

# Systematic Literature review on Success Factors, Issues and Challenges in Halal Assurance Management System (HAS) Implementation in the Production of Halal Products

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## Abstract

Halal is becoming a global symbol for quality assurance and lifestyle choice and no longer solely for religious issue and Halal Assurance Management System (HAS) provide assurance to Muslim consumers on halal quality as both safety and quality for products and the processes are also addressed by a good quality assurance. This study was conducted by using systematic literature review guided by PRISMA protocol, where a total of 21 articles were reviewed after the searching of the keywords from various databases such as Scopus, Emerald Insight, MyCite and Google Scholar and data extraction and analysis were done by thoroughly review all the included articles. Several themes were discussed according to Work System Method's element focusing on halal research trends, success factors, issues and challenges in halal industry on the implementation of Halal Assurance Management System. The findings of this study had shown that the research area covers mostly for food manufacturing industries in Small and Medium Enterprise and there are many things that need to be taken into consideration, especially in current practice and arising issues and challenges in halal industry and success factor in implementing the Halal Assurance Management System. It is advisable for manufacturers to closely follow the updated guidelines observed in the production and manufacture of halal products.

**Keywords:** Halal; Halal Assurance Management System; Halal Products; Production; Manufacturing

## Introduction

The terms halal defines as anything that is permissible and lawful according to Shariah law. Conventionally, halal and haram concept is always applied to food and beverages but due to the effect of globalization, the scope of halal and haram encompasses not only food and drink but also other matters of daily life including cleaning agents, cosmetics, pharmaceutical and finance(1). Halal Assurance Management System (HAS) is a system, which must be implemented by a manufacturing company to assure the halal status of the products produced(2). The halal assurance guideline should be followed by the halal certificate holders in order to meet halal certification requirements, halal regulations and standards (3). Halal products generally can be categorised into food and beverages, cosmetics, pharmaceuticals, consumer goods, medical devices and also services. The demand for halal products will continue to grow not only in Malaysia but around the world as halal products are suitable for consumption by anybody, regardless of religious beliefs(4). To manufacture halal pharmaceuticals, the Halal Assurance Management System (HAS) shall further ensure that pharmaceutical products are designed and developed in accordance with halal and Good Manufacturing Practice's requirement (GMP)(5).

Halal certification in Malaysia uses Malaysia Halal Management System Manual 2020 (MHMS 2020) as a reference to implement HAS, which contains details for implementation of two halal management systems which is Internal Halal Control

System (IHCS) and Halal Assurance Management System (HAS). HAS is for medium and large enterprises, comprises of ten elements to adopt which are Halal Policy, Internal Halal Committee, Halal Risk Control, Halal Raw Material Control, Halal Traceability, Halal Internal Audit, Halal Training, HAS Management Review, Laboratory Analysis, and *Sertu (Islamic Cleansing)* program, whilst for micro and small industries are now are required to adopt Internal Halal Control System (IHCS) which comprises of three elements in its adoption which is Halal Policy, Raw Material Control/ Halal Risk Control and Traceability. HAS has become important in the halal production process because by implementing this system, the company or applicant must ensure every requirement for Malaysia Halal Certification is being complied to, thus it can maintain the sustainability of the whole process(6).

Halal certification is issued by the Government, whilst in other countries, their certification is endorsed by the respective Islamic associations. Malaysia Halal Standard, the MS 1500:2019 Halal Food – General Requirements is developed by the Government to have a clear and practical guideline for Halal compliance and to make sure only Halal food is produced(2). Halal certification bodies in charge in Malaysia comprises of federal and state level authorities which is Department of Islamic Development Malaysia (JAKIM) and State Islamic Religious Department (JAIN). Manual Procedure for Malaysia Halal Certification (MPPHM) is the official reference document for halal certification which is concurrently used together with the Malaysia Halal Standards(7).

A management system is the set of interrelated elements used by an organisation to establish the organisation's structure, roles and responsibilities, planning, operation, policies, practices, rules, beliefs, objectives and processes to achieve those objectives. Quality management system is a part of this management system from quality perspective, whereas work system is defined

as systems that exist to produce products or services for their customers(8, 9). The work system method is a flexible systems analysis and design method for business professionals that uses the concept of "work system" as a focal point for understanding, visualizing, analysing, and improving systems in organization. The WSM consists of nine basic elements of a work system that comprises of processes and activities, participants, information, technologies, products and services, customers, environment, infrastructure and strategies (9). These elements are helpful to extract information needed regarding the research topic which focusses on the processes and activities in production of halal products, individuals or organization and technology involved that is implemented by the participants in the work system.

## **Methodology**

### **Sampling method**

The method used to retrieve articles relate to Halal Assurance Management System (HAS) from different resources that includes Scopus, Emerald Insight, My Cite and Google Scholar to run the systematic review, eligibility and exclusion criteria, steps of the review process; identification, screening, eligibility. Then it is followed by data abstraction and analysis using Atlas.ti 8.

### **PRISMA**

The Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) statement, was first published in 2009, designed to help systematic reviewers transparently report why the review was done, what the authors did, and what they found. PRISMA 2009 is a reporting guideline which aimed to address poor reporting of systematic reviews and it comprised a checklist recommended for reporting in systematic reviews (10). This standard suggested several key points to be included as stated in PRISMA checklist such as title, abstract, methods, results, discussion and

funding sections. PRISMA offers three benefits which are: (1) clearly defines research questions; (2) identifying the inclusion and exclusion criteria, and (3) it attempts to assess and examine large amount of available and relevant scientific literature in a defined time (11).

### Resources

Four main databases were used for this review, which were Scopus, Emerald Insight, MyCite and Google Scholar. The main research databases used for this study were Scopus and Emerald Insight. Scopus allows researcher to have access to search the database containing past and present articles and Emerald Insight contains high-quality journal articles, peer-reviewed research that cover a range of subjects within business, tourism, marketing and health and social care. The third database was MyCite which covers scholarly journals published in Malaysia. The other supporting database was Google Scholar, that allow researchers to find variety of materials including journal articles, books, "grey literature" like conference proceedings, non- journal that covers wide-ranging fields and it is simple to use, just like Google. However, Google Scholar may vary in quality, thus it should not be the only source used. All Scopus, Emerald Insight, MyCite and Google Scholar can use two search modes which are Basic and Advanced option however the advance search technique may vary for each database.

### Eligibility and exclusion criteria

Several eligibility and exclusion criteria were determined. First, in regard of document types, only research articles with empirical data were selected. Meanwhile, other types of documents such as book chapters, conceptual articles, descriptive articles, review articles, newspapers, articles based on the analysis of the secondary sources and ethnographic and historical accounts were all excluded for this study. The next criteria for the selection criteria was language. In order to avoid any confusion and difficulties in translations work in this study, only English and Malay language documents were included. Abstracts and studies which were written in languages other than English and Malay were excluded. The third criterion is the availability of the full text articles. Due to the limited of Halal Assurance Management System (HAS) articles publication, research papers and proceeding papers were included for this review. Final inclusion criteria were the timeline, all documents published were selected without restriction of time period. The criteria are as shown in (Table 1).

### Systematic literature review process

Four stages were involved in the systematic literature review process. The review process was performed in December 2021. The first phase was identifying the keywords using search string intended to be use in the selected database using several relevant information sources

Criteria	Inclusion	Exclusion
Document type	Journals (research articles)	Book chapters, conceptual articles, descriptive articles, review articles, newspapers, articles based on the analysis of the secondary sources and ethnographic and historical accounts
Language	English and Malay	Non-English and Non-Malay
Accessibility	Full text article	Non-full text article
Timeline	No restriction of time period	

such as dictionaries, thesaurus, similar keywords and previous studies that was related to Halal Assurance Management System (HAS). In the identification process, 254 documents from Scopus, 131 documents from Emerald Insight, 88 documents from MyCite and 602 documents from Google Scholar were found. Next was the screening process where inclusion and exclusion criteria were decided to search for suitable articles to be included in the review process. Before the screening process was carried out, duplicate documents were first removed. The duplicated documents were removed manually by comparing all the documents in four databases and removed using colour coded system to identify the similar documents between databases and within database. A total of 67 duplicated documents were traced as duplicated articles which resulted in 1,008 documents left to be screened. Next steps in screening process are to manually select documents that meets the selection criteria. Out of 1,008 articles eligible to be reviewed, a total of 939 articles were removed because they do not meet the inclusion criteria and the rest were articles that were inaccessible due to lack of access. The third stage is eligibility, where the articles were accessed. The articles were screened manually for literature focusing on Halal Assurance Management System (HAS) and criteria from the earlier screening processes (inclusion and exclusion criteria). Any papers which do not involve the study on Halal Assurance Management System (HAS) were excluded. Out of 69 full-text articles left for eligibility process, a total of 48 were removed. The last stage of review resulted in a total of 21 articles included for this review that were used for the qualitative analysis. Figure 1 below depicts the PRISMA diagram for the data processing of the collected papers.

#### **Data extraction and analysis**

The remaining data collected for this study were assessed and analysed using qualitative thematic analysis with Atlas-ti 8

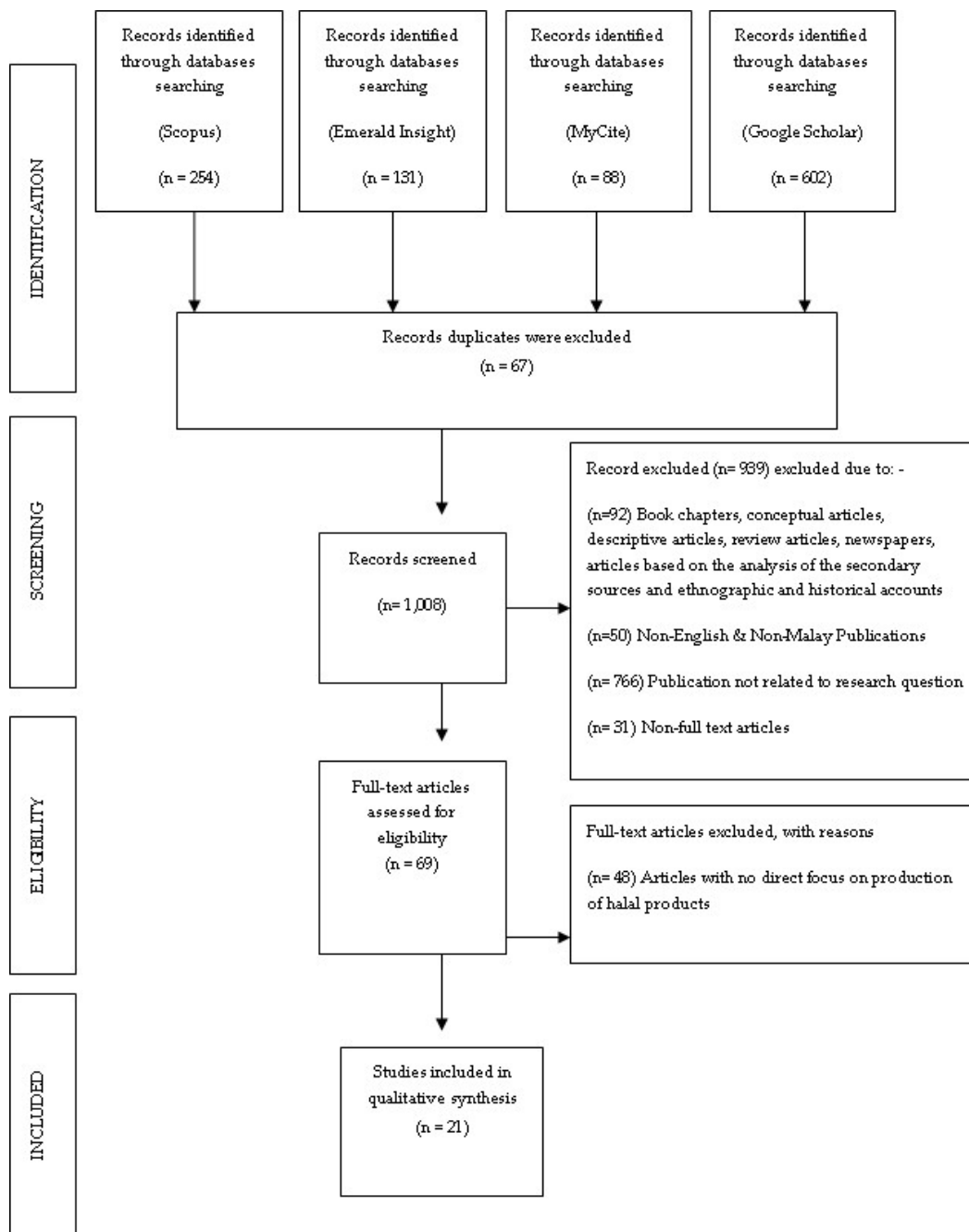
software to convert data into themes and subthemes that were adapted from Work System Method by Steven Alter. The articles were analysed to answer the research questions and the data extracted by reading through the abstracts, then full text article to identify relevant themes and subthemes related to Halal Assurance Management system (HAS). Atlas.ti is a qualitative data analysis (QDA) software, that provides some very useful tools in academic research, mainly for social science disciplines. Atlas.ti can handle not only text data but also other digital media formats like video and images (12).

The first stage of qualitative data analysis is usually open coding. Open coding is the processes of analysing textual content used to analysed qualitative data. Reviewer can choose to do Axial Coding (where the coding is organised into certain categories to address the research objectives) and Selective Coding once reviewer finish Open Coding, depending on the methods being use. Any sentences or paragraphs that can answer the research question will be selected and open coding will be added depending on the article analysis. The memo will then be linked to the coding system in accordance with the research questions. Finally, all of the linked coding and memos can be organised into a network diagram, with all of the related questions connected to one another. Work system method's elements was used to generate the main themes when analysing the data which were; 1) Customers, 2) Products or Services, 3) Process and Activities, 4) Participants, 5) Information, 6) Technologies, 7) Environment, 8) Strategies and 9) Infrastructure.

#### **Data collection**

##### **Data collection protocol**

Methods of identifying the keywords used advance search techniques which were Boolean Operator OR (/) AND (+) NOT (-), Phrase Searching“..”, Truncation\* and Wildcards \*. Scopus supports all the advance



**Figure 1:** Flow diagram following the PRISMA guidelines

Review on Success Factors, Issues and Challenges

Table 2: Keywords and search items for documents retrieval	
Databases	Keywords and search items used for systematic searching
Scopus	TITLE-ABS-KEY ( ( "halal" OR "s*aria* complia*" OR "s*aria*" OR "islam" ) AND ( "assurance management system" OR "assurance system" OR "quality management" OR "built-in" OR "risk management" OR "islamic manufacturing practice" ) AND ("production*" OR "manufactur*" OR "mak*" OR "develop*")
Emerald Insight	(content-type:article) AND (“halal assurance management system” OR (“halal assurance system”) OR (“halal quality management”) OR (“halal management”) OR (“halal built-in”) OR (“halal risk management”) OR (“Islamic manufacturing practice”) - (slaughter*) - (tourism*) - (restaurant*))
MyCite	halal assurance management system OR halal assurance system OR halal quality management OR halal management OR halal built-in OR halal risk management OR Islamic manufacturing practice
Google Scholar	<ul style="list-style-type: none"> <li>• "Halal Assurance Management System" OR "halal assurance system" OR "Halal Quality Management" OR "halal management" OR "Halal Built in" OR "Halal risk Management" OR "Islamic Manufacturing Practice" -slaughter -penyembelihan -broiler -chicken -tourism</li> <li>• "shariah compliance production" OR "shariah compliance manufacturing" OR "shariah compliance making"</li> </ul>

search technique include Boolean Operator, Phrase Searching, Truncation and Wildcards. Next, Google scholar uses Boolean Operator, Phrase Searching and symbol ‘:’ (NOT). In addition, Emerald Insight support advanced search that helps reviewer to find relevant articles such as Phrase searching, Boolean search and also support Truncating whilst MyCite only support Boolean Operator and Phrase Searching. Emerald insight uses important keyword that was entered in the search box. Combination of all of these options created the advanced searching.

### Keyword development

The search keywords used for the documents search are as in (Table 2). The retrieved data were screened using inclusion and exclusion criteria. Relevant literatures were collected and extracted, subsequently analysed and tabulated into a data collection spreadsheet as in (Table 3).

### Results and Discussion

#### Findings

A total of 1,075 publications are obtained by using databases such as Scopus,

Emerald Insight, MyCite and Google Scholar. Out of 1,075 publications obtained, 21 publications were analysed. The results analysed are presented into three different sections namely, current practice in the implementation of halal assurance management system, success factor and issues and challenges. The results in each section are explained descriptively categorized into several different themes and a number of sub-themes under different sections; research trend, success factors, issues and challenges.

#### Trends of halal research on has

There were 21 articles obtained from the data analysis and their summaries are as presented in (Table 3, Table 4, Figure 2, Table 5, Figure 3, Table 6, Table 7 and Table 8) based on the number of papers collected by databases, years they were published, country of publisher, type of articles reviewed and scope of study in the literature. The complete information spreadsheet of the 21 articles analysed (refer table 3).

#### Number of paper collected by databases

Several keywords were generated to refine the systematic searching when collecting

Table 3: List of Literature Included in Data Analysis									
No	Database/ Type of Publications	Authors (Year)	Title of Article	Name Of Journal	Study Setting	Type of Study/ Research Method	Research Area	Data Collection Tool	Relevant Findings
1	Scopus /Journal Article	Nurdiyana Nazihah Zainal, Siti Fairuza Hassam, Mohd RizaimySh aharudin, Jamaludin Akbar, Muhamma d Amin Mustafa (2018)	Contributin g factors of production performan ce in the food processing industry	Internatio nal Journal of Supply Chain Manage ment	Malaysi a	quantitati ve	Food processin g manufact urers	Questionn aires survey	This article is discussing on the factors that can contribute to the production performance in the food manufacturing industry. Total Quality Management (TQM), Lean Management (LM), and Hazard Analysis and Critical Control Point (HACCP) are the factors that influenced the production performance.
2	Scopus /Journal Article	Azmawani Abd Rahman, Hassan Barau Singhry, Mohd Hizam Hanafiah, Mohani Abdul (2016)	Influence of perceived benefits and traceability system on the readiness for Halal Assurance Systemimpl ementation among food manufactur ers	<i>Food Control</i>	Malaysi a	quantitati ve	Food manufact urers	Questionn aire	This article is discussing on traceability systems that are fully needed to bridge the connection between perceived benefits and readiness for HAS.
(Contd.)									

**Table 3:** List of Literature Included in Data Analysis (*Contd.*)

No	Database/ Type of Publications	Authors (Year)	Title of Article	Name Of Journal	Study Setting	Type of Study/ Research Method	Research Area	Data Collection Tool	Relevant Findings
3	Scopus /Journal Article	Muhamma d Haziq Hassan, Sazelin Arif & Safiah Sidek (2015)	Knowledg e and Practice for Implement ing Internal Halal Assurance System among Halal Executives	Asian Social Science 11(17)	Malaysi a	qualitativ e study	halal food premises	interview technique	This article is investigating on the knowledge and skills of the implementing the IHAS among the executives at food premises.
4	Emerald Insight /Journal Article	Hayati Habibah Abdul Talib & Khairul Anuar Mohd Ali and Fazli Idris (2014)	Critical success factors of quality managem ent practices among SMEs in the food processing	Journal of Small Business and Enterpris e Develop ment (JSBED)	Malaysi a	questionn aire mailed	Food processin g industry	survey	This article identified a few critical success factors of quality management practices proposed for assessing quality management practices among SMEs in the food processing industry in Malaysia.
5	Google Scholar /Journal Article	Mary Jane Alvero, Imee C. Acosta, Eduardo Parra Malagapo (2019)	Impact of Halal Assurance Managem ent System on Halal Products	Middle Eastern Journal of Develop ment Manage ment	Philippi ne	quantitati ve	Halal products	Survey	This article analyses the impact that the halal assurance management system has on halal products based on international standards.

*(Contd.)*



**Table 3:** List of Literature Included in Data Analysis (*Contd.*)

No	Database/ Type of Publications	Authors (Year)	Title of Article	Name Of Journal	Study Setting	Type of Study/ Research Method	Research Area	Data Collection Tool	Relevant Findings
6	Google Scholar /Journal Article	Baharudin Othman, Sharifudin Md Shaarani, ArsiahBah ron (2016)	Evaluation of knowledge, halal quality assurance practices and commitme nt among food industries in Malaysia	British Food Journal	Malaysi a	quantitativ e	food industries	questionnai re	This article analyses level of knowledge, halal quality assurance practices and commitment among food industries in the implementation of halal in Malaysia.
7	Google Scholar /Journal Article	Baharudin Othman, Sharifudin Md. Shaarani, ArsiahBah ron, Nurul Hudani Md Nawi (2019)	The Influence of Halal Practices on Organizatio nal Performanc e Among Food Industries (Smes) In Malaysia	Halal Journal	Malaysi a	quantitativ e	halal food industry (SMEs)	closed- ended questions questionnai res cross- sectional surveys method.	This article analyses how the key elements as performance predictors influence the performance of the organization as compared to internal dimensions of the process and staff.
8	MyCite /Journal Article	Mohd Zabiedy Mohd Sulaiman, Nurulhuda Noordin, Nor Laila Md Noor, Ahmad Iqbal Hakim Suhaimi, Wan Abdul Rahim Wan Mohd Isa (2019)	Halal Virtual Inspection Critical Control Point	Internatio nal Journal on Perceptiv e and Cognitive Computin g (IJPCC)	Malaysi a	Qualitativ e	small and medium- sized food premises	Interview & Observaio n	This article discussing on the critical control point (CCP) of Halal Inspection (HI) by focusing on the inspection process and several requirements for the HI process for small and medium-sized food premises conducted in Malaysia.

*(Contd.)*

**Table 3:** List of Literature Included in Data Analysis (*Contd.*)

No	Database/ Type of Publications	Authors (Year)	Title of Article	Name Of Journal	Study Setting	Type of Study/ Research Method	Research Area	Data Collection Tool	Relevant Findings
9	Google Scholar /Journal Article	Zurina Shafii, Siti Norfaizzah Zubir, Norafni @ Farlina Rahim (2018)	Halal Governan ce and Assurance : A Comparati ve Study Between Malaysia And Thailand	Internatio nal Journal of Islamic Economi cs and Finance Researc h	Malaysi a and Thailand	Qualitativ e	Halal industry	interviews, audit documents and observatio n of audit process	This article is studying the comparison between Malaysia and Thailand on their Halal governance and also on this aspect which is Halal regulator, regulations, auditors, validity of certification, scope of audit, frequency of audit, and the flexibility of Halal logo usage.
10	MyCite /Journal article	Sumaiyah Abd Aziz, Mohd Mahyeddin Mohd Salleh, Mustafa 'Afifi Abdul Halim &Hasdhatu I Nor Aliah Md Said (2021)	Amalan TerbaikPel aksanaan Sertudalam Industri Halal di Malaysia (Best Practices of Islamic Cleansing (Sertu) Implement ation in the Malaysian Halal Industry)	Journal of Fatwa Manage ment and Researc h (JFATW A) (Jurnalpe ngurusan dan penyelidi kan fatwa)	Malaysi a	qualitativ e	Islamic cleansing (sertu) in the Malaysian halal industry - medium and large industries	face-to- face interviews and direct observatio n.	The aim of this study is conducted to look at the best practices for implementation of Islamic cleansing (sertu) in the Malaysian's medium and large industries halal industry as sertu is one of the halal requirements in the HAS, Malaysian Halal Management System (MHMS) 2020.

(*Contd.*)

**Table 3:** List of Literature Included in Data Analysis (*Contd.*)

No	Database/ Type of Publications	Authors (Year)	Title of Article	Name Of Journal	Study Setting	Type of Study/ Research Method	Research Area	Data Collection Tool	Relevant Findings
11	Google Scholar /Journal Article	Maresta Andriani, Ida Giyanti, dan Anita Indrasari (2020)	Proposed Improvement of Standard Operating Procedure According to Halal Standards at Siska Bakery	Performa : Media Ilmiah Teknik Industri (2020)	Indonesia	qualitative	Food products	Interview, observation and document review.	This research intends to create SOPs that include the purchasing of raw materials, production, and product distribution in order to meet the halal standards outlined in the HAS 23000 document.
12	Scopus /Journal article	Kim Hua Tan, Mohd Helmi Ali, Zafir Mohd Makhbul, Azman Ismail (2017)	The impact of external integration on halal food integrity	Supply Chain Management: An International Journal	Malaysia	quantitative	Malaysia n halal food manufacturing firms	survey	This article is discussing on the impact of external integration on compliance with halal standards, for the integrity of food products within the food industry and the links between external integration and halal assurance system.
13	Google Scholar /Journal Article	Sucipto Sucipto, Alda Alvita, Luki Hidayati, Muhammad Arif Kamal, Retno Astuti, Nur Hasanah (2021)	Assessment of Knowledge, Skills, and Attitudes of Trainees of Halal Assurance System Training in Micro and Small Food Enterprises	Jurnal Agroindustri Halal	Indonesia	qualitative method and quantitative	Micro and Small Food Enterprises	questionnaires	The study is conducted to evaluate the HAS implementation training programme for MSEs focusing on the trainees' satisfaction, knowledge, abilities, and attitude.

*(Contd.)*

**Table 3:** List of Literature Included in Data Analysis (*Contd.*)

No	Database/ Type of Publications	Authors (Year)	Title of Article	Name Of Journal	Study Setting	Type of Study/ Research Method	Research Area	Data Collection Tool	Relevant Findings
14	Scopus /Conference paper	Anita Indrasari, Ida Giyanti,Wa hyudi Sutopo, and Eko Liquidanu (2019)	Halal assurance system implemen tation and performanc e of food manufactur ing SMEs: A causal approach	The 5th Internatio nal Conferen ce on Industrial, Mechanic al, Electrical, and Chemical Engineeri ng 2019	Indones ia	qualitative method	Food Manufact uring SMEs	Observati on	This paper discussing on the link between halal assurance system (HAS) implementation and performance of food manufacturing SMEs.
15	Scopus /Conference paper	C G Perdani, N U Chasanah and Sucipto (2018)	Evaluation of halal assurance system (HAS) implemen tation on bakery products processing in small and medium enterprises (case study in X Bakery Batu, East Java)	Internatio nal Conferen ce on Green Agro- industry and Bioecono my	Bakery Batu, East Java, Indones ia	quantitativ e	bakery products processin g in small and medium enterprise s	Interview method	This article evaluates HAS applied by SMEs in bakery product processing accordance to Indonesian Halal Assurance System.
16	Scopus /Conference paper	Achmad Samudra Dewantara, Eko Liquidanu, Cucuk Nur Rosyidic (2018)	Assessme nt of the readiness of SME to entering the modern market by using the good manufactur ing practice and halal assurance system (Case study on Sari Murni SME)	The 3rd Internatio nal Conferen ce on Industrial, Mechanic al, Electrical, and Chemical Engineeri ng	Indones ia	quantitativ e	Tofu - Sari Murni SME	1. observation at The Sari Murni - questionnai re	This article is discussing a case study of assessment of the performance of halal assurance system and level of the non-conformity of good manufacturing practice (GMP) in Sari Murni (SM) which is the SME that produces tofu in Indonesia.

(*Contd.*)

**Table 3: List of Literature Included in Data Analysis (Contd.)**

No	Database/ Type of Publications	Authors (Year)	Title of Article	Name Of Journal	Study Setting	Type of Study/ Research Method	Research Area	Data Collection Tool	Relevant Findings
17	Scopus /Conference paper	Mohd Zabiedy Mohd Sulaiman, Nurulhuda Noordin, Nor Laila Md Noor, Ahmad Iqbal Hakim Suhaimi, Wan Abdul Rahim Wan Mohd Isa (2018)	Halal virtual inspection requirements for food premise inspection process - Towards the virtualization of Malaysia Halal certification system	International Conference on Information and Communication Technology for the Muslim World	Malaysia	Qualitative method	Food Premise	1. Interview - open- ended interview questions, interview was voice recorded 2. Observations	This article is discussing on the critically important requirement of Halal Inspection (HI) which is the key process of Halal Certification (HC) system.
18	Google Scholar /Conference paper	Mirajiani, Wahyu Susihono (2021)	The Evaluation of Has- 23000 Implementation in Sate Bandeng Industry Certified of Halal	Joint proceedings of the 2nd and the 3rd International Conference on Food Security Innovation (ICFSI 2018- 2019)	Banten Province, Indonesia	Qualitative method	Sate Bandeng industry from Banten Province	1. Observations 2. Interviews	This article aims to determine the level of application of HAS-23000 which is a standard from LPPOM MUI in Indonesia, in halal certified milkfish satay industry in Banten Province, and the result was used for basic policy making.
19	Google Scholar /Conference paper	Baharudin Othman, Sharifudin Md. Shaarani, ArsiahBahr on (2016)	The Effect of Halal Requirement Practices on Organization Performance Among Food Manufacturers in Malaysia	23rd International Academic Conference, Venice	Malaysia	quantitative research	Food manufacturers	cross- sectional surveys method. questionnaire	This article focused on the halal requirement practices that have impact on organizational performance in Malaysian halal food industry.

(Contd.)

Table 3: List of Literature Included in Data Analysis (Contd.)									
No	Database/ Type of Publications	Authors (Year)	Title of Article	Name Of Journal	Study Setting	Type of Study/ Research Method	Research Area	Data Collection Tool	Relevant Findings
20	Google Scholar /Conferenc e paper	Della Ika Aldista, David Atmaja, Johanes Kurniawan, Riza Lestari (2018)	The Effects of The Implement ation Of Halal Critical Activities On The Quantity Of The Order Received By Company Which Has Run Iso - Case Study: Pt Ych Indonesia	Advance s in Engineer ing Researc h (AER), volume 147 - Conferen ce on Global Researc h on Sustaina ble Transpor t (GROST 2017)	Indone sia	qualitativ e	COMPA NY WHICH HAS RUN ISO	1. interviews with employees or telephone interviews with the secretary 2. documents related to halal certificatio n 3. questionna ire	This article is discussing on the similarities between halal and ISO 9001-2008 in case study PT YCH Indonesia that guarantee halal status in handling until reaching the customers.
21	Scopus /Conferenc e paper	Nurulhuda Nordin, Nor Laila Md Noor, and Zainal Samicho (2012)	Applying the Work Systems Method to Investigate the Operational Efficiency of the Halal Certificatio n System	19th IBIMA Conferen ce	Malaysi a	qualitativ e	halal suppliers and manufact urers	face to face interviews	This study aims to identify halal certification processes by using the work systems method as a framework for inquiry in order to provide a holistic view of the halal certification environment using the Malaysian halal certification system as the case study.

the studies with regard to the research question. Each keyword is specifically used in each of the databases. Table 4 shows the number of papers collected from each database.

#### Number of publications by year

The publication year of articles reviewed were not limited by the year they were published. There were no paper prior to 2012, and there are three papers published

Database	Number of papers (n= 1,008)	Number of papers that can be used (n= 21)	Articles no. in data collection spreadsheet
Scopus	251	9	1, 2, 3, 12, 14, 15, 16, 17 and 21
Emerald Insight	130	1	4
MyCite	84	2	8 and 10
Google Scholar	543	9	5, 6, 7, 9, 11, 13, 18, 19 and 20

Year	Number of papers (n=21)	Publications no. in data collection spreadsheet (Table 3)
2012	1	13
2013	0	-
2014	1	14
2015	1	15
2016	3	16-18
2017	1	19
2018	6	20-25
2019	3	26-28
2020	2	29,30
2021	3	5, 31 and 32

Country of publisher	Number of paper (n=21)	Publications no. in data collection spreadsheet (Table 3)
Malaysia	12	5, 13-19, 25-28
Indonesia	7	20-22, 29-32
Malaysia and Thailand	1	23
Philippine	1	26

in 2021 that is related to the topic of this study. As shown in Table 5, the year 2018 have the most published papers regarding Halal Assurance Management System in Production of Halal Products.

Regarding the year of publication, one article was published in 2012, one article was published in 2014, one paper was published in 2015, three studies were published in 2016, one article was published

in 2017, six papers were published in 2018, three papers were published in 2019, two articles were published in 2020 and three papers were published in 2021.

**Number of paper published according to the country of publisher**

Four countries such as Malaysia, Indonesia, Thailand and Philippine are involved in publishing these 21 publications.

Types of publications	Number of publications (n=21)	Publications no. in data collection spreadsheet
Journal article	12	1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13
Conference paper	8	14, 15, 16, 17, 18, 19, 20 21
Research paper	1	4

Research Methodology	Type of Study	Number of publications (n=21)	Articles no. in data collection sheet (Table 3)
Survey	Quantitative	9	1, 2, 4, 5, 6, 7, 12, 13, 19
Interview+ Observation	Qualitative	5	8, 10, 11, 17, 18
Interview	Qualitative	3	3, 15, 21
Observation	Qualitative	2	16, 14
Interview + Audit documents +Observation	Qualitative	1	9
Interview + Document review + Survey	Qualitative+ Quantitative	1	20

From the results, Malaysia is the leading country of publisher with 12 papers followed by Indonesia with 7 papers, Philippine with 1 paper and lastly Malaysia together with Thailand with 1 paper. Table 6 below shows the country of publisher involved in publishing the articles reviewed.

**Classification of the type of publication reviewed**

The articles are classified into threetypes; journal article, research paper, case study and conference paper. Type of publication with the highest number of papers is journal articles with 12 papers. Table 7 shows the classification of the type of articles reviewed.It was recorded that 12 publications were journal articles, one research paper, and eightconference papers.

**Research methodologies used in the literature**

Four research methodologies such as survey, interview, observation, audit

documents and document review were used in the publication reviewed. Table 8 below shows the research methodologies and type of study which is quantitative and qualitative study used in the publication reviewed. Survey is the main choice for research methodology with nine publications and qualitative study is the major type of study with eleven publications.

**Success factor of halal assurance management system implementation**

Success factor is vital in order to make sure that Halal Assurance Management System (HAS) can be implemented successfully in halal industry. Eight themes will be discussed under this section which are customer, product and services, process and activities, participants, information, technologies, environment and strategies. First factor was customers's trust. In order to gain customer's trust in their halal products, it is important to implement halal assurance system as it has a significant



impact of halal products. Nowadays, customers are concerned about the quality safety of the product that they bought. The quality and safety of a product's requirement could be met by implementing Good Manufacturing Practice (GMP) into the production process and also by applying halal certification to the products. In the process theme, according to study by Rahman et al.(18), SMEs manufacturers must create and implementing traceability system to have a sustainable Halal Assurance System and to help the halal product's tracking process in order to adhere to HAS principle and practices. Traceability system is important as it is able to identify and trace raw materials and products through each stage include receiving, processing, storage, distribution and others along the halal supply chain. Well-organised administration and documentation system would facilitate the tracing process if there is any problem during halal production. Traceability system implementation would be one of the success factors as it can attract new consumer and meet expected future customer requirements, meanwhile it can benefit the company implementing it as it can decrease costs and increase their performance too. Furthermore, food preparation specified based on halal certificate and IHAS can produce high quality food as it can guarantee the use of halal raw material certified by the authorities. Next, it is not only necessary to commit to cleaning process and have harmonized cleaning procedure, it is also important to emphasize the employee's health in the manufacturing process. Apart from that, training and education on the implementation of halal assurance system is important to be conducted among the personnel as it can improve their knowledge and skills to comply to the procedure when they are working. In order to make sure the product is stored and shipped according to its quality; halal logistics too play an important success factor to maintain the product quality.

There has been a study by Perdani et al., (22), that shows HAS can be implemented when there is a good halal team as the top management that should be institutionalized and following halal policy. In addition, having trained Halal Auditors and halal executive that have comprehensive understanding on the system can also contribute to a successful HAS implementation. It is proven that knowledge and understanding of the personnel when adopting the management system can contribute to quality, safety and hygienic production as one of the major success factors. Moreover, halal product producers and manufacture must fully observe the HAS based on the standards and when the guideline is adjusted according to the current need in the market, there would always be a room for improvement that can be done by the authorities. Furthermore, operational performance can be improved when the manager in a company can integrate the HAS within the company's quality management system. Other than implementing the system, halal certification and verification is becoming a vital approach for further assurance to a particular halal brand as the halal sector has made halal certification as a part of halal assurance system since halal certification demand are growing as mentioned by Nordin et al.,(13).

Hassan et al.(15) mentioned that those food premises that implement IHAS can be more at advantage compared to premises without halal logo. IHAS is mainly use to supervise the use of raw material that is halal and certified by halal authorities and this implementation can produce high-quality raw materials and ingredient in the food preparation following the requirement of halal certificate. Moreover, a compilation of good food handling procedures based on the IHAS and implementing the quality assurance, leadership, information management, customer focus, human resource management, process management, supplier focus, and corporate planning when implementing quality management method

also play a major role as the success factor, supported by Hassan et al. (15) and Talib et al.(14).

Besides, virtual technology is one of the modern technological advancements used for halal inspection process. Virtual technology collaboration with halal inspection team is believed to improve the existing halal inspection process and improve system's productivity and it helps the halal certification practitioners identify the critical control point (CCP) virtually by removing the difficulties during the evaluating process as mentioned by Mohd Sulaiman et al. (27). Then, Abd Aziz et al.(5) said that there is also a need to build a database for Islamic cleaning process. Finally, to satisfy the customer, it is recommended for halal business owner to improve their brand perceived quality, satisfaction, trust, and loyalty.

#### ***Issues and challenges of halal assurance management system***

This part focuses on the issues and challenges that commonly arise in the halal industries when implementing Halal Assurance System in production of halal products. Four themes will be discussed which are i) process and activities, ii) participants, iii) information and iv) environment. There are numerous of issues that has been arises in halal industry, firstly in processes and activities themes, according to Othman et al.(17) for European businessman, there are few of them that are unaware of some aspect of the halal certification criteria that shows lack of awareness in the system within the businessmen. Study done by Mirajiani and Susihono, (31) mentioned that there was a lack of reporting and documented procedures in Small and Medium Industries and the procedures are also not implemented in the industries. Halal training is a specific training relating to halal designed and usually implemented by the company internally inclusive of halal awareness and halal competency. However, there are issues when there is no internal training in implementing the SJH in Indonesia and there were SJH manual that is not been created by the company because of few reasons either the system is

not ready or no one in the company understands the SJH manual's requirement, thus they do not meet all of the HAS 23000 criteria supported by Sucipto et al.(32) and Perdani et al.(22). In addition, regarding Islamic cleansing (Sertu) process, there are study found that the current guideline for Sertu process is too general and they are not specific according to industries. The next one, there is an issue stated by Hassan et al.(15) that implementation of the assurance system is only implemented by the food premises' halal executives, and it is implemented in a non-systematic manner and did not follow to the IHAS' requirements. Moreover, no specific committee was appointed to take care of IHAS and supervised whether they comply with its requirements and only depended on the halal executive solely. This limited amount of manpower appointed to enforce the IHAS could affect the halal production process in the long run.

Apart from that, under the information theme, there was lack of knowledge and understanding within the halal committee for instance within Halal executives. It is found that according to Hassan et al. (15), the committee only depends on their knowledge and understanding of Islam and their previous experience in managing food premises without understanding the requirements of IHAS itself when implementing the system. When there is not enough knowledge in this area, it will lead to incomplete certification process according to paper found in Indonesia. Halal policy is a commitment statement that stated the company is determined to only produce and market halal products consistently in order to meet consumer needs and prioritize customer satisfaction. Mirajiani and Susihono, (31) mentioned that in one of the case studies conducted, a food manufacturing company does not have halal policy, and has not become the company's commitment.

#### **Conclusion**

This study has successfully provided a systematic literature review on Halal Assurance Management System in

production of halal products. Conclusively, the findings of this study had shown that from the 21 articles there are still issues and challenges arise when implementing this system in halal industry. The majority of issues and challenges were caused by there is lacking understanding and knowledge and lack of effective halal committee within the company itself to implement the assurance system. It is proven that the effective halal committee within the top management in a company and implementation of standardized assurance management system, are needed as the backbone to the successful implementation of Halal Assurance Management System. This study may have provided some review on HAS research findings, however there are still limited information by the fact that there were not many studies done specifically on the halal assurance management and also the inaccessibility of the documents is also limited and the discussion are majority based on studies in food industries especially in SMEs industries thus limiting the studies to cover wide areas in halal industries.

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