that what is permitted by the lawgiver (Allah). *Halal* is clearly based on values, namely Islamic values (Zakaria & Abdul Talib, 2010). *Halal* has become one of the features being discussed especially in food production either in Muslim countries or non-Muslim countries due to the increasing demand from customers worldwide (Suhaiza *et al.*,

2010a; Malihe, Mohd, & Nizaroyani, 2013) and because of the complexity of the *Halal* food supply chain that includes the aspect of ethics, sustainability and human values (Milestad *et al.*, 2010).

Supply chain management (SCM) in food industry has become an important topic discussed at business schools. From an extensive literature search, it was apparent that most of the recent research done in food supply chain (FSC) focuses on *Halal* issues such as *Halal* in supply chain management (Tieman, 2011; Tieman, Jack, & Maznah, 2012), *Halal* food supply chain (Malihe, Mohd, & Nizaroyani, 2013; Suhaiza *et al.*, 2010a), *Halal* food supply chain integrity (Zulfakar, Anuar, & Talib, 2014; Zulfakar, Jie, & Chan, 2012) and *Halal* traceability in *Halal* food supply chain and *Halal* food production (Suhaiza *et al.*, 2010b; Zurina & Wan Siti Khadijah, 2012; Siti Zakiah *et al.*, 2011).

There are several issues that made Muslim consumers became aware about the status of *Halal* products that they consume. Among them are the issues of food ingredient, food cleanliness, *Halal* food mixing with non-*Halal* food in storage, distribution activities as well as the issue of poultry and meat slaughtering that does not comply with the *Shariah* principles (Omar & Jaafar, 2011). In addition, there are various issues and an increasing number of fraudulent cases such as *Halal* certification and physical contamination (Zulfakar, Jie, & Chan, 2012), *Halal* foods manufacturers do not comply with the regulations set by the Malaysia authorities (Suhaiza *et al.*, 2010b; Arif & Sidek, 2015), discovery of a dirty bread factory that uses *Halal* logo (Daros, 2006), the use of *Halal* logo on food produced from unslaughtered chicken (Berita Harian, 20th February 2008), and the status of catfish which fed with filth or *najs* and catfish fed with feed derived from pig organs in several ponds at Batu Gajah, Tronoh and Papan, Perak (JAKIM, 2006). Recently, on 23rd May 2014, Muslim consumers in Malaysia were shocked with the report by the Ministry of Health (MOH) that Cadbury Dairy Milk Hazelnut and Cadbury Dairy Milk Roast Almond were tested positive for traces of porcine DNA (*New Straits Times*, 5th June 2014).

These issues showed that although current *Halal* standards regulate food production, preparation, handling and storage towards some degree, it does not ensure that the product is *Halal* at the point of consumption (Tieman, 2006). As a result, Muslim consumers nowadays are not only concerned about their food ingredients whether it is *Halal* or not but also curious on the whole activities involved along the supply chain. According to Anir, Nizam, and Masliyana (2008), the Malaysian Muslim consumers are very much concerned about the authenticity of *Halal* food products claimed by food producers. However, according to Bonne and Verbeke (2008), Muslim consumers are lacking of information on supply chain and cannot reassure that no cross-contamination has taken place. Thus, to cope with the growing demand of *Halal* food, a comprehensive food supply chain approach needs to be adopted with the concept of *Halalan Tayyiban*.

As argued by Lada, Tanakinjal, and Amin (2009), Alserhan (2010), Ibrahim and Mokhtarudin (2010), Wilson and Liu (2010), and Tieman (2011), *Halal* needs a supply chain approach, where the value chain and its supply chain should be fully aligned (Christopher, 1998) to fulfill the promise of *Halal* to the end-customer that the food they consume is a subsequent to the Islamic principles. Furthermore, in

Halal food supply chain, the main goal is not only to ensure the customers satisfaction but also to ensure that the *Halal* status of the product remains intact throughout the whole process of the supply chain (Bahrudin, Illyas, & Desa, 2011).

Since the integrity of *Halal* food supply chain has become more essential than ever, the identification of *Halal* food supply chain integrity factors and the *Halal* traceability system implementation play the most important role to ensure the truthfulness of *Halal* food production. In accomplishing these objectives, the *Halal* traceability system has been used to strengthen the *Halal* food supply chain (Suhaiza *et al.*, 2010b) and to sustain the integrity of *Halal* product (Siti, Mohd, & Mohamad, 2011; Zulfakar, Anuar, & Talib, 2014). This is to avoid any misconception in the entire *Halal* food supply chain, hence to attain the *Halal* acceptance quality that will be recognized by other countries. In addition, *Halal* has been accepted as quality attribute where *Halal* refers to nature, origin and processing method of the food product, which entails similarities with organic foods and foods produced by taking animal welfare or sustainability issues into account (Darby & Karni, 1973; Grunert, 2005).

As such, the *Halal* food supply chain integrity has become an increasing concern (Suhaiza *et al.*, 2010a; Lam & Alhashmi, 2008; Zulfakar, Jie, & Chan, 2012; Zulfakar, Anuar, & Talib, 2014). There are several reasons why the *Halal* industry is increasingly engaged with the integrity of *Halal* food chains. First, *Halal* integrity issues are more likely to occur than before, because of increasing complexity of supply chain (Lam & Alhashmi, 2008) and focus on cost reduction in the logistics industry (Wilson & Liu, 2010). Second, the complexity of today's supply chain is making integrity issues harder to detect (Zalina, 2008; Talib, Ali, & Jamaludin, 2008; Shafie & Othman, 2004; Abdul, Ismail, Hashim, & Johari, 2009). Third, the consequences of *Halal* integrity issues in the supply chain have possibly become more costly than before for brand owners and retail chains to repair (Zakaria & Abdul Talib, 2010).

Although numerous studies have been conducted in *Halal* integrity and food supply chain integrity (Abdul & Hazlinda, 2011; Zulfakar, Anuar, & Talib, 2014; Russly & Nurrulhidayah, 2013; Ali *et al.*, 2014; Zulfakar, Jie, & Chan, 2012; Suhaiza *et al.*, 2010a), none had focused on identification of factors enhancing *Halal* food supply chain integrity within supply chain partners. According to Malihe *et al.* (2013), to ensure the integrity of *Halal* food production, managing its supply chain needs extra attention. Thus, this study aims to identify the factors enhancing *Halal* food supply chain integrity particularly with regard to supply chain partners such as supplier, manufacturer, control system and customer.

In addition, the integrity of *Halal* food should be monitored so that customers can satisfy with the authenticity of the *Halal* products. Therefore, the traceability can be used to trace the *Halal* status of a particular food product at every stage of the supply chain (Bahrudin, Illyas, & Desa, 2011; Zulfakar, Anuar, & Talib, 2014; Suhaiza *et al*., 2010b).

According to International Standard Organization - ISO 8402, the general definition of traceability is "the ability to trace the history, application or location of an entity by means of recorded identification" (Bertolini, Bevilacqua, & Massini, 2006;

4

Canavari *et al.*, 2010; Karlson *et al.*, 2013; Kelepouris, Pramatari, & Doukidis, 2007; Olsen & Aschan, 2010). Suhaiza *et al.* (2010b) added that traceability in the *Halal* industry is defined as a communication tool to ensure that information related to *Halal* food and products is available along the supply chain.

Furthermore, traceability has become a method of providing safer supplies and connecting producers and consumers. According to Zulfakar, Anuar, and Talib, (2014), a comprehensive and reliable traceability system in the *Halal* food supply chain can increase the *Halal* transparency and strengthen the *Halal* integrity. Suhaiza *et al.* (2010b) added that the *Halal* traceability system can also be used to strengthen the *Halal* food supply chain. However, there was no empirical study that focused specifically to show the relationship between *Halal* traceability system adoption and factors enhancing *Halal* food supply chain integrity.

Thus, to help bridge this gap in literature, this study attempts to examine to what extent the *Halal* traceability system adoption is relevant in enhancing the *Halal* food supply chain integrity particularly within supply chain partners. In addition, it is crucial to develop a more comprehensive conceptual framework of factors enhancing the *Halal* food supply chain integrity. Hence, this study is considered as a major attempt for contribution to the existing body of knowledge in the *Halal* food industries.

Furthermore, this study will also try to justify the significance between *Halal* industry environmental factors, *Halal* traceability system adoption and *Halal* food supply chain integrity on *Halal* food supply chain performance. Environmental factors are the general environment, or sometimes are referred as macroenvironment (Mohamed, Ann, & Yee, 2010), that directly or indirectly influence firms in an industry (Talib & Hamid, 2014). In addition, according to van der Vorst (2000), supply chain performance is the degree to which a supply chain fulfills end user requirements.

However, to optimize the *Halal* food industries supply chain, new indicators should be included in the performance measurement to ensure that the supply chains are not only efficient but also effective in protecting the *Halal* integrity and robust in its supply chain executions (Tieman, van der Vorst, & Maznah, 2012). Therefore, the measurement of the entire supply chain is important because measurement affects decision making and organizations in a *Halal* food supply chain depend on each other. Whereas, research on performance measurement in supply chain has received much attention, research on measuring performance in the *Halal* food supply chain has received little attention in the literature. Thus, the knowledge gap will be fulfilled in this study.

1.4   Objectives of the Study

From the above discussion, the objectives of the study have been articulated in the form of general and specific objectives that are linked to the problem statement of this study.

5

1.4.1 General Objective

In general, this study tries to examine the relationship between the *Halal* traceability system adoption and *Halal* industry environmental factors on *Halal* food supply chain performance through *Halal* food supply chain integrity. As such, this study also aims to investigate the factors enhancing the *Halal* food supply chain integrity particularly within supply chain partners. This will be dealt with accordingly in sub section 1.4.2 below.

1.4.1 Research Objectives (ROs)

Specifically, to make the study more explainable, the followings are specific research objectives of the study:

RO_1: To examine the relationship between *Halal* industry environmental factors (HIEF) and *Halal* traceability system adoption (HTSA).

RO_2: To determine the relationship between *Halal* industry environmental factors (HIEF) and *Halal* food supply chain integrity (HFSCIn).

RO_3: To investigate the relationship between *Halal* industry environmental factors (HIEF) and *Halal* food supply chain performance (HFSCPer) through *Halal* food supply chain integrity (HFSCIn).

RO_4: To determine the relationship between *Halal* traceability system adoption (HTSA) and *Halal* food supply chain integrity (HFSCIn).

RO_5: To examine the relationship between *Halal* traceability system adoption (HTSA) and *Halal* food supply chain performance (HFSCPer) through *Halal* food supply chain integrity (HFSCIn).

RO_6: To investigate the relationship between *Halal* food supply chain integrity (HFSCIn) and *Halal* food supply chain performance (HFSCPer).

To achieve the stated objectives above, this study proposed several research questions that need to be answered and the development of hypotheses to be discussed in the next session.

1.5 Research Questions (RQs)

The study is directed towards answering several research questions (RQs) concerning the *Halal* industry environmental factors (HIEF), *Halal* traceability system adoption (HTSA), *Halal* food supply chain integrity (HFSCIn), and *Halal* food supply chain performance (HFSCPer):

RQ_1: Does *Halal* industry environmental factors (HIEF) have a significant relationship towards *Halal* traceability system adoption (HTSA)?

RQ~2~: Does *Halal* industry environmental factors (HIEF) have a significant relationship towards *Halal* food supply chain integrity (HFSCIn)?

RQ~3~: Does *Halal* industry environmental factors (HIEF) have a significant relationship towards *Halal* food supply chain performance (HFSCPer) through *Halal* food supply chain integrity (HFSCIn)?

RQ~4~: Does *Halal* traceability system adoption (HTSA) has a significant relationship towards *Halal* food supply chain integrity (HFSCIn)?

RQ~5~: Does *Halal* traceability system adoption (HTSA) has a significant relationship towards *Halal* food supply chain performance (HFSCPer) through *Halal* food supply chain integrity (HFSCIn)?

RQ~6~: Does *Halal* food supply chain integrity (HFSCIn) has a significant relationship towards *Halal* food supply chain performance (HFSCPer)?

Table 1.1 lists the research questions and hypotheses (from Chapter 4) corresponding to the specific objectives, together with dimensions and analyses to be used.

7

Table 1.1: Research Objectives, Research Questions, Hypotheses, Dimensions, and Analysis

Research Objectives (RO)	Research Questions (RQ)	Hypotheses	Dimensions	Analyses

RO_1: To examine the relationship between *Halal* industry environmental factors (HIEF) and *Halal* traceability system adoption (HTSA).	RQ_1: Does HIEF have a significant relationship towards HTSA?	H_1: *Halal* industry environmental factors (HIEF) have a significant relationship on the degree of *Halal* traceability system adoption (HTSA).	• HIEF
			  ○ Political-legal
			  ○ Economic
			  ○ Socio-cultural
			  ○ Technological
			• HTSA
			  ➢ Supplier Traceability
			  ➢ Producer Traceability
			  ➢ Logistics Traceability
			  ➢ End User Traceability
				PLS-SEM Analysis

RO_2: To determine the relationship between HIEF and HFSCIn.	RQ_2: Does HIEF have a significant relationship towards HFSCIn?	H_2: *Halal* industry environmental factors (HIEF) have a significant relationship on the importance of *Halal* food supply chain integrity (HFSCIn).	• HIEF
			• HFSCIn
			  ○ Supplier level
			  ○ Manufacturer level
			  ○ Customer level
			  ○ Control system level
				PLS-SEM Analysis

RO_3: To investigate the relationship between HIEF and HFSCIn through HFSCPer.	RQ_3: Does HIEF have a significant relationship towards HFSCPer through HFSCIn?	H_{3a}: *Halal* industry environmental factors (HIEF) have a significant relationship on the *Halal* food supply chain performance (HFSCPer).
		H_{3b}: *Halal* industry environmental factors (HIEF) have a direct relationship on *Halal* food supply chain performance (HFSCPer) and indirect relationship on HFSCPer through *Halal* food supply chain integrity (HFSCIn).
			• HIEF
			• HFSCPer
			  ➢ Effectiveness perspectives
			    •Process quality
			    •Waste
			    •Efficiency
			• HFSCIn
				PLS-SEM Analysis
				- Mediating analysis

RO₄: To determine the relationship between HTSA and *Halal* food supply chain integrity (HFSCIn).	RQ₄: Does HTSA has a significant relationship towards HFSCIn?	H₄: *Halal* traceability system adoption (HTSA) has a significant relationship on the importance of *Halal* food supply chain integrity (HFSCIn).	• HTSA • HFSCIn	PLS-SEM Analysis

RO₅: To examine the relationship between HTSA and *Halal* food supply chain performance (HFSCPer) through HFSCIn.	RQ₅: Does HTSA has a significant relationship towards HFSCPer through HFSCIn?	H₅ₐ: *Halal* traceability system adoption (HTSA) has a significant relationship on the *Halal* food supply chain performance (HFSCPer).
		H₅ᵦ: *Halal* traceability system adoption (HTSA) has a direct relationship on *Halal* food supply chain performance (HFSCPer) and indirect relationship on HFSCPer through *Halal* food supply chain integrity (HFSCIn).
			• HTSA
			• HFSCPer
			  ➢ Effectiveness perspectives
			  •Process quality
			  •Waste
			  ➢ Efficiency Perspectives
			  ➢ Robustness
			• HFSCIn
				PLS-SEM Analysis
				- Mediating analysis

RO₆: To investigate the relationship between HFSCIn and HFSCPer.	RQ₆: Does HFSCIn has a significant relationship towards HFSCPer?	H₆: *Halal* food supply chain integrity (HFSCIn) has a significant relationship on *Halal* food supply chain performance (HFSCPer).	• HFSCIn • HFSCPer	PLS-SEM Analysis

Notes: Factors enhancing the *Halal* food supply chain integrity have been divided into supplier level, manufacturer level, control system level and customer level. Additional dimensions involved are *Halal* industry environment factors, *Halal* traceability system adoption, and *Halal* food supply chain performance that covered the whole research objectives and research questions. *Please refer Chapter 4 for the development of research hypotheses in this study.

9

1.8   Organization of the Thesis

This section outlines the organization of the whole thesis and contents for each chapter.

Chapter one is the introduction of the thesis. It explains the background of the study, problem statement, objectives of the study, research questions and the significance of the study. This chapter ends up with the overall organization of the thesis to make the research process clearer.

Chapter two deals with the overview, discussion and explanation pertaining to the food industry particularly on the *Halal* processed food industry in Malaysia. This chapter also reveals the discussion on challenges and strategies in the development of *Halal* industry.

Chapter three reviews the pertinent literature relating to the research undertaken. This chapter begins with an extensive discussion of the definition of *Halal* and followed by the literature relevant to the supply chain management in general and finally focused on the *Halal* food traceability, *Halal* industry environmental factors, *Halal* food supply chain integrity, and *Halal* food suplly chain performance.

Chapter four of this thesis explains the conceptual framework for the current study that is in line with the literature study. It also includes explanation of theories underlying the development of proposed research framework for the present study and the development of research hypotheses.

Chapter five discusses the methodology of the study. The discussions are mostly referring to the research paradigm, research design, sampling (design, size and procedure), data collection methods and questionnaire development. The selection of Partial Least Square (PLS) method as data analysis tool will be discussed in detail.

Chapter six provides quantitative data analysis of current study which includes preliminary analysis, measurement model assessment, structural model assessment and mediating analysis.

Chapter seven, which is the final chapter of the thesis, concludes the findings drawn from quantitative studies. This chapter also highlights the implications of the study for academics, practitioners, and policy makers, besides identify its limitations and future research avenues. All chapters are interconnected in order to meet the objectives of the study and contribute to the body of knowledge and practical applications for the industry of interest.

REFERENCES

Ab Talib, M. S., & Johan, M. R. (2012). Issues in halal packaging, a conceptual paper. *International Business and Management , 5* (2), 94-98.

Abd Aziz, A., Amin, M., & Isa, Z. (2010). The perception to choose Halal cosmetics products: An empirical study for Malaysian consumer. *6th International Conference on Business, Management and Economics .* Turkey: Yasar University.

Abdul Manaf, B., Hin, C. W., & Nurwahida, F. (2013). An analysis on the competitiveness of halal food industry in Malaysia: An approach of SWOT and ICT startegy. *Malaysia Journal of Society and Space 9 ,* 1-11.

Abdul, B., & Hazlinda, H. (2011). The Influences of Halal Integrity on Product Adaptation Strategy for Global Trade. *International Business Management , 5* (6), 421-426.

Abdul, M., Ismail, H., & Mustapha, M. (2013). Halal Food Certification: Case of Malaysian SME Entrepreneurs. *China-USA Business Review , 12* (2), 163-173.

Abdul, M., Ismail, H., Hashim, H., & Johari, J. (2009). Consumer decision making process in shopping for halal food in Malaysia. *8* (9), pp. 40-7.

Abdul-Matin, I. (2010). *Green Deen: What Islam Teaches about Protecting the Planet.* San Fransisco, CA: Berett-Koehler Publisher.

Adam, R. (2006, February 5).
 http://www.halaljournal.com/artman/publish/article_511.shtml.

Adams, I. A. (2011). Globalization: Explaining the dynamics and challenges of the ḥalāl food surge. *Intellectual Discourse , 19* (1), 123-145.

Adnan@Nasir, Z. S., & Ahmad, H. (2015). Innovation in Malaysian Food and Beverage Manufacturing. *International Journal of Management Research & Review , 5* (8), 604-612.

Ahmad, H., Ahmad, Fazullah, A., Borham, A., Hashim, H., & Razak, M. (2011). Halal Studies in Universities: A Way Forward to Manage Halal Business. *International Journal of Arts and Sciences Conference (IJAS2011) .*

Aitelmaalem, H., Breland, P., & Reynolds-Zayak, L. (2005). *Canadian Halal Meat Market Study.* Alberta Agriculture, Food and Rural Development.

Akbayrak, B. (2000). A comparison of two data collecting methods: Interviews and Questionnaires. *Journal of Education , 18*, 1-10.

Alam, S. S., & Mohamed, N. (2011). Applying the Theory of Planned Behavior (TPB) in Halal food purchasing. *International Journal of Commerce and Management , 21* (1), 8-20.

al-Ghazzali, A. H. (n.d.). *Ihya' "Ulum al-Din (v.2).* Beirut: Dar al-Ma'rifah.

Ali, M. H., Tan, K. H., & Makhbul, Z. M. (2012). Mitigating halal food integrity risk through supply chain integration. *Asia Pacific Industrial Engineering and Management System .*

Ali, M., Tan, K., Pawar, K., & Makhbul, Z. (2014). Extenuating food integrity risk through supply chain integration: the case of halal food. *Industrial Engineering & Management Science , 13* (2), 154-162.

al-Mazeedi, H., Regenstein, J. M., & Riaz, M. N. (2013). The issue of undeclared ingredients in halal and kosher food production: A focus on processing aids. *Comp Rev Food Sci Food Safety , 12*, 228-233.

al-Qaradawi, Y. (1989). *al-Halal wa al-Haram fi al-Islam.* Cairo: al-Maktab al-Islami.

al-Qaradawi, Y. (2002). *The Lawful and Prohibited in Islam.* Indianpolis: American Trust Publication.

al-Qurtubi, & al-Ansari, A. '. (n.d.). *Tafsir al-Qurtubi al-Jami' li Ahkam al-Quran (v.7).* Beirut: Dar al-Ma'rifah.

al-Qurtubi, A. '.-A. (n.d.). *Tafsir al-Qurtubi al-Jami' li Ahkam al-Quran (v.7).* Beirut: Dar al-Ma'rifah.

Alreck, P. R., & Settle, R. B. (1995). *The survey research handbook. 2nd ed.* Chicago: Irwin Professional Publishing.

Alserhan, B. (2010). On Islamic branding: brands as good deeds. *Journal of Islamic Marketing , 1* (2), 101-6.

al-Sharbini, S. a.-D.-K. (n.d.). *Mughni al-Muhtaj ila Ma'rifat Ma'ani Alfaz al-Minhaj (v.4).* Dimashq: Dar al-Fikr.

al-Suyuti, J. a.-D.-R.-D. (1990). *al-Dar al-Manthur (v.3).* Beirut: Dar al-Kutub al-'Ilmiyyah.

al-Tabari, & Jarir, A. J. (n.d.). *Tafsir al-Tabari (v.9).* Mesir: Dar al-Ma'arif.

al-Tabari, A. J. (n.d.). *Tafsir al-Tabari (v.9).* Mesir: Dar al-Ma'arif.

al-Zuhayli, W. (1969). *al-Wasit fi Usul al-Fiqh.* Dimasyq: al-Matbaʿah al-ʿIlmiyyah.

Ambali, A. R., & Bakar, A. N. (2013). Ḥalāl food and products in Malaysia: People's awareness and policy implications. *Intellectual Discourse , 21* (1), 7-32.

Ambali, A. R., & Bakar, A. N. (2014). People's Awareness on Halal Foods and Products: Potential Issues for Policy-Makers. *Procedia - Social and Behavioral Sciences , 121* (2014), 3-25.

Ami, D. S., Robert, F. D., & Brian, B. (1994). Cross-cultural translation: Methodology and validation. *Journal of Cross-Cultural Psychology , 25*, 501-524.

Anir, N. A., Nizam, M. N., & Masliyana, A. (2008). The users perceptions and opportunities in Malaysia in introducing RFID system for halal food tracking. *WSEAS Transactions on information science and applications , 5* (5), 843-852.

Anne-Birte, S. (2007). "Al Islami Foods, a leading provider of quality 'real halal' food products",. *World Halal Forum (WHF).* Dubai.

Aramyan, L., Ondersteijn, C., van Koten, O., & Oude Lansink, A. (2006). Performance Indicaors in Agri-food Production Chains. In Ondersteijn, *Quantifying the Agri-food Supply Chain* (pp. 47-64). Dordrecht: Springer.

Aramyan, L., Oude Lansink, A., van Vorst, J., & van Kooten, O. (2007). Performance measurement in agri-food supply chains: a case study. *Supply Chain Management: An International Journal , 12* (4), 304-315.

Arana, A., Soret, B., & Lasa, I. A. (2002). Meat traceability using DNA markers: application to the beef industry. *Meat science , 61*, 367-373.

Arif, S., & Sidek, S. (2015). Application of Halalan Toyyiban in the Standard Reference for Determining Malaysian Halal Food. *Asian Social Science , 11* (17), 116-129.

Ariff, M. M. (2004). *Malaysia, a Hub in the Making for Halal Food?* Malaysia: Ministry of International Trade and Industry (MITI).

Armstrong, J., & Overton, T. (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research , 14*, 396-402.

Arrow, K. (1971). *Essays in the Theory of Risk Bearing.* Chicago: Markham.

Ayupp, K., & Tudin, R. (2013). Malaysian Food Processing Industry: Strategies for Growth. *International Journal of Business and Social Science , 4* (16), 172-180.

Aziz, Y. A., & Chok, N. V. (2013). The Role of Halal Awareness, Halal Certification, and Marketing Components in Determining Halal Purchase Intention Among Non-Muslims in Malaysia: A Structural Equation Modeling Approach. *Journal of International Food & Agribusiness Marketing , 25* (1), 1-23.

Babbie, E. R. (2007). *The practice of social research (11th ed.).* Belmont, CA: Wadsworth Thomson Learning, cop.

Babbie, E. (1990). *Survey research methods. 2nd ed.* Belmont, Calif: Wadsworth.

Badruldin, B., Mohamed, Z., Sharifuddin, J., Rezai, G., Abdullah, A. M., Latif, I. A., et al. (2012). Clients' perception towards JAKIM service quality in Halal certification. *Journal of Islamic Marketing , 3* (1), 59-71.

Bahrudin, S., Illyas, M., & Desa, M. (2011). Tracking and tracing technology for halal product integrity over the supply chain. *2011 International Conference on Electrical Engineering and Informatics.* BAndung, Indonesia.

Bailey, J., & Pearson, S. (1983). Development of a tool for measuring and analyzing computer user satisfaction . *Management Science , 29* (5), 530-545.

Barclay, D., Higgins, C., & Thompson, R. (1995). The Partial Least Squares (PLS) approach to causal modeling: Personal computer adoption and use as an illustration. *Technology Studies , 2* (2), 285-354.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research:Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology , 51*, 1173-1182.

Batchelor, D. A. (2015). Significant Events and Developement. *The World Halal Summit and 8th World Halal Conference* (pp. 427-429). Kuala Lumpur: IAIS.

Batu, A., & Regenstein, J. M. (2014). Halal Food Certification Challenges and Their Implications for Muslim Societies Worldwide. *International Periodical For The Languanges, Literatures and History of Turkish or Turkic , 9* (11), 111-130.

Baumol, W., Litan, R., & Schramm, C. (2009). *Good Capitalism, Bad Capitalism, and the Economics of Growth and Prosperity.* New Haven CT: Yale University Press.

Beamon, B. M. (1999). Measuring supply chain performance. *International Journal of Operations & Production Management , 19* (3), 275-292.

Beck, K. A. (2005). Ethnographic decision tree modeling: A research method for counseling psychologists. . *Journal of Counseling Psychology , 52*, 243–249.

Beebe, K., Pell, R., & Seasholtz, M. (1998). *Chemometrics: A practical guide .* New York: John Wiley.

Bernama. (2014, August 28). Malaysia set to become global halal hub by 2020. Malaysia. Retrieved from

http://www.themalaymailonline.com/money/article/malaysia-set-to-become-global-halal-hub-by-2020

Bertolini, M., Bevilacqua, M., & Massini, R. (2006). FMECA approach to product traceability in food industry. *Food Control , 17*, 137-145.

Bhagwat, R., & Sharma, M. (2007). Performance measurement of supply chain management: a balnced scorecard approach. *Computer and Industrial Engineering , 35* (1), 43-62.

Bigliardi, B., & Bottani, E. (2010). Performance measurement in thefood supply chain: a balanced scorecard approach. *Facilities , 28* (5/6), 249-260.

Blake, R. (1989). Integrating Quantitative and Qualitative Methods in Family Research. *Families Systems and Health , 7*, 411–427.

Bock, G. W., Zmund, R. W., & Kim, Y. G. (2005). Behavioural intention formation in knowledge sharing: Examining the roles of extrinsic motivators, social-psychological forces, and organizational climate. *MIS Quarterly , 29* (1), 87-111.

Bonne, K., & Verbeke, W. (2008). Religious values informing halal meat production and the control and delivery of halal credence quality. *Agriculture and Human Values , 25* (1), 35-47.

Bosona, T., & Gebresenbet, G. (2013). Food traceability as an integral part of logistics management in food and agricultural supply chain. *Food Control , 33*, 32-48.

Bourque, L. B., & Fielder, E. P. (1995). *How to conduct self-administered and mail surveys.* Thousand Oaks, CA: Sage.

Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology , 1*, 185-216.

Brislin, R. W., Lonner, W. J., & Throndike., R. M. (1973). *Cross-cultural research methods.* New York: John Wiley & Sons.

Brunton, G., Ahlstrom, D., & Li, H. (2010). Institutional theory and entrepreneurship: where are we now and where do we need to move in the future? . *Entrepreneur Theory Practice* , 421-440.

Bryman, A., & Bell, E. (2007). *Business research methods (2nd ed.).* Ney York: New York Oxford University Press Inc.

Byrne, B. M. (2001). *Structural equation modeling with AMOS: Basics concepts, applications and programming.* Mahwah,NJ: Lawrence Erlbaum Associates.

Campbell, D., & Stanley, J. (1966). *Experimental and quasi-experimental designs for research.* Chicago: Rand McNally College Pub. Co.

Canavari, M., Centonze, R., Hingley, M., & Spadoni, R. (2010). Traceability as part of competitive strategy in the fruit supply chain. *British Food Journal , 112* (2), 171-186.

Caracelli, V. J., & Greene, J. C. (1993). Data analysis strategies for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis , 15*, 195–207.

Center, T. (2011). *The Future of the Global Muslim Population - Projections for 2010-2030.* Washington D.C.: PEW Research Center's Forum on Religion and Public Life.

Champman, D. W., & Carter., J. F. (1979). Translation procedures for the cross cultural use of measurement instruments. *Educational Evaluation and Policy Analysis , 1*, 71-76.

Cherryholmes, C. H. (1992). Notes on pragmatism and scientific realism. *Educational Researcher , 14*, 13-17.

Chia, A., Goh, M., & Hum, S. (2009). Performance measurement in supply chain entities: balanced scorecard perspectives. *Benchmarking: An International Journal , 16* (5), 605-620.

Chin, W. W. (2010). How to write up and report PLS analyses. In C. H. Vinzi, *Handbook of Partial Least Squares* (pp. 655-690). New York Springer.

Chin, W. W. (1998). The partial least squares approach to structural equation modelling. In Marcoulides, *Modern Methods for Business Research.* Mahwah: Lawrence Erlbaum Associates.

Chin, W. W., & Newsted., P. R. (1999). Structural equation modeling analysis with small samples using Partial Least Squares. In R. H. Hoyle, *Statistical strategies for small sample research* (pp. 307-341). California: Sage Publications.

Chin, W. W., Marcolin, B. L., & Newsted, P. P. (2003). A Partial Least Squares Latent Variable Modeling Approach for Measuring Interaction Effects: Results from a Monte Carlo Simulation Study and an Electronic-Mail Emotion/Adoption Study. *Information Systems Research , 14* (2), 189-217.

Christopher, M. (1998). *Logistics and Supply Chain Manegement- Strategies for Reducing Cost and Improving Service.* London: Financial Times Professional Limited.

Church, A. H. (1993). Estimating the effect of incentives on mail survey response rates: A meta-analysis. *Public Opinion Quarterly , 57*, 62-79.

Churchill, G. A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research , 16* (1), 64-73.

Churchill, G. A. (1995). *Marketing research methodological foundation. 6th ed.* Orlando,Florida: The Dryden Press.

Churchill, G. A., & Iacobucci, D. (2005). *Marketing Research: Methodological Foundations (9th ed.).* Mason: Thomson/South Western.

Clarke, A. (1999). *Evaluation research: An introduction to principles, methods and practice.* Thousands Oaks, CA: Sage Publication.

Cohen, J., & Cohen., P. (1983). *Applied multiple regression/correlation analysis for the bahavioral sciences. 2nd ed. .* Hillsdale,NJ: Erlbaum.

Cooper, D. R., & Schindler, P. S. (2008). *Business research methods. 10th ed. .* New York: McGraw-Hill.

Cooper, D. R., & Schindler, P. S. (2003). *Business research methods. 8th ed.* New York: McGraw Hill.

Cooper, M., & Ellram, L. (1993). Characteristics of supply chain management and the implication for purchasing and logistics strategy. *The International Journal of Logistics Management , 4* (2), 13-24.

Creswell. (1999). Mixed-Method Research: Introduction and Application. In *Handbook of educational policy* (pp. 455-472). San Diego, CA: Academic Press.

Creswell, J. W. (2002). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (2nd ed.).* San Diego: Sage Publications.

Creswell, J. W. (2009). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (3rd ed.).* Thousands Oaks, California: Sage Publications Inc.

Creswell, J. W. (2003). *Research Design: Quantitative, Qualitative, and Mixed Methods approaches (2nd ed.).* Thousand Oaks, CA: Sage.

Creswell, J. W., & Plano Clark, V. L. (2007). *Designing and conducting mixed methods research.* Thousand Oaks, CA: Sage.

Creswell, J. W., & Plano Clark, V. L. (2008). *The Mixed Methods Reader.* Thousand Oaks, CA: Sage.

Creswell, J. W., Plano Clark, V. L., Gutmann, M. L., & Hanson, W. E. (2003). Advanced mixed methods research designs. In T. &. (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 209-240). Thousand Oaks, CA: Sage.

Crotty, M. (1998). *The Foundations of Social Research: Meaning and Perspective in the Research Process.* London: Sage.

Daft, R. (1998). *Organization Theory and Design* (6th ed.). Ohio: South Western College Publishing.

Darby, M., & Karni, E. (1973). Free competition and the optimal amount of fraud. *Journal of Law and Economics , 16*, 67-88.

Daros, R. (2006, September 8). High 5 Gets Low Marks for Hygiene. (M. Mail, Ed.) Nilai, Negeri Sembilan, Malaysia. Retrieved from http://www.muslimconsumer.org.my

Daughtry, D., & Kunkel, M. A. (1993). Experience of depression in college students: A concept map. *Journal of Counseling Psychology , 40*, 316–323.

De Vaus, D. A. (1995). *Surveys in social research. 5th ed. .* St Leonards, NSW : Allen and Unwin.

Denscombe, M. (2008). Communities of practice: A research paradigm for the mixed methods approach. *Journal of Mixed Methods Research , 2*, 270–283.

Dillman, D. A. (2007). *Mail and internet surveys: The tailored design method. Second ed. .* New Jersey: : John Wiley & Sons.

Doney, P. M., & Cannon, J. P. (1997). An examination of the nature of trust in buyer-seller relationships. *Journal of Marketing , 61*, 35-51.

Donnelly, K., & Olsen, P. (2012). Catch to landing traceability and the effects of implementation- a case study from the Norwegian white fish sector. *Food Control , 27*, 228-233.

Duncan, R. (1972). Characteristics of organizational environments and perceived environmental uncertainty. *Administrative Science Quarterly , 17* (3), 313–327.

Economic and Policy Planning Division. (2013). In *Guideline for New SME Definition.*

Ellram, L., & Cooper, M. (1990). Supply chain management, partnerships and the shipper-third party relationship. *The International Journal of Logistics Management , 1* (2), 1-10.

Engelseth, P. (2009). Food product traceability and supply network integration. *Journal of Business and Industrial Marketing , 24* (5), 421-430.

Estampe, D., Lamouri, S., Paris, J., & Brahim-Djelloul, S. (2010). A framework for analysing supply chain performance evaluation models. *International Journal of Production Economics .*

Evans, A. (2011). Towards a Halal economy: the power of values in global markets. *The Halal Journal ,* 26-28.

Fattahi, F., Nookabadi, A. S., & Kadivar, M. (2013). A model for measuring the performance of the meat supply chain. *British Food Journal , 115* (8), 1090-1111.

141

Folinas, D., Manikas, I., & Manos, B. (2006). Traceability data management for food chains. *British Food Journal , 108* (8), 622-633.

Fornell, C., & Bookstein, F. (1982). Two structural equation models: LISREL and PLS applied to consumer exit-voice theory. *Journal of Marketing Research , 19* (4), 440-452.

Fornell, C., & Cha, J. (1994). Partial least squares. In R. P. Bagozzi, *Advanced Methods of Marketing Research* (pp. 52-78). Cambridge, MA: Blackwell Business.

Fornell, C., & Larcker, D. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research , 18* (1), 39-50.

Frankfort-Nachmias, C., & Nachmias, D. (1992). *Research methods in the social sciences. 4th ed.* New York: St. Martin's Press.

Frazer, L., & Lawley, M. (2000). *Questionnaire design and administration.* Brisbane, Australia: John Wiley & Sons.

Fuller, M. A., & Hardin, A. M. (2006). Efficacy in technology-mediated distribution teams. *Journal of MAnagement Information Systems , 23* (3), 209-235.

Ganesan, S. (1994). Determinants of long-term orientation in buyer-seller relationships. *Journal of Marketing , 58*, 1-19.

Gefen, D., Straub, D., & Boudreau, M. (2000). Structural equation modelling and regression: Guidelines for research practice. . *Communication of the Association for Information Systems , 4* (7), 2-77.

Ghazali, M. A., & Md. Sawari, S. S. (2014). Kajian Perbandingan Piawaian Halal antara Malaysia dan Negara Brunei. *Social Sciences Postgraduate International Seminar* .

Global Islamic Economy Report. (2015). *State of Global Islamic Economy Report (2014-2015).* Dubai: Thomson Reuters; Dinar Standard.

Glover, J., Champion, D., Daniels, K., & Dainty, A. (2014). An institutional theory perspective on sustainable practices across the dairy supply chain. *International Journal Production Economics , 152*, 102-111.

Golan, E., Krissoff, B., Kuchler, F., Calvin, L., Nelson, K., & Price, G. (2004). *Traceability in U.S. food supply: Economic theory and industry studies.* USDA/Economic Research Service: Agricultural Economic Report [830].

Goodyear, R. K., Tracey, T. J., Claiborn, C. D., Lichtenberg, J. W., & Wampold, B. E. (2005). Ideographic concept mapping in counseling psychology research: Conceptual overview, methodology, and an illustration . *Journal of Counseling Psychology , 52*, 236-242.

Govil, P. M., & Proth, P. J. (2002). *Supply Chain DEsign and Management.* Elsevier Inc.

Graham, J. W., Hofer, S. M., Donaldson, S. L., MacKinnon, D. P., & Schafer, J. L. (1997). Analysis with missing data in prevention research. In M. W. K. Bryant, *The science of prevention: Methodological advances from alcohol and substance abuse research* (pp. 325-366). Washington, DC: American Psychological Association.

Green, S., & Akey, N. S. (1997). *Using SPSS for Windows: Analyzing and Understanding Data.* New Jersey: Prentice Hall.

Greene, J. C., & Caracelli, V. J. (1997). *Advances in mixed-method evaluation: The challenges and benefits of integrating diverse paradigms (New Directions for Evaluation, No. 74).* San Francisco: Jossey-Bass.

Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis , 11* (3), 255-274.

Gruen, T. (1997). Relationship marketing: the route to marketing efficiency and effectiveness. *Business Horizons , 40* (6), 32-38.

Grunert, K. (2005). Food quality and safety: Consumer perception and demand. *European Review of Agricultural Economic , 32*, 369-391.

Guba, E., & Lincoln, Y. (1994). Competing paradigms in qualitative research. In D. &. (Eds.), *Handbook of Qualitative Research* (pp. 105-117). Thousand Oaks, California: Sage Publications, Inc.

Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis. 5th ed.* New Jersey: Prentice-Hall International,Inc.

Hair, J. F., Bush, R. B., & Ortinau, D. J. (2003). *Marketing research within a changing information environment.* New York,NY: McGraw-Hill.

Hair, J. F., Hult, G. T., Ringle, C. M., & Sarstedt, M. (2013). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM).* US:America: SAGE Publications, Inc.

Hair, J., Black, W., Babin, B., & Anderson, R. (2010). *Multivariate data analysis.* Upper Saddle River: Prentice Hall.

Hair, J., Ringle, C., & Sarstedt, M. (2013). Editorial Partial Least Squares Structural Equation Modeling: Rigorous Applications, BetterResults and Higher Acceptance. *Long Range Planning , 46*, 1-12.

Hair, J., Ringle, C., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice , 19* (2), 139-151.

Hakansson, H., & Snehota, I. (1995). *Developing relationships in business network.* London: Routledge.

Halal Industry Development Corporation. (2008). Retrieved from http://www.hdcglobal.com/publisher/about/2008

Hall, D. (2010). Food with a visible face: traceability and the public promotion of private governance in the food system. *Geoforum , 41*, 826-835.

Hanson, W. E., Creswell, J. W., Plano Clark, V. L., Petska, K. P., & Creswell, J. D. (2005). Mixed methods research designs in counseling psychology. *Journal of Counseling Psychology , 52* (2), 224-235.

Harian, B. (2008, February 20). Pembekal Ayam Tak Disembelih Disaman.

Hashim, A. H., & Othman, M. N. (2011). Halal food consumption: A comparative study between Arab Muslims and Non- Arab Muslims consumers in Malaysia. *Australian and New Zealand Marketing Academy Conference.* Perth.

Hassan, H. (2013). *Influences of Halal product integrity and Halal industry macro-environments on marketing program adaptation and export performance among Malaysian export firms.* Selangor: Universiti Putra Malaysia.

Hatch, M. (1997). *Organization Theory: Modern, Symbolic and Postmodern Perspectives.* Oxford: Oxford University Press.

Hazen, B. T., & Byrd, T. A. (2012). Toward creating competitive advantage with logistics information technology. *International Journal of Physical Distribution & Logistics Management , 42* (1), 8-35.

Helm, S., Eggert, A., & Garnefeld, I. (2009). Modelling the impact of corporate reputation on customer satisfaction and loyalty using PLS. In V. V. Esposito, W. W. Chin, J. Hensesler, & H. Wang, *Handbook of Partial Least Squares: Concepts, Methods, and Applications.* Berlin: Springer.

Henseler, J., Ringle, C., & Sinkovics, R. (2009). The use of Partial Least Squares path modeling in International Marketing. *International Marketing , 20*, 277-319.

Heyder, M., Theuvsen, L., & Hollmann-Hespos, T. (2012). Investment in tracking and tracing systems in the food industry: a PLS analysis. *Food Policy , 37*, 102-113.

Hinrichs, C., & Lyson, T. (2008). *Remaking the North American Food System: Strategies for Sustainability.* Lincoln, NE: University of Nebraska Press.

Hirsch, P. (1975). Organizational effectiveness and the institutional environment. *Adm. Sci. Q. , 20* (3), 327-344.

Hobbs, J. E., Bailey, D. V., Dickinson, D. L., & Hanghiri, M. (2005). Traceability in the Canadian red meat sector: do customer care? *Canadian Joural of Agricultural Economics , 53*, 47-65.

Hodge, B., Anthony, W., & Gales, L. (1996). *Organization Theory: A Strategic Approach* (5th ed.). New Jersey: Prentice-Hall.

Horst, P. (1968). *Personality: Measurement of dimensions.* San Francisco: Jossey-Bass.

Huang, W. T., Liu, C. C., & Hsu, Y. H. (2008). Consumer Perception of Rice Traceability for Three Metropolitans in Taiwan. *Journal of Foods Products Marketing .*

Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: a review of four recent studies. . *Strategic Management Journal , 20* (2), 195–204.

Hussey, J., & Hussey, R. (1997). *Business research: A practical guide for undergraduate and postgraduate students.* London: Macmillan Press.

Ibn 'Ashur, M. a.-T. (1984). *Tafsir al-Tahrir wa al-Tahrir wa al-Tanwir (v.6).* Tunisia: al-Dar al-Tunisi.

Ibn Hazm, A. M. (1983). *al-Ihkam fi Usul al-Ahkam, v. 3. .* Beirut: Dar al-Afaq al-Jadidah.

Ibn Manzur, J. a.-D.-A. (n.d.). *Lisan al-'Arab, v. 4.* Mesir: Dar al-Misriyyah li al-Ta'lif wa al-Tarjamah.

Ibrahim, H., & Mokhtarudin, M. (2010). *Fraudulent quality labelling: case of halal labelling.* China-USA Business Review.

Ik-Whan, G., & Taewon, S. (2005). Trust, commitment and relationships in supply chain management: a path analysis. *Supply Chain Management: An International Journal , 10* (1), 26-33.

IMP3. (2006). *Third Industrial Master Plan 2006-2020 Malaysia Towards Global Competitiveness.* Kuala Lumpur: Percetakan National Malaysia Berhad, Ministry of International Trade and Industri Malaysia.

Ismail, A., & Laidey, N. M. (2014). Clients, Consumers and Customers' Perception on Halal Implementation in Small and Medium Enterprises (SMEs) in Brunei. *The International Journal of Business & Management , 2* (10), 35-40.

Jaafar, H. S., Endut, I. R., Faisol, N., & Omar, E. N. (2011). Innovation in logistics services - halal logistics. *16th International Symposium and Logistics (ISL),* (pp. 844-851). Berlin, Germany.

Jais, A. S. (2015). *Halal in Mainstream Education: Where are we now and what the future holds for halal education?* Retrieved from Academia: Http://academia.edu/6150011/HALAL_IN_MAINSTREAM_EDUCATION_WHERE_ARE_WE_NOW_AND_WHAT_THE_FUTURE_HOLDS_FOR_HALAL_EDUCATION

JAKIM. (2012, February 10). *Department of Islamic Development Malaysia JAKIM's Official Website*. Retrieved 2012, from http://www.islam.gov.my/english/index.html

JAKIM. (2006). Status Kesucian Ikan yang Diberi Makanan Tidak Halal. Retrieved December 24, 2012, from http://www.e-fatwa.gov.my/fatwa-kebangsaan/status-kesucian-ikan-yang-diberi-makanan-tidak-halal.

Jamaludin, M., Ramli, A., Abdul Latif, M., & Bahli, S. (2011). Role of Halal Training Institutes in the Development of Halal Education in Malaysia. Retrieved December 12, 2013, from Http://www.academia.edu

Jayyib, S. A. (1998). *al-Qamus al-Fiqhi Lughatan wa Istilahan.* Beirut: Dar al-Fikr.

Jennings, P., & Zandbergen, P. (1995). Ecologically sustainable organizations: an institutional approach. *Academic Management Review , 20* (4), 1015-1052.

Jensen, M., & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics , 3*, 305-360.

John, P., John, E., Knemeyer, A. M., & Vijayaraghavan, T. (2015). Implementing supply chain technologies in emerging markets: an institutional theory perspective. *Journal of Supply Chain Management , 51* (1), 5-26.

Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: a research paradigm whose time has come. *Educational Researcher , 33* (7), 14-26.

Junaini, S. N., & Abdullah, J. (2008). MyMobiHalal 2.0: Malaysian mobile halal product verification using camera phone barcode scanning and MMS. *International Conference on Computer and Communication Engineering, 2008. ICCCE 2008.* (pp. 528-532). IEEE.

Karkkainen, M. (2003). Increasing efficiency in the supply chain for short shelf life goods using RFID tagging. *International Journal of Retail & Distribution Management , 31* (10), 529-536.

Karlson, K. M., Dreyer, B., Olsen, P., & Elvevoll, E. O. (2013). Literature review: does a common theoretical framework to implement food traceability exist? *Food Control , 32* (2), 409-417.

Kauppi, K. (2013). Extending the use of institutional theory in operations and supply chain management research. *International Journal of Operations & Production Management , 33* (10), 1318-1345.

Kelepouris, T., Pramatari, K., & Doukidis, G. (2007). RFID-enabled traceability in the food supply chain. *Industrial Management and Data Systems , 107* (2), 183-200.

Kent, R. (2001). *Data construction and data analysis for survey research.* Palgrave,New York.

Ketchen Jr, D., & Hult, G. (2006). Bridging organiztaion theory and supply chain management: The case of best value supply chain. *Journal of Operation Management , 25* (2007), 573-580.

Kettani, H. (2010). World Muslim Population: 1950-2020. *International Journal of Environmental Science and Development (IJESD)* , 127-165.

Khalid, A. (2015, April 2). Halal Industry estimated at US\$ 700 billion - World Halal Summit 2015 Malaysia. Kuala Lumpur. Retrieved from http://muslimmirror.com/eng/halal-industry-estimated-at-us-700-billion-world-halal-summit-2015-malaysia/

Khan, N. (2009). *Special report: Halal logistics.* Retrieved 09 19, 2011, from www.arabiansupplychain.com/article-385-special-report-halal-logistics/

Kher, S., Frewer, L., De Jonge, J., Wertholt, M., Davies, O., & Luijckx, N. (2010). Experts' perspectives on the implementation of traceability in Europe. *British Food Journal , 112* (2), 261-274.

Kim, M. T., & Han, H. R. (2004). Cultural considerations in research instrument development. In M. F.-S. Olsen, *Instruments for clinical health care research, ed.* (pp. 73-81). Boston: Jones & Bartlett.

Kimura, A., Wada, Y., Tsuzuki, D. G.-i., & Dan, I. (2008). Consumer valuation of packed foods: Interactive effects of amount and accessibilty of information. *Appetite , 51*, 628-634.

Kitchenham, A. B., & Pfleeger, L. S. (2002). Principles of survey research: Part 3: Constructing a survey instrument. ACM SIGSOFT Software Engineering Notes.

Kline, R. B. (2005). *Principles and practice of structural equation modelling. 2nd ed. .* New York: The Guilford Press.

Kothari, C. (2004). *Research Methodology: Methods and Techniques (2nd ed.).* Delhi: New Age International Publishers.

Krysan, M., Schuman, H., Scott, L., & Beatty, P. (1994). Response Rates and Response Content in Mail versus face-to-face surveys. *Public Opinion Quarterly , 58*, 381-399.

Kutner, J. S., Steiner, J. F., Corbett, K. K., Jahnigen, D. W., & Barton, P. L. (1999). Information needs of terminal illness. *Social Science and Medicine , 48*, 1341-1352.

Kwon, W., & Suh, T. (2004). Factors Affecting the Level of Trust and Commitment in Supply Chain Relationships. *Journal of Supply Chain Management , 40* (2), 1-11.

La Londe, B. (2002). Who Can You Trust These Days? *Supply Chain Management Review, May-June* , 9-10.

La Londe, B., & Masters, J. (1994). Emerging Logistics Strategies: Blueprints for the Next Century. *International Journal of Physical Distribution & Logistics Management , 24* (7), 35-47.

Lada, S., Tanakinjal, G. H., & Amin, H. (2009). Predicting intention to choose halal product using theory of reasoned action. *International Journal of Islamic and Middle Eastern Finance and Management , 2* (1), 66-76.

Lai, K., Wong, C., & Cheng, T. (2006). Institutional isomorphism and the adoption of information technology for supply chain management. *Computer Ind. , 57* (1), 93-98.

Lam, Y., & Alhashmi, S. (2008). Simulation of halal food supply chain with certification system: a multi-agent system approach. *PRIMA'08: Proceedings of the 11th Pacific Rim International Conference on Multi-agents: Intelligent Agents and Multi-agent System.* Hanoi, Vietnam.

Lambert, D., Stock, J., & Ellram, L. (1998). *Fundamentals of Logistics Management.* Boston: McGraw Hill.

Lawrence, P., & Lorsch, J. (1967). *Organization and Environment.* Cambridge, MA: Harvard University Press.

Lee, H. (2004). The triple A supply chain. *Harvard Business Review , 82* (10), 102–112.

Levinson, D. R. (2009). *Traceability in the food supply chain.* Department of Health and Human Services of USA.

Lewis, B., Templeton, G., & Byrd, T. (2005). A methodology for construct development in MIS research. *European Journal of Information Systems , 14*, 388-400.

Liao, P., Chang, H., & Chang, C. (2011). Why is the food traceability system unsuccessful in Taiwan? Empirical evidence from a national survey of fruit and vegetable farmers. *Food Policy , 36*, 686-693.

Liu, H., Kerr, W., & Hobbs, J. (2012). A review of Chinese food safety strategies implemented after several food safety incidents involving export Chinese aquatic products. *British Food Journal , 114* (3), 372-386.

Lodhi, A. (2009). *Understanding Halal Food Supply Chain.* London: HFRC UK Ltd.

148

Lohmöler, J. B. (1989). *Latent Vraiable Path Modeling with Partial Least Squares.* Heidelberg: Physica-Verlag.

Lu, H., Trienekens, J., & Omta, S. (2006). Does guanxi matter for vegetable supply chains in China?A case study approach. In S. O. J Bijman, *International agri-food chains and networks: Management and organization* (pp. 31-47). Wageningen, The Netherlands: Wageningen Academic Publishers.

Luckas, B., Hair, J., & Ortinau, D. (2004). *Marketing research.* North Ryde, N.S.W: McGraw-Hill.

Maheran, N. M., & Bidin, C. F. (2009). Positioning Malaysia as Halal- hub: Integration Role of Supply Chain Strategy and Halal Assurance. *Asian Social Science Journal , 5* (7), 44-52.

Malaysian Investment Development Authority (MIDA). (2011, January). *http://www.mida.gov.my/env3/index.php?page=food-industries.* Retrieved from http://www.mida.gov.my.

Malhotra, Y., & Galletta, D. (1998). An assessment of survey research in POM: from constructs to theory . *Journal of Operations Management , 16* (4), 403-423.

Malihe, M., Mohd, N., Nizaroyani, S., & Che Rosmawati, C. (2013). Lean Supply Chain Practices in the Halal Food. *International Journal of Lean Six Sigma , 4* (4), 389-408.

Man, Y. C. (2007). Malaysia Halal Hub Opportunities. *4th Asian Livestock & Feed Industry Conference.*

Manos, B., & Manikas, I. (2010). Traceability in the Greek fresh produce sector: drivers and constraints. *British Food Journal , 112* (6), 640-652.

Marcoulides, G., Chin, W., & Saunders, C. (2009). A critical look at Partial Least Square Modeling. *MIS Quarterly , 33* (1), 171-175.

Mariam, A. (2006). Halal Certification and Import Requirements in Malaysia. *2nd International Halal Food Conference.* Amsterdam, Netherlands.

Market Indicator Report. (2011). *Global Pathfinder Report: Halal Food Trends.* Canada: International Market Bureau.

Maxcy, S. J. (2003). Pragmatic threads in mixed methods research in the social sciences: the search for multiple modes of inquiry and the end of the philosophy of formalism. . In T. &. (Eds), *Handbook of Mixed Methods in Social and Behavioral Research.* Thousand Oaks, CA: Sage.

McCelland, S. (1994). Training needs assessment data-gathering methods: Part 4, survey questionnaire. . *Journal of European Industrial Training , 18* (5), 22-26.

McMeekin, T., Baranyi, J., Bowman, J., Dalgaard, P., Kirk, M., & Ross, T. (2006). Information systems in food safety management. *International Journal of Food Microbiology , 112*, 181-194.

Mentzer, J. T., DeWitt, W., Keebler, J. S., Min, S., Nix, N. W., Smith, C. D., et al. (2001). Defining supply chain management. *Journal of Business logistics , 22* (2), 1-25.

Mertens, D. M. (2003). Mixed methods and the politics of human research: The transformative-emancipatory perspective. In A. T. (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 135–164). Thousand Oaks, CA: Sage.

Meyer, J., & Rowan, B. (1977). Institutionalized organizations: formal structure as myth and ceremony. *Am. Journal Sociol , 83* (2), 340-363.

MIDA. (2012). *Food Industry.* Retrieved 5 19, 2014, from http://www.mida.gov.my: http://www.mida.gov.my/env3/food_industry

Miles, R., & Snow, C. (1974). *Fit, Failure, and the Hall of Fame.* New York: Free Press.

MITI. (2012). *http://www.miti.gov.my/cms/index.jsp.* Retrieved from http://www.miti.gov.my.

Mohamed, Z. A., Ann, H. J., & Yee, W. F. (2010). *Strategic Management.* Selangor: Oxford Fajar.

Mohammad, M. H. (1993). *Islamic Dietry Concepts and Practices. .* Chicago: The Islamic Food and Nutrition Council of America (IFANCA).

Mohd Albakir, S. N., & Mohd-Mokhtar, R. (2011). A conceptual design of genuine Halal logo detector. *2011 IEEE International Conference on Imaging Systems and Techniques (IST).* (pp. 296-301). IEEE.

Morgan, D. L. (1998). Practical strategies for combining qualitative and quantitative methods: Applications to health research. *Qualitative Health Research , 8* (3), 362-376.

Morgan, D. L. (2007). Paradigms Lost and Pragmatism Regained : Methodological Implications of combining qualitative and quantitative methods. *Journal of Mixed Methods Research , 1* (1), 48-76.

Morgan, R., & Hunt, S. (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing , 58* (3), 20-39.

Morse, J. M. (1991). Approaches to qualitative quantitative methodological triangulation. *Nursing Research , 40* (1), 120-123.

Mousavi, A., Sarhadi, M., Lenk, A., & Fawcett, S. (2002). Tracking and traceability in the meat processing industry: a solution. *British Food Journal , 104* (1), 7-19.

Muhammad Aizat, J., Suhaimi, A., & Mohd Anuar, R. (2011). The Application of the Concept of Al- Istibra' in Aquaculture Industry. *International Fisheries Symposium.*

Muhammad, N. M., Isa, F. M., & Kifli, B. C. (2009). Positioning Malaysia as Halal-Hub: integration role of supply chain strategy and halal assurance system. *Asian Social Science , 5* (7), 44-52.

Muhammad, N. M., Isa, F. M., & Kifli, B. C. (2009). Positioning Malaysia as Halal-Hub: Integration Role of Supply Chain Strategy and Halal Assurance System. *Asean Social Science , 5* (7), 44-52.

Mukhtar, S. (2009). *Sijil Halal Jakim ikut MS1500.* Malaysia: Kosmo.

Nawai, N., Nooh, M. N., Ridzwan, N., Dali, S. M., & Mohammad, H. (2007). An exploratory study on halal branding among consumers in Malaysia: factor analysis technique. *Journal of Muamalat and Islamic Finance Research , 4* (1), 19-44.

New Strait Times. (2014, Jun 5). Faith and certainty. Malaysia. Retrieved July 10, 2014, from http://www.nst.com.my/node/875

Ngah, A. H., Zainuddin, Y., & Thurasamy, R. (2014). Adoption of halal supply chain among Malaysia halal manufacturers: An exploratory study. *Procedia-Social and Behavioral Sciences , 129* (2014), 388-395.

Ngah, A. H., Zainuddin, Y., & Thurasamy, R. (2014). Adoption of Halal Supply Chain among Malaysian HAlal MAnufacurers: An exploratory Study. *Procedia- Social and Behavioral Sciences , 129*, 388-395.

Ninth Malaysian Plan. (2006). Ninth Malaysian Plan 2006-2010. *Economic Planning Unit, Prime Minister's Department Malaysia* . Putrajaya, Malaysia. Retrieved from http://www.epu.gov.my

Nordin, M. K. (2009). Memantapkan Budaya Keusahawanan Di Kalangan Generasi Baru Melalui Sistem Pendidikan Nasional dan Pengajian Agama: Gagasan dan Cabaran Merealisasikannya. *Kongres Ekonomi Islam Ketiga (Ke-13).* Kuala Lumpur.

North, D. (1990). *Institutions, Institutional Change, and Economic Performance.* Cambridge, UK: Cambridge University Press.

Nunnally, J. C. (1978). *Psychometric Theory. 2nd ed. .* New York: McGraw-Hill.

Nurulhuda, N., Nor Laila, M., Mardziah, H., & Zainol, S. (2009). Value Chain of Halal Certification System: A Case of the Malaysia Halal Industry.

European and Mediterranean Conference on Information System 2009 (EMCIS2009). Izmir.

Oliver, R., & Webber, M. (1982). Supply chain management: Logistics catches up strategy. In M. (. Christopher, *Logistics: The strategic issues.* London:: Chapman and Hall.

Olsen, P., & Aschan, M. (2010). RReference method for analyzing material flow, information flow and information loss in food supply chains. *Trends in Food Science and Technology , 21*, 313-320.

Omar, C. M. (2013). Challenges and Marketing Strategies of Halal Products in Malaysia. *Interdisciplinary Journal of Research in Business , 3* (2), 11-17.

Omar, E. N., & Jaafar, H. S. (2011). Halal Supply Chain in the Food Industry-A Conceptual Model. *IEEE Symposium on Business, Engineering and Industrial Applications (ISBEIA)*, (pp. 384-389). Langkawi, Malaysia.

Onwuegbuzie, A. J., & Leech, N. L. (2004). On becoming a pragmatic researcher: The importance of combining quantitative and qualitative research methodologies. *. Manuscript submitted for publication.*

Onwuegbuzie, A. J., & Teddlie, C. (2003). A framework for analyzing data in mixed methods research. In T. &. (Eds.), *Handbook of Mixed Methods in Social and Behavioral Research* (pp. 351–383). Thousand Oaks, CA: Sage.

Opara, L. U. (2003). Traceability in agriculture and food supply chain: a review of basic concepts, technological implications, and future prospects. *Food, Agriculture and Environment , 1* (1), 101-106.

Oppenheim, A. N. (1986). *Questionnaire design and attitude measurement.* Great Britain: Gower Publishing.

Othman, P., Sungkar, L., & Hussin, W. (2009). Malaysia as an international halal food hub: competitiveness and potential or meat-based industries. *ASEAN Economic Bulletin , 26* (3), 306-320.

Ozimek, I., & Zakowska-Biemans, S. (2011). Determinants of Polish consumers' food choices and their implication for the national food industry.

Peter, P. J. (1979). Reliability: A review of psychometric basics and recent marketing practices. *Journal of Marketing Research , 16* (1), 6-17.

Pettitt, R. G. (2001). Traceability in the food animal industry and supermarket chains. *Rev. Sci. Tech. Off. int. Epiz , 20* (2), 584-597.

PEW Research Center. (2013). *The Future of the Global Muslim Population: Projections for 2010-2030*. Retrieved from PEW Forum on Religion & Public Life.

Piplani, R., Pokharel, S., & Tan, A. (2004). Perspectives on the use of information technology at third party logistics service providers in Singapore. *Asia Pacific Journal of Marketing and Logistics. , 16* (1), 27-41.

Podsakoff, P., & Organ, D. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management , 12* (2), 531-544.

Podsakoff, P., MacKenzie, S., Lee, J., & Podsakoff, N. (2003). Common method biases in behaviarol research: A critical review of the litearature and recommended remedies. *Journal of Applied Psychology , 88* (5), 879-903.

Pulaj, E., & Kume, V. (2013). How The Albanian External Environment Affect the Construction Industry. . *Annales Universitatis Apulensis-Series Oeconomica , 15* (1), 295-309.

Pullman, M., & Wu, Z. (2012). *Food Supply Chain Management: Economic, Social and Environmental Perspectives.* New York: Routledge Taylor and Francis Group.

Punch, K. F. (1998). *Introduction to social research: Quantitative and qualitative approaches.* Thousand Oaks, CA: Sage.

Rábade, L. A., & Alfaro, J. A. (2006). Buyer-supplier relationship's influence on traceability implementation in the vegetable industry. *Journal of Purchasing and Supply Management , 12*, 39-50.

Rahman, M. N. (2012, December). The importance of quarantine period for the jallalah animals in determining the status of halalan tyoyyiban of the meats.

Rallis, S. F., & Rossman, G. B. (2003). Mixed methods in evaluation contexts: a pragmatic framework. In T. &. (Eds), *Handbook of Mixed Methods in Social and Behavioral Research.* Thousand Oaks, CA: Sage.

Ramli, N. (2006). *Halal-the new global market force.* Retrieved from http://www.skrine.com: http://www.skrine.com/halal-the-new-global-market-force-part-1

Randall, D. M., & Gibson, A. M. (1990). Methodology in business ethics research : A review and critical assessment. *Journal of Business Ethics , 9*, 457-471.

Randolph, G. (2003). *Surgical anatomy of recurrent laryngeal nerve: surgery of the thyroid and parathyroid glands.* Elsevier.

Regattieri, A., Gamberi, M., & Manzini, R. (2007). Traceability of food products: general framework and experimental evidence. *Journal of Food Engineering , 81*, 347-356.

153

Resende-Filho, M., & Hurley, T. (2012). Information asymmetry and traceability incentives for food safety. *International Journal of Production Economics , 139*, 596-603.

Reynolds, P. D. (1971). *A primer in theory construction.* New York: Macmillan.

Rezai, G., Mohamed, Z. A., Shamsudin, M. N., & Eddie, C. F. (2009). Concerns for halalness of halal-labelled food products among Muslim consumers in Malaysia: Evaluation of selected demographic factors. *Economic and Technology Management Review , 4*, 65-73.

Riaz, M., & Chaudry, M. (2004). *Halal Food Production.* Boca Raton, FL: CRC Press.

Ridenour, C., & Newman, I. (2008). *Mixed methods research: Exploring the interactive continuum. .* USA: Southern Illinois University Press.

Rijswijk, W. V., & Frewer, L. J. (2008). Consumer perceptions of food quality and safety and their relation to traceability. *British Food Journal , 110* (10), 1034-1046.

Ringle, C., Wende, S., & Will, A. (2004). *SmartPLS 2.0.M3*. Retrieved from http://www.smartpls.de.

Ritchie, J., Lewis, J., & Elam, G. (2003). Designing and selecting sample. In Ritchie, & J. Lewis, *Qualitative research practice. A guide for social science students and researchers* (pp. 77-108). Thousand Oaks, CA: Sage.

Robson, C. (2002). *Real world research: a resource for social scientists and practitioner-researchers (2nd ed.).* Oxford: Backwell.

Ross, D. F. (1998). *Competing Through Supply Chain Management: Creating Market-Winning Strategies through Supply Chain Partnership.* New York: Chapman and Hall.

Ross, S. (1973). The economic theory of agency: The principal's problem. *American Economic Review , 63*, 134-139.

Rossman, G. B., & Wilson, B. L. (1985). Numbers and words: Combing quantitative and qualitative methods in a single large-scale evaluation study. *Evaluation Review , 9*, 627– 643.

Roth, A. T. (2008). Unraveling the food supply chain: strategic insights from China and the (2007) recalls. *Journal of Supply Chain Management , 44* (1), 22-39.

Russly, A., & Nurrulhidayah, A. (2013). Halal Food Integrity and Authentication . *The 1st Symposium on Food Halalness: Food Halalness in and around South-East Asia.* Tokyo, Japan.

Ryu, S., Park, J. E., & Min, S. (2007). Factors of determining long-term orientation in interfirm relationships. *Journal of Business Research , 60*, 1225-1233.

Salampasis, M., Tektonidis, D., & Kalogianni, E. (2012). TraceALL: a semantic web framework for food traceability systems. *Journal of Systems and Information Technology , 14* (4).

Saleh, A. S., & Ndubisi, N. O. (2006). An Evaluation of SME Development in Malaysia. *International Review of Business Research Papers , 2* (1), 1-14.

Salehudin, I., & Luthfi, B. A. (2010). Marketing impact of Halal labeling toward Indonesian Muslim consumer's behavioral intention based on Ajzen's Planned Behavior Theory: Policy Capturing Studies on Five Different Product Categories . *5th International Conference on Business and Management Research (ICBMR).* Depok Indonesia.

Saltini, R., & Akkerman, R. (2012). Testing improvements in the chocolate traceability system. *Impact on Product Recalls and Production Efficiency , 23*, 221-226.

Samori, Z., Ishak, A. H., & Kassan, N. H. (2014). Understanding the Development of Halal Food Standard:Suggestion for Future Research. *International Journal of Social Science and Humanity , 4* (6), 482-486.

Sanchez, M. E. (1992). Effects of questionnaire design on the quality of survey data. *The Public Opinion Quarterly , 56* (2), 206-217.

Sandikci, O., & Rice, G. (2011). *Handbook of Islamic Marketing.* United Kingdom.

Saunders, M., Lewis, P., & Thornhill, A. (2003). *Research Methods for Business Students (3rd Ed.).* Harlow: Financial Times Prentice Hall.

Saunders, M., Lewis, P., & Thornhill, A. (2007). *Research methods for business students.* Harlow: Pearson Education Ltd.

Schutt, R. K. (2006). *Investigating the social world: The process and practice of research (5 Ed).* Thousand Oaks, CA: Pine Forge.

Schwagele, F. (2005). Traceability from a European perspective. *Meat Science , 71*, 164-173.

Scott, W. (2007). *Institutions and Organizations: Ideas and Interest.* Thousand Oaks, CA: Sage Publications .

Sekaran, U. (2003). *Research methods for business: A skill building approach (Fourth ed.).* New York: John Wiley & Sons, Inc.

Shafie, S., & Othman, M. (2004). Halal certification: an international marketing issues and challenges. *International Marketing and Service* .

Shafii, Z., & Wan Siti Khadijah, W. (2012). Halal Traceability Framework for Halal Food Production. *World Applied Science Journal 17* , 1-5.

Shafii, Z., & Zain, S. N. (2015). Halal Assurance Mecahnisms in Halal Industry: An Appraisal on its Effectiveness towards Continuous Halal Assurance and the Way Forward. *Proceeding of INTCESS15- 2nd International Conference on Education and Social Science*, (pp. 1430-1438). Istanbul, Turkey.

Siaw, C.-L., & Rani, N. S. (2012). A Critical Review on the Regulatory and Legislation Challenges Faced by Halal Start-up SMEs Food Manufacturers in Malaysia. *Procedia - Social and Behavioral Sciences* , 541 – 548.

Sin, L. Y., Cheung, W. H., & Lee, R. (1999). Methodology in cross cultural consumer research: A review and critical assessment. . *Journal of International Consumer Marketing , 11* (4), 75-96.

Singleton, R. A., & Straits, B. C. (2005). *Approaches to social research. 4th ed.* New York: Oxford University Press.

SIRIM, D. o. (2009). *Malaysian Standard MS 1500:2009 Halal Food- Production, Preparation, Handling and Storage - General Guidelines (2nd Revision).* Cyberjaya: Department of Standard Malaysia.

Siti Zakiah, M., Rahayu, T., & Othman, I. (2011). Stakeholders' role for an efficient traceability system in halal industry supply chain. *Annual International Conference on Enterprise Resource Planning & Supply Chain Management (ERP+SCM 2011).* Penang.

Siti, S., Mohd, I. I., & Mohamad, I. D. (2011). Tracking and Tracing Technolgy for Halal Product Integrity over teh Supply Chain. *2011 International Conference on Electrical Engineering and Informatics.* Bandung, Indonesia.

Smith, C. C. (2007, September 13). *Halal Logistics a Fast-growing Market.* Retrieved from http://halalrc.org: http://halalrc.org/images/ResearchMaterial/Literature/Halallogisticsafast growingmarket.pdf

Smith, G., Tatum, J., Belk, K., Scanga, J., Grandin, T., & Sofos, J. (2005). Traceability from a US perspective. *Meat Science , 71*, 29-35.

Sosik, J., Kahai, S., & Piovoso, M. (2009). Silver bullet or voodoo statistic? A premier for using the Partial Least Squares data analytic techniques in group and organization research. *Group & Organization Management , 34* (1), 5-36.

Spekman, R. E., Kamauff Jr, J. W., & Myhr, N. (1998). An empirical investigation into supply chain management: a perspective on partnership. *Supply Chain Management: An International Journal , 3* (2), 53-67.

Starbird, S. A., & Amanor-Boadu, V. (2006). Do inspection and traceability provides incentives for food safety. *Journal of Agricultural of Resource Economics , 31* (1), 14-26.

Stern, W. L., El-Ansari, A., & Coughlan, A. (1996). *Marketing channel (5th Ed.).* London: Prentice-Hall.

Stoller, E. W., Perzynski, A., A., M. R., Kanuch, S., & Dawson, N. (2009). Alcohol Consumption Decisions among Nonabusing Drinkers Diagnosed with Hepatatis C: An Exploratory Sequential Mixed Methods Study. *Journal of Mixed Methods Research , 3* (1), 65-86.

Straub, D., Boudreau, M., & Gefen, D. (2004). Validation guidelines for IS positivist research. *Communications of the Association for Information Systems , 13*, 380-427.

Suhaiza, H., Zainal, A., Nabsiah, A., Rosly, O., & Yudi, F. (2010). Recommendation to Strengthen Halal Food Supply Chain for Food Industry in Malaysia. *Journal of Agribusiness Marketing Special Edition 2010* , 91-105.

Suhaiza, Z., Zainal, A., Nabsiah, A. W., Rosly, O., & Yudi, F. (2010). Halal Traceability and Halal Tracking Systems in Strengthening Halal Food Supply Chain for Food Industry in Malaysia (A Review). *Journal of Food Technology , 8* (3), 74-81.

Suhaiza, Z., Zainal, A., Nabsiah, A., Rosly, O., & Yudi, F. (2010). Halal traceability and halal tracking systems in strengthening halal food supply chain for food industry in Malaysia (A Review). *Journal of Food Technology , 8* (3), 74-81.

Sumali, A. (2006). Halal: new market opportunities. *9th Efficient Consumer Response Conference (ECR).* Kuala Lumpur, Malaysia.

Sungkar, I. (2008). *Traceability and the global halal industry.* KLCC: The world halal forum.

Syed, S., Mohd, F., Zizah, C. S., & Ahmad, K. (2011). Assessing barriers of growth of food processing SMIs in Malaysia: A Factor Analysis. *International Business Research , 4* (1), 252-259.

Tabachnick, B. G., & Fidell., L. S. (2001). *Using multivariate statistics. 4th ed. .* Boston: Allyn and Bacon.

Talib, H., Ali, K., & Jamaludin, K. (2008). Quality assurance in halal food manufcaturing in Malaysia: a preliminary study. *International Conference on Mechanical & Manufacturing Engineering, ICME 2008*, (pp. 1-5). Johor Bahru, Malaysia.

Talib, M. S., & Hamid, A. B. (2014). External Factors Evaluation of Malaysia Halal Logistics Industry. *International Conference on Innovation Driven Supply Chain 2014*, (pp. 1-10). Kedah, Malaysia.

Talib, M. S., & Hamid, A. B. (2014a). Halal Logistics in Malaysia: A SWOT Analysis. *Journal of Islamic Marketing , 5* (3), 322-343.

Tamayo, S., Monterio, T., & Sauer, N. (2009). Deliveries optimization by exploiting production traceability information. *Engineering Application of Articial Inteligence , 22*, 557-568.

Tan, M. I., Razali, R. N., & Husny, Z. J. (2012). The Adoption of Halal Transportations Technologies for Halal Logistics Service Providers in Malaysia. *World Academy of Science, Engineering and Technology.* World Academy of Science, Engineering and Technology.

Tashakkori, A., & Teddlie, C. (1998). *Mixed methodology: Combining qualitative and quantitative approaches.* Thousand Oaks, CA: Sage.

Tashakkori, A., & Teddlie, C. (2003). The past and future of mixed methods research: From data triangulation to mixed model designs. In T. &. (Eds.), *Handbook on mixed methods in the behavioral and social sciences* (pp. 671-701). Thousand Oaks, CA: Sage Publications.

Tenenhaus, M., Esposito Vinzi, V. C., & Lauro, C. (2005). PLS path modeling. *Computational Statistics & Data Analysis , 48* (1), 159-205.

Thakur, M., & Donnelly, K. A.-M. (2010). Modeling traceability information in soybean value chains. *Journal of Food Engineering , 99*, 98-105.

Thompson, J. (1967). *Organizations in Action.* New York: McGraw-Hill.

Tieman, M. (2007). Effective Halal Supply Chains: The Way Forward. *Halal Journal ,* 52-54.

Tieman, M. (2006). From Halal to Haram. *The Halal Journal .*

Tieman, M. (2010). *Halal Logistics.* Retrieved from http://www.logasiamag.com/article/ halallogistics/1744

Tieman, M. (2011). The application of Halal in supply chain management: in-depth interview. *Journal of Islamic Marketing , 2* (2), 186-195.

Tieman, M., van der Vorst, J., & Maznah, C. (2012). Principles in halal supply chain management. *Journal of Islamic Marketing , 3* (3), 217-243.

Toronto Public Health. (2004). Guide to Understanding Halal Foods.

Towill, D., Naim, M., & Wikner, J. (1992). Industrial dynamics simulation models in the design of supply chains. *International Journal of Physical Distribution and Logistics Management , 22* (5), 3-13.

Tse, A., Sin, L. Y., Yau, O. H., Lee, J. S., & Chow, R. (2003). Market orientation and business performance in a Chinese business environment. *Journal of Business Research , 56*, 227-239.

Turban. (2008). *Supply Chain Process.*

Urbach, N., & Ahlemann, F. (2010). Structural equation modeling in information systems research using Partial Least Square. *Journal of Information Technology Theory and Application , 11* (2), 5-40.

van der Vorst, J. (2000). *Effective food supply chains-generating, modeling and evaluating supply chain scenarios.* Wageningen University, Wageningen: PhD Thesis.

Van der Vorst, J. G. (2006). Performance measurement in agri-food supply-chain networks. In J. H. C. J. M. Ondersteijin, *Quantifying the agri-food supply chain.* (pp. 13-24). Netherlands: Springer.

Van Rijswijk, W., Frewer, L. J., Menozzi, D., & Faioli, G. (2008). Consumer perceptions of traceability: a cross-national comparison of the associated benefits. *Food Quality and Preference , 19*, 452-464.

Venkatraman, N. (1989). The concept of fit in strategy research: toward verbal and statistical correspondence. *The Academy of Management Review , 14* (3), 423-444.

Wang, W. L., Lee, L. L., & Fetzer, S. J. (2006). Challenges and strategies of istrument translation. *Western Journal of Nursing Research , 28* (3), 310-321.

Ward, D., & Rivani, E. (2005). An Overview of Strategy Development Models and the Ward-Rivani Model. *Economics Working Papers.*

Weigand, R. (1968). Why studying the purchasing agent is not enough? *Journal of Marketing , 32* (1), 41-45.

Weitzman, P., & Levkoff, S. (2000). Combining qualitative and quantitative methods in health research with minority elders: Lesson from a study of dementia caregiving. *Field Methods , 12* (3), 195–208.

Werner, L., & Campbell., D. T. (1970). Translating,working through interpreters and the problem of decentering. In R. N. Cohen, *American handbook of methods in cultural anthropology, ed.* (pp. 398-420). New York: Natural History Press.

Wetzels, M., Odekerken-Schroder, G., & van Oppen, C. (2009). Using PLS path modeling for assessing hiererchical construct models: Guidelines and empirical illustration. *MIS Quarterly , 33* (1), 177-195.

Wicks, A. C., & Freeman, R. E. (1998). Organization studies and the new pragmatism: Positivism,anti-positivism, and the search for ethics. *Organization Science , 9* (2), 123-140.

Wilson, J., & Liu, J. (2010). Shaping the halal into a brand. *Journal of Islamic Marketing , 1* (2), 107-23.

Wilson, R. (1968). On the theory of syndicates. *Econometrica , 36*, 119-132.

Wilson, T., & Clarke, W. (1998). Food safety and traceability in the agricultural supply chain: using the internet to deliver traceability. *Supply Chain Management: An International Journal , 3* (3), 127-133.

Wognum, P., Bremmers, H., Trienekens, J., Van der Vorst, J., & Bloemhof, J. (1998). Systems for sustainability and transparency of fod supply chains- curret status and challenges. *Advanced Engineering Informatics , 25*, 65-76.

World Halal Forum. (2009). *A critical reflection of the global Halal industry.* Kuala Lumpur: The Executives Review 2009.

Xiao, T., Qi, X., & Yu, G. (2007). Co-ordination of supply chain after demand disruptions when retailers compete. *International Journal of Production Economics , 109* (1-2), 162–179.

Yaakob, C. M. (2008). Analysis of consumer products for Halal authentication. *International Halal Certification Dialogue.* Kuala Lumpur.

Yakovleva, N., Sarkis, J., & Sloan, T. (2011). Sustainable benchmarking of supply chains:the case of the food industry. *International Journal of Production Research .*

Yourdon, & Edward. (1992). *Decline & Fall of the American Programmer.* Englewood Cliffs, N.J.: PTR: Prentice Hall.

Yu, D. F., Lee, D. T., & Woo, J. (2004). Issues and challenges of instrument translation. *Western Journal of Nursing Research , 26*, 307-320.

Yusuf, A. H., Shukor, S. A., & Bustamam, U. S. (2016). Halal Certification vs Business Growth of Food Industry in Malaysia. *Journal of Economics, Business and Management , 4* (3), 247-251.

Zakaria, N., & Abdul Talib, S. (2010). Applying Islamic market-oriented cultura model to sensitize strategies towards global customers, competitors, and environment. *Journal of Islamic Marketing , 1* (1), 51-62.

Zakiah, S., Amal Hayati, I., & Nurul Himmah, K. (2014). Understanding the Development of Halal Food Standard: Suggestion for Future Research. *International Journal of Social Science and Humanity , 4* (6), 482-486.

Zalina, Z. (2008). Tapping into the world halal market: some discussions on Malaysian laws and standards. *Shariah Journal , 16*, 603-16.

Zawawi, D. (2007). Quantitative versus qualitative methods in social sciences: Bridging the gap. *Research Bulletin of the Faculty of Economics and Management, UPM , 1*, 3-4.

Zerbe, W. J., & Paulhus, D. L. (1987). Socially desirable responding in organizational behaviour: A reconception. *Academy of Management Review , 12* (2), 250-264.

Zikmund, W. G. (2003). *Business Research Methods.* Bangalore: Thomson Learning, Inc. Eastern Press.

Zikmund, W. G. (1994). *Business research methods. 4th ed.* Fort Worth: Dryden.

Zulfakar, M. H., Anuar, M. M., & Talib, M. S. (2014). Conceptual Framework on Halal Food Supply Chain Integrity Enhancement. *Procedia-Social and Behavioral Sciences , 121*, 58-67.

Zulfakar, M., Jie, F., & Chan, C. (2012). *Halal Food Supply Chain Integrity: From Literature Review to A Conceptual Framework.*

UNIVERSITI PUTRA MALAYSIA

STATUS CONFIRMATION FOR THESIS / PROJECT REPORT AND COPYRIGHT

ACADEMIC SESSION : _____

TITLE OF THESIS / PROJECT REPORT :

RELATIONSHIP AMONG *HALAL* TRACEABILITY SYSTEM ADOPTION *HALAL* INDUSTRY ENVIRONMENTAL FACTORS AND *HALAL* FOOD SUPPLY CHAIN PERFORMANCE

NAME OF STUDENT : NORASEKIN BT AB RASHID

I acknowledge that the copyright and other intellectual property in the thesis/project report belonged to Universiti Putra Malaysia and I agree to allow this thesis/project report to be placed at the library under the following terms:

1. This thesis/project report is the property of Universiti Putra Malaysia.

2. The library of Universiti Putra Malaysia has the right to make copies for educational purposes only.

3. The library of Universiti Putra Malaysia is allowed to make copies of this thesis for academic exchange.

I declare that this thesis is classified as :

*Please tick (√)

☐ **CONFIDENTIAL** (Contain confidential information under Official Secret Act 1972).

☐ **RESTRICTED** (Contains restricted information as specified by the organization/institution where research was done).

☐ **OPEN ACCESS** I agree that my thesis/project report to be published as hard copy or online open access.

This thesis is submitted for :

☐ **PATENT** Embargo from_____ until _____
                                (date)   (date)

Approved by:

_____   _____
(Signature of Student)   (Signature of Chairman of Supervisory Committee)
New IC No/ Passport No.:   Name:

Date :   Date :

[Note : If the thesis is CONFIDENTIAL or RESTRICTED, please attach with the letter from the organization/institution with period and reasons for confidentially or restricted.]