

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

In this chapter, a literature review corresponding to the research objective was conducted to establish a theoretical framework and research tool for conducting the field surveys. The research variables, namely individual's consciousness, perception, practice, the origin of information, the consciousness of information, process verification, traceability and halal food product wholesomeness were reviewed to develop an in-depth insight into the contribution of this study to the previous literature. Furthermore, the structure of the literature review is classified into two major sections, where the first section presents an overview of the main themes and organizational patterns, including factors of information searching behaviours for halal food products, theories in human behaviours, human attributes, information searching attributes, and halal food challenges attributes. The second section discusses the findings of previous models in information searching behaviours.

The topics reviewed in this chapter are the factors influencing the information searching behaviour for halal food products among Malaysian Muslim consumers and the origin of information incorporated in the searching of halal food products. This chapter reviews and compares the previous factors of identifying halal food products with the current research factors to determine the differences of the practices in the previous and current research. Following that, the theories in human behaviours were reviewed to gain an overview of the current research, in which the international and Malaysian-related studies of information searching behaviour were assessed to solve

the drawbacks in the previous studies. This was followed by the development of a conceptual framework related to human attributes, information searching attributes, and halal food challenges, as presented in the next chapter. Then, research hypotheses are illustrated based on the proposed framework in the following chapter.

The materials used in this literature review included the research papers from international studies in different disciplines and Malaysian studies of halal food products, search engines of the academic database, such as Google Scholar, Wikipedia, Science Direct, and the book titled “Looking for Information: A Survey of Research on Information Seeking, Needs, and Behavior by Donald O. Case and Lisa M.” This book was frequently used in this research, which enables the exploration of the methods applied by Malaysian Muslim consumers to seek information and the factors of information searching behaviour for halal food products. This literature review was performed from a wide range of research sources to obtain a comprehensive insight and apply it in the current context.

2.2 Theories in Human Behaviours

Many theoretical models, which have recently been suggested in human behaviour research, are utilized in Information Technology (IT) sectors, marketing, and e-commerce. This chapter reviews three theoretical models, namely Triandis Model (TM), Theory of Planned Behavior (TPB), and Theory of Reasoned Action (TRA) due to the most frequent use of these theories in human behaviour. It also presents the human research variables derived from the aforementioned theories, namely individual's perception, practice, and consciousness.

2.2.1 Theory of Reasoned Action

It was suggested in the theory of reasoned action (TRA) that an individual's behaviour is determined by his attempt to either implement certain behaviours or vice versa (Farhat et al., 2019). Two conceptually independent elements were assigned by TRA, namely perception and subjective norm, which interacted with each other and contributed the theory of relative significance (Karnowski, Leonhard & Kumpel, 2018). However, the theory lacks in the external factors, which determine whether the behaviour is positive or negative. This theory aims to elaborate on the relationship between individuals' features and behaviours to understanding the individuals' willingness by examining their implicit motivation to complete an action (Willa et al., 2011). Notably, the behaviour is based on the attempt of performing it, which is determined by two independent factors through TRA, namely attitude and subjective norm (Karnowski et al., 2018).

These factors altogether determine the individual's intention concerning the relative importance, while an individual's behaviour is determined by the attitude, which considers the degree of the assessment of a particular attitude. In this case, attitude is based on behavioural principles and assessment of behavioural results (Ghasrodashti, 2018). The subjective norm, which is the second factor, is based on the individual's normative principles regarding the approval of the influential parties on a certain behaviour or vice versa, including their incentive to respond to the approvals and disapprovals (Karnowski et al., 2018). Meanwhile, the model of TRA was tested in several works of research in terms of limitations (Liu, Segev & Villar, 2017). However, the major limitation of TRA was the lack of awareness of the interpersonal and social relations among individuals. Despite the identification of the significance of social

norms, the methods were only within the scope of individuals views of these social phenomena (LaCaille, 2020).

As a result, the distinction between the two factors was unclear as the individuals' principles, behaviour, and comprehension accounted for an activity. Social changes refer to generational instead of a combination of individual changes (LaCaille, 2020). Notably, TRA experiences a failure in capturing and oversimplifying the social procedures and features of the change through a model, in which new definitions and conducts are developed (Liu, Segev & Villar, 2017).



Source: Martin Fishbein and Icek Ajzen, 1967

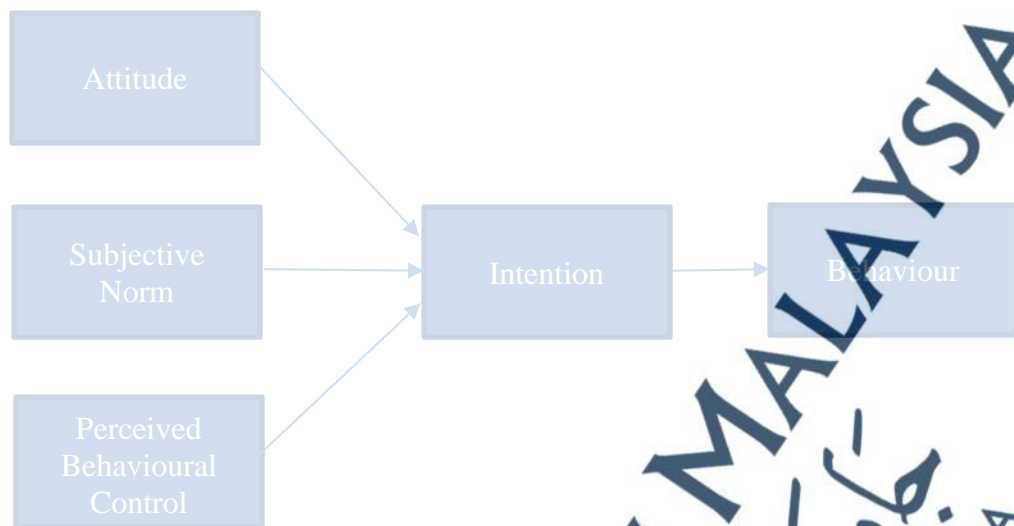
Figure 2.1: Theory of reasoned action (TRA)

2.2.2 Theory of Planned Behaviour

Theory of planned behaviour is an extension of TRA, which is essentially formed through the weaknesses of the original model in terms of the behaviours. Individuals are unable to exercise complete optional control on these behaviours. This theory was implemented in the research of the association of principles, behaviours, behavioural attempts, and attitudes in diverse areas, including public relations, maintenance, sport management, advertising, and healthcare (Ajzen, 1991).

The theory was suggested to develop the predictive power of TRA by adding perceived behavioural control. Human behaviour is managed by three types of considerations, namely behavioural, normative, and control beliefs (Aitken, et al., 2020). Specifically, behavioural beliefs form either preferable or adverse behaviour towards the behaviour and normative beliefs, which leads to a subjective norm. Meanwhile, although control beliefs contribute to an identified behavioural control, no subject was highlighted in the TPB Model regarding the association between the three factors in the development of attempt (Aitken, et al., 2020).

The integration of all the three elements, including attitude towards the behaviour, the subjective norm, and the identified behavioural control result in the formulation of a behavioural attempt. Specifically, the identified behavioural control does not only have a direct impact on the real attitude, but it also has an indirect impact through behavioural intention (Ajzen, 2002; Noar and Zimmerman, 2005). As a general principle, the individuals' attempt to exhibit the attitude is highly based on the appropriateness of attitude towards behaviour, subjective norm, and improvement in the identified behavioural control (Ajzen, 2002). In other words, individuals are expected to perform their attempts when they have obtained an adequate level of control over the attitude.



Source: Ajzen, 1985, 1991

Figure 2.2: Theory of planned behaviour (TPB) model

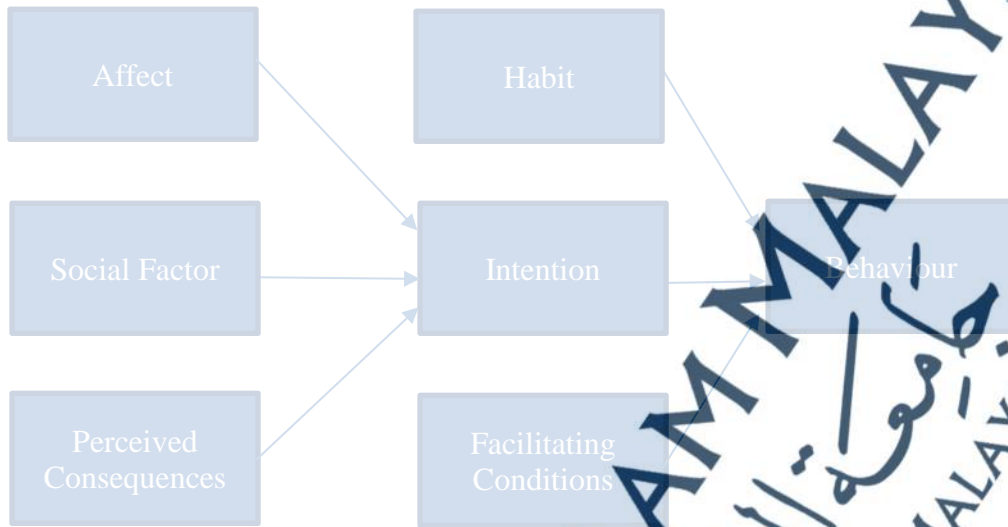
2.2.3 Triandis Model

Triandis model (1980) postulated a similar link between behaviour, attempt, and attitude as the link between these elements in the TRA and TPB models. However, several pertinent variables were included, namely facilitating conditions, social elements, and practice. Specifically, facilitating conditions are represented by the basic supports for the implementation of behaviour, such as money, time, hardware, and expertise (Davis, 2020).

It is presumed by the model that the likelihood of implementing an event refers to the role of habit, the attempt of conducting the event, and the requirements to facilitate actions. It was found by Chang and Cheung (2001) that the intentions to conduct a specific attitude include the role of identified outcomes, impacts, and social elements. Furthermore, Triandis Model hypothesises that social factors, such as social norms and perspectives of significant others have a positive impact on the elements.

This hypothesis is in an agreement with the TRA (Davis, 2020). As the significance of

the Triandis model is present in the aspects of social studies, consumer behaviour, and health behaviour, this model has been widely adopted in these fields.



Source: Chang and Cheng, 2001

Figure 2.3: Schematic of the Triandis model

2.3 Factors Influencing the Information Searching Behaviour for Halal Food and the Used Origin of Information

To fulfil the primary research purpose, which is to investigate the elements influencing the information searching behaviour for halal food and to identify the origin of information while seeking halal food products, the review on previous research in the same area is pivotal. The review in this study consisted of two sections. The first section refers to the factors of the information searching behaviour for halal food, which is presented in the subsections 2.3.1, 2.3.2, and 2.3.3. The second section reviews the origin of information, which is presented in subsections 2.3.4, 2.3.5, and 2.3.6.

2.3.1 Factors Impacting the Intention of Accepting Halal Food among Religious Consumers

Nazahah and Junos (2012) investigated the indicators of religious consumers' acceptance of halal food by developing a model for halal product acceptance for the religious society through TPB. In this case, the religion and habit attributes were added into this theory to investigate how religious consumers express their intention to accept halal food. Furthermore, since consumers' intention to make a new request or action was influenced by what motivated them and their behaviours and perspectives, marketers focused on the motivational factors of the product acceptance procedure (Schikofsky, Dannewald & Kowald, 2020). These factors, which predicted the consumers' intention to accept the halal product, were also investigated in the study by Nazaha and Juns (2012). In this study, consumers' perception in their acceptance to halal products, the impacts of significant others, the identified restriction on halal product purchase, religion rulings, and the consumers' practice, which reflected their attempt of accepting halal products. Meanwhile, Bonne et al. (2007) found that individuals with lower self-identification as a Muslim would be more dependent on individual factors, including personal moral norm and attitude.

2.3.2 Awareness Factor of the Searching of Halal Food Products among Malaysian Muslim Families

The challenges and uncertainty in determining halal food products among Muslim families led to the study by Yousoff and Adzharuddin (2017) on the factors of Muslim families' awareness in Bangi, Selangor, Malaysia regarding the searching of halal food product information. Therefore, the campaign of awareness was implemented by non-governmental organizations (Case Do et al., 2005). It was also found by Yousoff

and Adzharuddin (2017) the Muslim families exhibited a high level of awareness regarding halal food as they did not rely solely on the information provided by The Islamic Development Department (JAKIM), but they also performed information searching for halal food on their own.

2.3.3 Factors Influencing Behavioural Intention for Young Muslims' Consumption of Halal food in Klang Valley, Malaysia

The consumption of food refers to social pressure and the restriction placed on the individual's behaviour and conduct. Generally, religion is a vital factor in the consumers' attempt to consume halal food (Acas, & Loanzon, 2020). On the contrary to social pressure, it was found by Endang et al. (2010) that identified restriction on perception and conduct significantly impacted the Muslims' behavioural attempt to choose halal food. Meanwhile, the Muslims who acquired religious education had more interests in consuming halal food compared to the Muslims who received non-formal religious education. Another study by Syed Shah Alam and Nazura (2011) investigated the importance of behavioural control, subjective norms, and Muslims' conduct in their attempt to buy halal food. It was indicated from the results in Abdul Khalek et al.'s (2015) study the attempt of consuming halal food in Klang Valley, Malaysia was frequently influenced by the Muslims' positive perception and their behavioural restriction on halal food. Notably, these results also presented information to the manufacturers for market growth and the improvement in halal food consumption by governmental authorities and organizations.

2.3.4 Information Searching Behaviour and Origin of Information

Khosrowjerdi and Iranshahiv (2011) reported that information searching behaviour was highly dependent on the prerequisites of the searchers, namely skills, previous experiences, and familiarity. Information searching behaviour was also dependent on the fields in which the information searchers were from, such as social studies, medicine, and biology (Rowland and Nicholas, 2008). Additionally, Connaway et al. (2011) and Liu and Yang (2004) demonstrated that users sought information using the most convenient information resources, which corresponded to the Least Effort principle suggested by Zipf (1949). Meanwhile, a study by Liyana and Noorhidawati (2014) investigated the information searching behaviour and the selection of the origin of information among 217 computer science graduate students from the faculty of computer science and information technology at University of Malaya, Malaysia. It was found that the web search engine was the primary origin of information utilized by the graduate students due to practical use, free access, speed, simplicity, and limitless the text content. However, doubt was still present among graduate students regarding the reliability of the information they acquired.

2.3.5 Online Information Credibility for Youth

Similar to adults, the research on information credibility for youth is important as youth constitutes one-fifth of the population in developed countries. Besides, the research on this subject could provide further insights into the use of media in the future, which follows the integration of multiple media, mutual online participation, and reducing the boundaries between online and offline socialization (Canhilal Canboy & Bakici, 2020). Moreover, children are also emphasized due to the stress between their

technical and social immersion into digital media, including relatively limited development and life experience compared to adults (Gillen, Flewitt & Sandberg, 2020). Therefore, the understanding of the evaluation of online information about the children is important. Furthermore, Folk and Apostel (2013) examined the beliefs regarding the credibility of information available online among youths from the United States of 11 to 18 years old, including the strategies used to evaluate the online information. It was found that youths aged from 11 to 18 years old had a healthy degree of concern regarding the reliability of online information as they were relatively concerned of the information credibility. In this case, a better awareness of general credibility among youth was present because of the extended use of the internet and the vital cohort-related changes in the cognitive development among the youths (Bowler, Julien & Haddon, 2018).

2.3.6 Factors Affecting the Perspective and Choice of the Origin of Information

University and College students use different methods to obtain information, such as university libraries and other information services on the web. It was found that unreliable and inaccurate sources were used by the students despite the assistance offered to the students to use optimal sources (Pérez et al., 2018). This finding corresponded with another study which suggested that users' selection of origin of information was based on preferences rather than the compatibility of the origin with their tasks (Schomakers et al., 2019). Meanwhile, Leckie et al. (1996) highlighted the factors affecting the selection of information origin, namely quality, familiarity, and perceived accessibility. Similarly, Kim and Sin (2007) investigated three aspects of the behaviour of selecting information origin, namely the frequency of various information

origins, features of origin as the criteria of origin choice, and identified features of information origin. Overall, these findings would be beneficial in the development of Bibliography Instruction (BI) and Information Literacy (IL) programs.

2.4 Related Studies of Information Searching Behaviour

There has been an increase in the review conducted on information-seeking behaviour (ISB) by the library and information science researchers. Challenges are present in the review of all studies related to ISB, therefore, an attempt was made to review several studies related to the research regarding ISB in the Malaysian and international level. Specifically, the international studies were reviewed in terms of information searching behaviour for different disciplines, while the Malaysian studies were reviewed in terms of the information searching behaviour for halal food.

2.4.1 International Studies

The research in ISB field was performed according to several avenues. A comparative study by Ellis et al. (1993) investigated the information searching behaviour of two groups of researchers (physicists and chemists) and social scientists through a similar methodology implemented by previous social scientists. It was found that no fundamental difference was present between the ISB of the two groups as only minor differences were present in terms of the awareness levels within the facility and the range of resources used. However, the verification and ending of activities were not classified under the discrete category by the Elis's Model (1993).

Ren, et al. (2019) investigated the youths perception and use of the internet and other sources to seek health and medicine-related information. It was found that the internet was the primary source of information for many of the students, which was

identified in the analysis based on their prior experience of using the source. However, the low quality of the acquired information and inadequate relevant sites found from the search led to dissatisfaction among the students. Meanwhile, Leckie et al. (1996) reviewed information searching among lawyers, healthcare professionals, and engineers to interpret the results based on comprehensive representative research on the professionals. Subsequently, an original model of information searching methods, which could be applied in any career within these fields. Moreover, six components within the original model of information searching were found to apply to the professionals, namely results, sources, consciousness, features of information necessity, related responsibilities, and work functions.

Makrie et al. (2008) analyzed information searching behaviour of 27 academic lawyers who used electronic resources to seek information associated with their career. In this analysis, although Ellis's model (1993) was used as the lens to analyse the information searching behaviour, this method of analysis resulted in a broad-scope design insight due to the significant degree of abstraction. Additionally, a new feature of information searching behaviour was identified, namely updating, followed by a similar feature of this behaviour to the one initially identified by Ellis (1993) and his colleagues.

Karatas, Bademcioglu & Celik (2017) aimed to examine the association between Problem Solving Skills and Multiple Intelligences of students. Data collection was performed through a survey on 181 female and 193 male students. A regulated psychological tool, which was problem-solving inventory (PSI), was utilized to assess the students' principle and self-estimation of their problem-solving. It was found that the users' principles in problem-solving impacted the three aspects related to the conduct of using the source, namely self-control in problem-solving, confidence, and

avoidant style. Meanwhile, the research by Gavvani, Qeisari, and Jafarabadi (2013) aimed to enhance the strategies of identifying health information in Iran and determine the assessment performed by the Iranian people on the functions public libraries in obtaining health-related information. Data was collected through a structured questionnaire and analyzed through the frequency of qualitative variables and chi-square test on the relationship between socio-demographic elements and information searching behaviour for health. It was found that Iranian people were passive information searchers rather than active, in which the information was mostly sought through the TV and discussion with other parties. It was also found that the information source used by the students, such as e-library, was ineffective due to the lack of awareness among the students (Umukoro, & Tiamlyu, 2017).

The youth's belief about online credibility information was examined through an extensive survey conducted on children from the United States aged 11 to 18 years old (Folk and Apostel, 2013). Provided that youths measure the credibility of the online information through the findings on methods and strategies, it was found that the children's interests and perceptions on credibility were primarily determined by the demographics, usage, and personality characteristics, while race played a minor role in credibility concerns. To illustrate, non-white youth may be reflecting the identified patterns of social doubt among minorities. In this case, children who had adverse experiences in online information searching, trained for reliability assessment, and were informed by their parents regarding the reliability of online information exhibited more apprehension and worries about online information. Meanwhile, children who regarded themselves as having higher skills in internet use spent a long time in the digital worlds. Moreover, the children who were exposed to a longer duration of the Internet use

exhibited more worries and were lacking in social trust regarding the reliability of the information.

Leila A. Mills et al. (2013) investigated information searching among 18-year-old social media users who received higher education. These users were invited to the survey regarding their preferred method of information searching through email and Facebook. The study aimed to determine relevant activities, including information searching and distribution using technology and the prevalent surrounding of the information in the 21st century. A survey was conducted with 147 participants regarding four preferred online learning methods, namely information and a survey of communication technology learning, the questionnaire on computer perception, technology connection survey, and social media learning scale. Moreover, Pearson's product-moment correlation analyses were performed on the survey data, which revealed that the tendency of information and communication technology (ICT) towards searching and distribution digital information had a positive association with the positive use of Social Media for Learning (SML). The most significant alignment was also observed between ICTL sharing information and social media learning.

2.4.2 Malaysian Studies

Rezai et al. (2009) studied the issues related to food products labelled with the halal status among the Muslim consumers in Malaysia by collecting the cross-sectional consumers' data from a survey performed on 1560 Muslims in 2008. Based on the data analysis through the chi-square and descriptive methods, it was found that consumers with stronger religiosity and higher education were more concerned regarding the food products with the halal status. Later, Asa R. S. (2017) investigated the consumers' views regarding the use of the halal logo to guarantee food quality and halal ingredients by

distributing questionnaires to the respondents. It was found that the respondents also considered the ingredients used in halal-labelled food products. It was also proven that a strong association was present between the respondents' religion and their views regarding the halal logo and ingredients. Following the use of the audit risk framework in conventional assurance services, the assurance of the halal logo emphasized on the halal status of the business premise and the product, including the assurance in the environmental aspects, including the display of the halal logo.

The determinants of the halal product acceptance model among the consumers for the religious society were investigated by Abd Rahim and Junos (2012). It was found that the attempts of the religious consumers to identify, accept, and sample the halal products might be based on their intention. Their attempts were also based on their perception, views of practice, significant others, identified behavioural control, and religious consciousness. However, the suggested model did not highlight the duration needed to identify it as a practice. It also did not determine the association of practice with other elements of the model. Notably, this research was in line with the research by Abdul Khalek et al. (2015), which aimed to determine the elements influencing the behavioural attempt of Muslim youth in consuming halal food at the Malaysian Private Higher Learning Institutions. It was found that the youth's attempts to consuming halal food in Klang Valley, Malaysia was influenced by the Muslims' positive perceptions and behavioural management on halal food.

Provided that consumer awareness is an important factor of identifying halal food, Yusoff and Adzharuddin (2017) investigated the uncertainty experienced by Muslims to determine the halal product due to the current challenges in the industry. It was found that the factor of consciousness had a significant correlation with information searching behaviour among Muslim families. Similarly, Ambali and Bakar (2013)

studied the elements of Muslim consumers' consciousness regarding halal food in Shah Alam, Selangor, Malaysia. The study focused on the issue of the degree of consciousness regarding halal food consumption among Muslims. Accordingly, 210 Muslims aged 18 years were selected in the study through a suitable sampling technique. Furthermore, it was found through the Sequential Equation Modelling (SEM) that four elements could influence Muslims' consciousness of the consumption of halal food, including religious principle, halal exposure, halal logo, and health-related factors. Provided that these elements were authentic determinants of the Muslims' consciousness of halal food and products, positive association between these elements and the awareness degree of halal food products was present among the Muslims in Shah Alam. However, this study omitted the issues of quality assurance and a healthy lifestyle despite the significance of this issue for food products, besides religious issues.

Following the credibility shown by the study regarding the information sources used on information searching behaviour for halal food products, a review was performed on Liyana and Noorhidawati's (2014) study, which investigated the information searching behaviour and selection of information resources among computer science graduate students from the Malaya University, Malaysia. It was found that despite the status of the internet search engine as the primary resource for the graduate students, they remained doubtful regarding the reliability of the information they received. Despite the adoption of the respondents' convenience as the main standard in the information searching procedures, careful management should be provided due to the importance of a stronger proof for generalization.

Provided that halal food is also a concern among Non-Muslims in terms of hygiene and safety, a review was conducted on the study by Wibowo and Ahmada (2016), which aimed towards a conceptual proposal of the model of halal product

acceptance among the non-Muslim consumers. Although acculturation was introduced as a new variable in the halal food product acceptance model among non-Muslim consumers, this study did not reveal demographic information, such as age, place of residence, profession, and level of study on the non-Muslim respondents. It could be said that it did not differ between the acceptances of halal food among the respondents.

Table 2.1: Summary of previous international and Malaysian studies of information searching behaviours

No.	Author(s)/ Date	Problem/Issue/ Purpose	Dataset	Methodology	Findings
1.	Mohan, G. (2018)	The study investigated older adults' web information searching behaviors, emphasizing four factors: web familiarity, content knowledge, text organisation and navigation. Two experiments were conducted using health and travel websites.	The sampling involved a total of 70 older adults aged 50 and above, all of whom had some level of web familiarity.	The methodology involved questionnaires, scenario-based observations with a think aloud protocol and video capture, and retrospective interviews.	The results on the interactions with text organization and navigation indicated that participants whose web familiarity and content knowledge were lower, were those most affected by the search problems.

2.	Reisoğlu, Çebi, & Bahçekapılı (2019)	The aim of the study is to explore whether university students' information searching behaviours, task completion times, and task completion rates in simple and difficult tasks differ depending on information searching experience and cognitive style.	The study was conducted with a sample of 20 university students.	Qualitative interviews.	The results of this study indicated that in difficult search tasks, online information searching experience is influential on the exhibition of online information searching behaviours associated with the metacognitive domain.
3.	Makri et al. (2008)	Analyzing information searching for the lawyers' model at a significant degree of abstraction, including the possibility for the development of broad-scoped design information	A total of 27 academic lawyers	Semi-structured interviews - Naturalistic observations	- Update of identification as new information-seeking behaviour, which was not identified in a previous study. - Presenting a refinement of Elis' model
4.	Gavvani, Qeisari, and Jafarabadi (2013) Vahideh Zarea Gavvani Tabriz, Elham Qeisari, Tabriz and Mohammad, and Asghari Jafarabadi (2013)	- Enhancing the insights on the methods of searching for health-related information in Iran. - Determining the method of assessment of the function of public libraries in distributing health-related information.	A total of 200 individuals from the public libraries in Qazvin, Iran	Questionnaire for data collection - The number of qualitative variables for data summary - The chi-squared tests to evaluate the relation between the socio-demographic elements and health ISB.	It was indicated from the results that passive health information searchers in Iran were present instead of the active searchers. It was also found that TV and discussion with other parties were the common methods to search health information.

5.	Folk and Apostel (2013)	Findings were recorded from the large-scale survey on the youths in the US, who aged 11 to 18 years old, particularly their principles of the reliability of the existing information online and the methods of evaluation.	Youths in the US aged 11 to 18 years old	The low number of empirical studies on the youth and information reliability was reflected from the interviews and the low number of non-representative samples of the youths.	An improved consciousness of the youths' concerns regarding information reliability was achieved from the use of the internet and essential cohort-related growth in the youths' cognitive interaction.
6.	Mills et al. (2013)	The results on information behaviour found to present educationally appropriate activity, including information searching and distribution in technology-prevalent information surroundings in the 21st century.	A total of 147 adult social media users.	<ul style="list-style-type: none"> - Survey battery on preferred online learning method. - Technology-affinity survey. - Questionnaire on computer perception. - Survey on information and the knowledge of communication technology (ICT). 	<ul style="list-style-type: none"> - Elaboration was performed on 23% of the variance in information searching behaviour for this sample using a multiple linear regression model. - Participants who preferred information searching exhibited higher positivity in their perceptions toward school, higher creativity level, higher tendency to use social media for learning, and lower inclination of engagement into digital communications.
7.	Boger et al. (2015)	The aim of this study was to investigate how the first-year students at Ostfold University College describe their search for information and how information literacy classes influence their searching behavior.	A total of 19 students participated in study.	Qualitative- Through the interviews and observation conducted. From the coding, some recurring themes were identified. In addition, the software programme NVivo-10 was used.	Only slight differences between the students, who attended the IL training and those who did not, have been found.

8.	Golnaz Rezai et al., (2009)	Concerns among Malaysian Muslim consumers regarding the wholesomeness of manufactured food with the halal logo.	A total of 1560 Muslim respondents	The theory of planned behaviour (TPB) (Ajzen 1989, 2002) and three independent factors of behavioural attempts were applied, namely identified behavioural control, subjective norm, and perception to examine the consumers' concerns regarding halal food products	<ul style="list-style-type: none"> - Consumers who were highly religious and educated had a higher possibility to have concerns regarding the halal status of the halal logo. - External variables, including several demographic factors (e.g., education level and age) were strongly associated with consumers' concern of the wholesomeness of the manufactured food products.
9.	Mohani et al. (2009)	An investigation was performed on the consumers' views regarding the halal logo as a guarantor of food quality and halal ingredients.	The respondents handed in 213 questionnaires, indicating their concerns regarding the "halal" logo and the ingredients used.	A survey was performed on the consumers through a simple random sampling during the Malaysian Agriculture, Horticulture and Agro-tourism Show (QAHA) which was organized on 11 to 23 August 2009.	<ul style="list-style-type: none"> - Respondents expressed concerns regarding the "halal" logo and the ingredients used. - It was indicated in the study that a strong association was present between the respondents' religion and their views regarding the halal logo and ingredients. - With the use of audit risk framework in conventional assurance services, assurance was identified based on the wholesomeness of the business premise and product, including the components of the surroundings, such as the halal logo.

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10.	Abd. Rahim and Junos (2012)	<ul style="list-style-type: none"> - Examine the factors of Muslim consumers' acceptance of halal products. - An element of consumer practice, which was not determined in a previous study. - To formulate and suggest a halal product acceptance model for the religious society 	Consumers in a religious society	The theory of planned behaviour (TPB) fell under the proposed framework. With the addition of factors, religion and practice were incorporated to elaborate on the formation of the religious consumers' attempt to accepting halal products, including halal food.	The religious consumers' attempt to search, receive, and consume halal products could be impacted by attempt, perception, perspectives of practice, significant others, identified behavioural control, and religious awareness.
11.	Liyana and Noorhidawati (2014)	Examining the information searching behaviour of computer science graduate students and their selection of information origins.	A survey was performed on 217 graduate students at the Faculty of Computer Science and Information Technology of the University of Malaya.	A survey was performed to answer the research questions, which also consisted of a range of questions including multiple-choice, Likert scale, and open-ended questions.	It was found that despite the role of the internet search engine as the primary information source used by the graduate students, they were uncertain on the reliability of the acquired information.
12.	Abdul Khalek et al. (2015)	This study attempted to determine the elements influencing young Muslims' behavioural attempt of consuming halal food in the private higher academic institutions in Malaysia.	The participants consisted of young Malaysian Muslim consumers aged 16 to 35 years old.	Data collection was performed through self-administered questionnaires through a 5-point Likert Scale	It was found that the attempt of consuming halal food in Klang Valley, Malaysia was mostly based on the young Muslims' positive perceptions and behavioural management on halal food.

13.	Wibowo and Ahmada (2016)	This research attempted towards a conceptual proposal of the model of a halal product acceptance among the non-Muslim consumers.	Non-Muslim consumers	The proposal of the model was performed through a review on consumer behaviour theories, including the Triandis model (TRIANIS), TPB, and halal product acceptance model for the religious society (HPAMM).	<ul style="list-style-type: none"> - Halal food product acceptance model among non-Muslim consumers. - Introduction of acculturation as a new element was performed.
14.	Yusoff and Adzharuddin (2017)	The confusion among Muslims in identifying the halal product due to the challenges of the recent phenomena in the industry.	A total of 340 Muslim families in Bangi/Selangor	Questionnaire	The element of consciousness had a high association with information searching behaviour among the Muslim family.
15.	Ambali and Bakar (2013)	This research highlighted the factors of Muslim consumers' consciousness of halal food or products in Shah Alam, Selangor, Malaysia	A total of 210 Muslims aged 18 years old in the chosen area in Shah Alam, Selangor, Malaysia	<p>Data collection was performed through the personal administration of questionnaires by the research assistance from April to May 2012.</p> <p>Besides reliability analysis, the study examined the validity of constructs, convergent, and discrimination to ensure the validity of the instrument and constructs.</p>	It was found that the inadequacy in the global standard for halal logo, followed by the supervision of the processing phases after the certification was distributed to the organization.

Table 2.2: Pros and cons of presented studies in Table 2.1

No.	Author(s)/Date	Pros	Cons
1.	Mohan, G. (2018)	This study aimed to understand the impact of web familiarity and content knowledge on older adults' web searching behavior in large information websites.	- This study was dependent on the situations occurring in the individual's activities when the information related to the immediate time was sought. - The focus on the study was on specific demographical category.
2.	Reisoğlu, Çebi, & Bahçekapılı (2019)	The aim of this study was to explore whether university students' information searching behaviors, task completion times, and task completion rates in simple and difficult tasks differ depending on information searching experience and cognitive style.	Information searching and the results related to it possibly exhibited a wide range of effects on the identified professional practice due to the multi-dimensional phenomenon of information searching results, which led to a feedback loop.
3.	Makri et al. (2008)	- The study illustrated that the data analysis using Ellis's model could provide insights into the design on certain levels of abstraction, including a level in the form of an abstract, which was not excessively functional. In this case, a sizeable creative leap was required between the data and the proposed design suggestions. The abstract should not be too concrete, in which it was applied only on systems. - These study findings extended Ellis's original model by incorporating the behaviours relevant to the legal information searching (e.g., updating and broadening the scope of Ellis's original model to highlight the information searching behaviour, which overlapped with information searching and use (e.g., analyzing and collating/editing)).	- There was no impact from clicking the tab when viewing a particular piece of legislation as the cases and journal articles related to the legislation were usually presented in the form of a full text of the legislation. It was also possible to determine the particular cases, which referred to a certain piece of legislation by browsing for the legislation title in the 'search terms' box located in the 'case search' section of the site. - The space of information-seeking behaviours, which could be demonstrated by a user, was constrained by behaviours. These behaviours were currently supported by a particular system.
4.	(Gavgani, Qeisari, and Jafarabadi, 2013)	This study suggested that one of the possible key issues in public libraries was the education for the citizen, which should take place at least among the members until they became familiar with the health resources available in the library. It was also suggested that librarians taught the members about searching on authentic websites.	- The lack of awareness regarding the existence of health websites or language problems on the international level. - In this study, no significant relationship was present between gender and the use of health information resources, such as magazines, newspapers, and TV.

5.	Folk and Apostel (2013)	<p>The data demonstrated that children aged 11 to 18 years old exhibited a notable degree of concern regarding the reliability of online information. Notably, despite the youths' concern for reliability, they were relatively dependant on the Internet when searching different types of information, which could be seen from their trust in the information on Wikipedia and their view regarding certain types of information (e.g., entertainment information, commercial information, and information for school projects) on the website as more reliable compared to books, newspapers, and television.</p>	<p>It addressed the existing notions about children as information consumers and portrayed the establishment of credibility by the youths through their evaluation of online sources, which would be useful in further research.</p>
6.	Mills et al. (2013)	<p>- Participants with a higher preference for information seeking were found to have more positive attitudes towards school, a stronger sense of having creative tendencies and a higher preference for learning through social media while having less preference for continuous immersion in digital communications.</p> <p>- It was found that the ICT preference for searching and sharing digital information was positively associated with a positive attitude in using social media for learning (SML) and the strongest alignment between ICTL information sharing and social media learning. Technology use and affinity data led to a positive trend between the preference for daily technology use and ICTL information sharing. Additionally, the adoption of TAS in daily technology use was also positively associated with ICTL information sharing.</p>	<p>Significantly small.</p>
7.	Boger et al. (2015)	<p>The study highlighted whether or not the library courses in information literacy taught University College had an impact on the students' search behavior.</p>	<p>The study did not distinguish between third- and fourth-year students from the sample of final year students.</p>

8.	Golnaz Rezai et al. (2009)	The significance of this study was its emphasis on the integrity of food manufacturing industries instead of the supervision by the certified authorities or simply the printing of any single logo on the food product.	This study did not identify the original ingredients used and the processing of the ingredients by food manufacturers to ensure the halalness of food products.
9.	Mohani et al. (2009)	This study implemented the audit risk model, which was conceptually appropriate to describe the assurance-seeking behaviour of Muslim consumers. This audit risk model identifies the areas of assurance sought by the consumers, namely the halal status of the business premise and the food, and the suitability of the food for consumption by Muslims, which was indicated through the halal logo.	This study did not highlight the genuine halal certification besides the false labelling of non-halal food as “halal”.
10.	Abd. Rahim and Junos (2012)	This study enhanced the factors/variables of the selection of halal product food by proposing two factors, namely halal and Islamic laws.	The proposed model did not specify the time required for an action to be considered as a habit and the relationships between habit and other components of the model.
11.	Liyana and Noorhidawati (2014)	This study provided insights into the information searching by computer science graduate students and its improvement in the development of the available information resources and library services.	The study result, which was the adoption of the respondents' convenience as the primary criterion in the information-seeking process, should be treated with caution due to the more solid evidence needed for generalization.
13.	Abdul Khalek et al. (2015)	Information was developed for the manufacturers to expand their market and for governmental agencies and association to promote halal food consumption. Therefore, this study contributed to an extended knowledge of Muslim consumers' behaviours in consuming halal food. The practical implication of this study suggested that the government and marketers incorporated attitudes and social pressure in their halal food campaigns and advertisements. New insights were also developed into the existing subject of Islamic studies at the school level for young Muslims to enhance their positive attitudes towards halal food consumption.	- The sample size of this study was limited to the higher academic institution in Klang Valley, Malaysia, indicating that this study could not be generalized to other states in Malaysia.

14.	Wibowo and Ahmada (2016)	Introducing acculturation as a new variable in a proposed conceptual framework for halal food product acceptance model for non-Muslim consumers. This new variable would contribute to the understanding of the acceptance of halal food products among non-Muslim consumers.	This study did not reveal the demographic information of the non-Muslim respondents, such as age, place of living, profession and level of study. Therefore, the respondents were not differentiated from one another in their acceptance of halal food.
15.	Yusoff and Adzharuddin (2017)	This study identified the level of awareness regarding halal products and the information searching behaviour of parents and children. Awareness is vital in information searching for halal food products among Muslim families.	This study did not mention any recommendation for future work nor limitation of the study.
16.	Ambali and Bakar (2013)	The four predictive constructs in this study were the genuine indicators of Muslims' awareness of halal food products for consumption.	This study did not highlight the issues of quality assurance and a healthy lifestyle despite the importance of these issues in food products, besides religious issues.

2.5 Key Gaps Addressed by this Research

By the best knowledge of researcher according to extensive review of relevant literature, there is no prior study which examined all the variables of this study (influence of attitude, habit, awareness of the individual, information sources, process verification, awareness of information, and traceability on wholesomeness) in one conceptual framework.

Another important gap found in literature was that there are very few studies which used holistic model of wholesomeness adoption focused on Reasoned Action Theory (TRA), Theory Planned Behavior as an expansion of TRA, and Triandis Model.

Moreover, minimum research employed robust statistical methods in Halal food management. Majority of the previous studies on Halal food consisted of case studies (Tieman and Che Ghazali, 2012; Zulfakar, Jie, and Chan, 2013; Ali et al., 2014). Even within the context of quantitative methods, the vast majority of Halal food industry work mainly applied either descriptive statistics or regression analysis (Wan Omar et al., 2015). Notably, this study was one of the few Halal studies, which used structural equation modelling (CB-SEM) based on covariance (Aziz and Chok, 2013).

This study proposes a novel conceptual framework which relates the human qualities, namely the individual's attitude, habit, and awareness regarding process verification as a solution to Halal food information in Malaysia.

2.6 Attributes of Halal Food Challenges

The Malaysian government is faced with various challenges in enhancing the development of halal products and services to the world community (Muhammad et al., 2009). Among the challenges, traceability promotes transparency and ensures the

accessibility of information along the supply chain. Another challenge is present in achieving the perception of wholesomeness, as the goodness (Tayyip) concept should be incorporated in halal food, rather than the remark 'pork and alcohol-free or operated and produced by Muslims' (Liow, 2012). These challenges will be elaborated in the next subsections.

2.6.1 Traceability

The traceability concept is important in the halal food industry as it enhances transparency, therefore reducing the effort for product recalls and the onus shifts towards the manufacturers (Meuwissen et al., 2008). Furthermore, traceability is regarded as a transparent communication technique, which ascertains the accessibility of the information to the supply chain (Zailani et al., 2010). In this case, the importance of the food supply chain originates from diseases present in the sources of food, such as the outbreak of the Salmonella virus and bird's flu (Thakur and Hurburgh, 2009).

In the case of traceability, the Malaysian halal food industry is still faced with a multitude of challenges despite the difficulty faced by the country to be positioned as a Global Halal Hub through many initiatives implemented by the government agencies (Ab Rashid & Bojei, 2019). Through several enforcement programs conducted by the Malaysian authorities after the enactment of the Trade Description Act 2011, many food premises and manufacturers were reported of using unauthorized halal certificates at their premises or on their products' packaging.

The term traceability is highly related to the halal concept (Ab Rashid & Bojei, 2019). It promotes transparency and ensures the accessibility of information along the supply chain. For instance, following several enforcement programs conducted by the Malaysian authorities after the enactment of the Trade Description Act 2011, many food

manufacturers and premises were reported of using unrecognized halal certificates at their premises or on their product's packaging. Accordingly, this study aims to investigate the relationships between human features and information searching features to enhance the traceability concept to overcome the issues related to the food supply chain and ensure the halal status of the food.

2.6.2 Wholesomeness

The wholesomeness Halal food refers to sharia's requirements of the meat, hygiene, sanitation, and safety aspects, which make Halal food readily acceptable by consumers who are concerned about food safety and healthy lifestyle (Mannaa, 2020). According to Mannaa, M. (2020), the concepts of halal and goodness (Tayyib) were described by the wholesomeness of the food fulfilling the permissible requirements of the Islamic rule. However, if failure in any of the concepts would harm the wholesomeness concept of halal food, it is emphasized that both concepts are applied together (Liow, 2012). Moreover, it is necessary to educate Muslim and non-Muslim consumers on halal and Tayyib concepts in the aspects of safety, dietary content, and visual appeal of the halal products. In this case, wholesomeness could increase the demand for such products by ensuring that the manufactured products are free of contamination and any haram ingredients upon the preparation, production, and packaging (Hassan, 2009). Notably, this halal requirement was in line with the finding by Ismoyowati (2015), who stated that texture, taste, variation, packaging, quality, affordability, freshness, and price were the influencing factors making halal food the most important choice in Muslim consumer's preferences. Accordingly, this study aims to increase the wholesomeness of halal food by linking human attributes and information searching attributes to achieve wholesomeness in halal food products.

2.7 Process Verification

Process verification refers to the process of identifying and verification of halal food (Othman, Shaarani & Bahron, 2016). Halal food identification in Muslims community is highly demanded, worthy and important (Othman, Shaarani & Bahron, 2016). Therefore, this component was incorporated into the conceptual framework of this study to achieve its objective, which is to enhance the searching process for halal food product information among Malaysian Muslim consumers. Following that, the process verification ensured the perception of halal food wholesomeness among the respondents due to the usage of credible and trusted information sources to achieve the attitude, habit, and awareness towards halal food. In the context of information searching, the effectiveness of information seeking for halal food product information was achieved, leading to the achievement of wholesomeness aimed in this study.

2.8 Data and Definitions of Research Variables

The definitions of the independent and dependent variables in this study are presented in Table 3.1. The data on all these variables were collected from the Malaysian Muslim consumers in Kuala Lumpur through the structured questionnaire developed in this study.

Table 2.3: Definitions of variables

Variable	Definition
Attitude	Level of agreement in halal food consumption among Malaysian Muslim consumers in Kuala Lumpur (KL), Malaysia
Habit	Automatic behaviour of accepting and consuming halal food among Muslim consumers in KL, Malaysia
Awareness of individual	The understanding and awareness of Malaysian Muslim consumers about the purchase of halal food by taking note of the content and ingredients of products upon purchase
Information sources	Official sources of information used for information searching for halal food, such as T.V and JAKIM, including unofficial sources, such as social media, family members, and friends
Process verification	The use of credible and trusted official and unofficial information sources for searching halal food information among Malaysian Muslim consumers in KL
Awareness of information	The characteristics of information sources used for seeking halal food information, which determine the method used by an individual to seek information such as familiarity, accessibility, trustworthiness, timeliness, and cost
Traceability	A concept of transparency to overcome the issues related to the food supply chain, such as unrecognised halal certificates and counterfeit logo to prove the halal status of the food
Wholesomeness	A concept ensuring that the manufactured products are free of contamination and any haram ingredients upon preparation, production, and packaging (Hassan, 2009) to fulfil the permissible requirements of the Islamic rule

2.9 Summary

This chapter presented the insights into the areas of information searching behavior, which could contribute to the existing literature. This objective was achieved by identifying the gaps in the existing literature, such as the absence of the link between human attributes and information searching attributes to perform an effective searching process for halal food products among Malaysian Muslim consumers in the Malaysian market.

The literature review was classified into three major sections. The first section provided insights into the main themes and patterns related to information-seeking behaviour, particularly halal food products and theories in human behaviours, including the TRA, TPB, and Triandis model. The second section reviewed the findings related to information searching behaviour recorded in the international and Malaysian studies, followed by a discussion of the positive outcomes and drawbacks of these studies. The third section, which is part of chapter three introduced, described, reviewed, and analyzed the independent and dependent variables, namely attitude, habit, awareness of the individual, sources of information, process verification, awareness of information, traceability, and wholesomeness. It also elaborated on the factors influencing the emergence of the current research problem exists and discussed its hypotheses.