## **INPLASY**

# **Ensuring Halal Integrity in the Food Chain: Halal Standards and Certifications**

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#### **ADMINISTRATIVE INFORMATION**

**Support -** This study is part of author's PhD works under the funding of Government of Brunei Darussalam.

Review Stage at time of this submission - Data extraction.

Conflicts of interest - None declared.

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**Amendments -** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 25 October 2024 and was last updated on 25 October 2024.

## **INTRODUCTION**

Review question / Objective This systematic literature review aims to advance the understanding of the role of Halal food standards and certifications scheme in ensuring Halal integrity from the supply chain management perspective i.e. from farm-to-fork.

Specifically, this review intends to answer the following research questions:

RQ1. What are the critical factors that can compromise Halal integrity in the food supply chain? And at which level of supply chain? RQ2. How do Halal food standards and certifications address the issue of Halal integrity in the supply chain? Are there differences between publicly and privately held Halal food standards and certifications?

RQ3. What are the emerging issues and challenges of Halal food standards and certifications as Halal integrity control mechanism?

Rationale The rationale behind this study stems from the growing concern of Halal integrity along the food supply chain. Ensuring Halal integrity presents a significant challenge due to the globalisation of Halal food network, the prevalence of Halal food scandals, and the difficulty in detecting integrity issues because of the credence attribute of Halal products. As such, there is a need for Halal food standards, reinforced by effective Halal certification scheme and labelling, to govern the intricate and complex Halal supply chain. From institutional theory lenses, Halal food standards and certifications set explicit regulatory processes such as rule-setting and monitoring, that can act as formalised schemes to influence supply chain actors to uphold their Halal claims and address Halal integrity issues.

**Condition being studied** The role of standards and certifications as mechanisms to address the issue of food integrity across the supply chain, particularly in the context of Halal food.

#### **METHODS**

**Search strategy** The following keyword string is developed for search in the databases' title, abstract and keyword:

( halal OR islam OR "food belief\*" OR muslim ) AND ( food OR diet\* ) AND ( standard\* OR certificat\* OR "quality assurance" OR "assurance system\*" OR label OR governance OR mechanism\* OR audit OR inspection\* OR verification\* OR accreditation\* OR assurance ) AND ( integrity OR "halal control" OR "halal compl\*" OR transparency OR traceability OR trust OR quality OR safety OR HCP OR compliance OR risk OR fraud )

Further, we conduct subsequent citation searches for a subset of at least 20% of the included paper after the full-text screening stage. We use Citationchaser tool to efficiently run a backward and forward citation searches.

Participant or population For the unit of analysis, this review considers all Halal supply chain actors such as governmental and religious authorities including NGOs that oversee Halal food standards and certifications, suppliers, slaughterhouses, producers, manufacturers, logistics providers, distributors, retailers, and consumers.

Intervention Halal standards and certifications.

Comparator Not applicable.

**Study designs to be included** Conceptual and empirical studies of both qualitative and quantitative.

Eligibility criteria Other eligibility criteria:

Theoretical boundaries – include articles on Halal food standards and certification with emphasis/ focus on Halal integrity. Exclude articles that discusses linkages of Halal standards with other outcomes such as operational performance, marketing and innovation.

Definition and operational measures – include articles on standards, certifications and integrity that fall within the context of Islam and Halal food. Exclude articles on other standards and certifications such as Kosher, vegan, organic and other food integrity concerns example food safety.

Study context - Include articles on Halal food. Exclude articles that does not concern food such as finance, pharmaceutical, cosmetics and tourism.

Language - Include only English articles.

Paper type – Include peer-reviewed articles with access to full articles. Exclude non-peer-reviewed articles, full review paper and grey literature.

**Information sources** Online databases i.e. Scopus, Web of Science, CAB Abstract, Business Source Ultimate and ProQuest Natural Sciences Collections.

Main outcome(s) Halal integrity and Halal food risk management.

Quality assessment / Risk of bias analysis We identify potential biases and have developed action plans to minimise any biases as follows:

For sampling bias, we take the approach of high sensitivity and low specificity in developing our search string, with the help of a librarian expert, to capture a broad sample of articles. We also employ several databases and conduct subsequent citation searches for extensive search efforts.

Another potential bias is selection bias for the inclusion and exclusion of articles. To minimise this, we conduct independent title and abstract screening in Covidence. Kappa Statistics will be calculated to assess the reliability of the papers included.

We recognise possible within-study bias i.e. variety in extracting data as well as expectancy bias. To approach these biases, extraction form is developed, piloted, and refined before being employed for data extraction. Data are extracted independently by two researchers before they are reconciled.

In terms of quality assessment, CASP checklist will be employed both for the included paper and this review.

**Strategy of data synthesis** Extracted data in Covidence will be exported and cleaned in MS Excel worksheet and will be coded and analysed thematically in NVivo.

Subgroup analysis Not applicable.

Sensitivity analysis Not applicable.

## Country(ies) involved United Kingdom.

**Keywords** Halal standards, halal certifications, halal integrity, halal food chain.

**Dissemination plans** Halal standards, halal certifications, halal integrity, halal food chain.

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