FACTORS THAT INFLUENCE MUSLIMS' BUYING BEHAVIOUR OF HALAL MEAT PRODUCTS IN THE SPECIAL REGION OF YOGYAKARTA

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STATEMENT SHEET

In the name of Allah, I declare that the final project with the title of **"Factors That Influence Muslims' Buying Behaviour of Halal Meat Products in The Special Region of Yogyakarta"** is the result of mu own work, except for the excerpt and summary, that I have included in the source. If in the future my confession is proven to be untrue and violates the legal regulations in writing and intellectual property rights, then I am ready to withdraw the certificate that I have received by the Universitas Islam Indonesia.

Yogyakarta, 24 August 2021

Pandu Ekoyudho

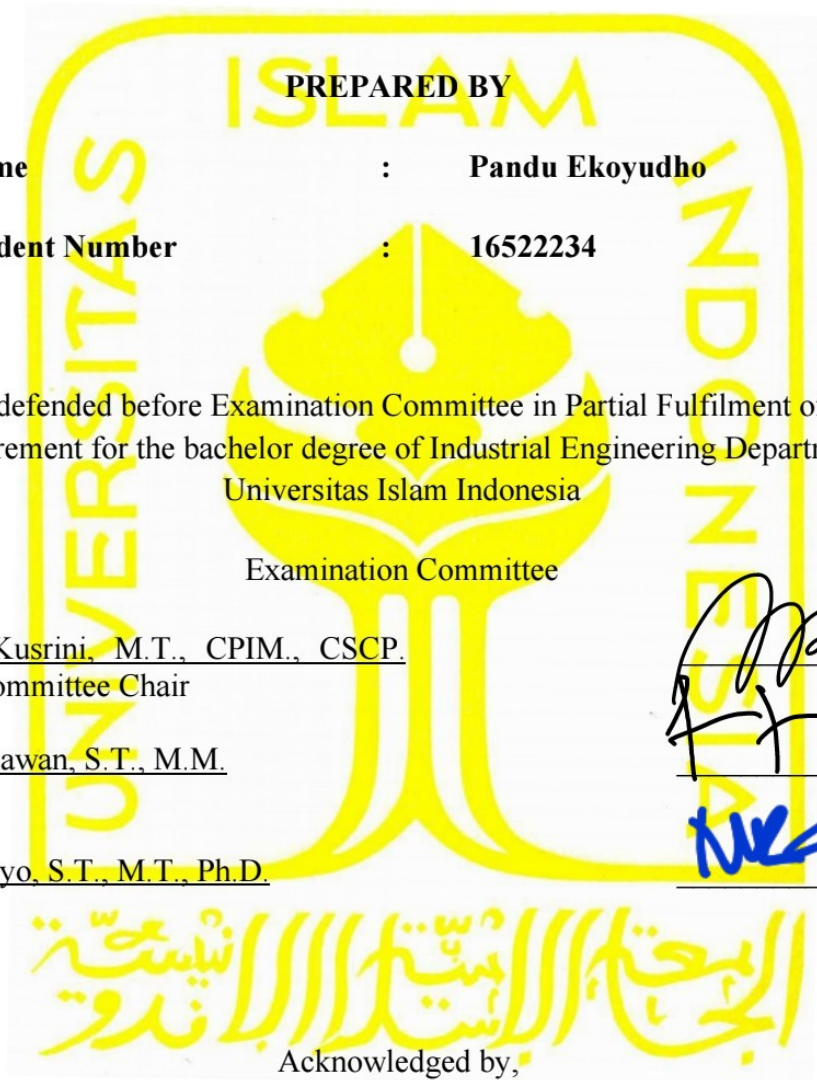16522234

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Pandu Ekoyudho

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"Your truly inner self will bloom when it is time to bloom. Always spread love and keep smiling " – Pandu

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ABSTRACT

This research study is aimed to examine factors that are influencing Muslims' buying behaviour of Halal meat products in the Special Region of Yogyakarta, Indonesia. These factors include subjective norms, religiosity, Halal awareness, and product knowledge. The study also examined the role of Halal awareness in mediating religiosity and product knowledge toward Halal meat buying behaviour. There are 173 Muslim correspondents over 18 years old involved in this study. Using the SEM Amos software to conduct the Confirmatory Factor Analysis (CFA) model, this study shows that there is a positive correlation between religiosity and Halal awareness towards Halal meat buying behaviour. Then, it shows a negative correlation between subjective norms and product knowledge towards Halal meat buying behaviour. Furthermore, using the Sobel Test, this study found that Halal awareness can mediate the relationship of religiosity and product knowledge towards halal meat buying behaviour. Meanwhile, religiosity is not able to mediate between the subjective norms and Halal meat buying behaviour. This study is substantial to increase Muslims' awareness concerning the ambiguity of Halal-ness that are found in meat products found around the community in the Special Region of Yogyakarta, particularly those products sold in the traditional market or private vendors, which halal certified is disputable. Therefore, improving the SCM process through its traceability aspect is necessary to provide accessible information to the consumers regarding Halal meat products.

Keywords: Halal Product Awareness, Muslims Buying Behaviour, Religiosity, Halal Product Knowledge, Subjective Norms, Halal Traceability

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CHAPTER 1

INTRODUCTION

1. Background

As of 2010, Pew Research Centre that Muslim is creating 23.2% or an estimated around 1.6 billion of the total global population (Ajayi, 2017)(The Future of World Religions: Population Growth Projections, 2010-2050 | Pew Research Center, 2015). The rapid growth of the Muslims population in the world, cause a major increase in Halal products as it is a crucial qualification in a product, particularly food and beverages (Pratiwi, 2018). According to Thompson Reuter's Report 2016/2017 (State of the Global Islamic Economy Report 2016/2017, 2016), it is stated that the global Islamic economy has reached US$1.9 trillion in 2015, with US$1.17 trillion of Muslim spending on food and beverage. Halal is becoming popular that the WTO (World Trade Organisation) recognises it. Moreover, many communities have implemented this kind of lifestyle globally (Yani & Suryaningsih, 2019).

Indonesia is one of the most populous countries with 268,074,600 population, with 87% percent of the Muslim population. Therefore, Halal food and beverages are becoming a daily consumption in the nation. For that particular reason, this country does not merely have the potential to grow in the market but has a big chance to gain the opportunity to win the Halal market instead. The concept of Halal is essential for Muslim consumers as it is a requirement for those believers to follow the Sharia law under the Qur'an and the Sunnah (by Prophet

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Muhammad P.B.U.H). Halal is an Arabic word translated as lawful or permitted. This concept set the life of Muslims, both private and social life. Teaching faith, self-discipline, social regulation, obligation and prohibition, and interdiction (Murti, 2017). The implementation of this concept generally covers food and beverages, such as meat products and alcohol. But, not to mention, Halal products now have expanded to various industries; pharmaceuticals, cosmetics, toiletries, and tourism. For this reason, it pushes Halal industries to grow due to market popularity as Halal-certified products are necessities for Muslim people.

In Indonesia, the Halal matter is supervised by the Indonesian Council of Ulema (MUI), as stated in Indonesian law no. 33 of 2014 that the government has given the mandate to the institution to issue Halal certification. Then for a specific case such as food and beverages, drugs, and cosmetics, it is handled by two parties which are the Indonesia Council of Ulema (MUI) and the Indonesia National Agency of Food and Drug Control (BPOM). There are various aspects to consider in determining the Halal and haram products. For instance, defining Halal by the components of the products, also how it is processed, obtained, manufactured, and stored with all utensils and machinery, and equipment sanitised according to Islamic law (Rofi'i, 2010). The good Halal awareness by the consumers promotes to maintain Indonesia's Halal demand for the market. It shows that consumers religious communities would spend more for Halal consumption, especially those that are correctly ensured, certified, and marketed under Sharia law (Yani & Suryaningsih, 2019).

The concept of Halal is frequently correlated with food products, particularly meat products. The demand for animal products in Indonesia increases year by year due to a higher nutrient intake awareness together with the rising level of social welfare. The Organisation for Economic Co-operation and Development (OECD) in 2018 reported that the average consumption for Indonesia is 1.8kg, 7kg, 2.3kg, and 0,4kg of beef, chicken, swine, and lamb accordingly (Junaedi, 2019). In the Special Region of Yogyakarta, the average consumption for the animal product is 89.4 gr/capita/day (*Analisis Pola Konsumsi Pangan DIY Tahun 2015*, 2015). Many small-medium enterprises serve poultry slaughterhouses (RPU) and 5 animal slaughterhouses (RPH) both run by the government and private businesses in this province. A study done by Khoirudin in poultry slaughterhouses in Yogyakarta City found out that only 71.42% of 14 slaughterhouses analysed are Halal certified and only 46.97% are fulfilling the National Standardisation of a slaughterhouse facility (Khoirudin, 2017). In response to that, the Halal Product Assurance Organizing Agency (BPJPH) by outreaching these SME slaughterhouses to obtain Halal certification promptly.

Because Indonesia is a country with Muslims as their majority population, the Law of the Republic of Indonesia Year 1999 Number 8 article 8h has stated that it is prohibited for a food and beverage company to not manufacture food or beverages without Halal compliance and standard. Although there are still many manufacturers in the country that are not Halal-certified by the council (MUI). In 2016, there were 3.6 million FnB manufacturers were registered in the National Agency of Food and Drug (BPOM), although there are only 14,600 companies

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that are Halal-certified by the council (MUI) (Yulianto, 2018). For instance, because of the limited number of meat suppliers, it is indisputable that there are many domestic and imported unhealthy meat products circulating in the market. Many researchers are focusing on Halal traits yet not taking into account the Halal image, which causes a lack of Halal awareness in purchase decision making (Suki & Salleh, 2018). Even though there are many books about Halal and haram, which mention that consuming Halal bringing goodness (toyyib), there are still many people who are ignorant about consuming Halal food. Nakyingsige et al. (2012) stated that there is some food in the market produced carelessly and unaware about the Muslim's consumers. This behaviour is possibly affected due to the limited availability of Halal products, lack of knowledge about Halal and haram, and financial capability (Yani & Suryaningsih, 2019). Such a problem leads to a misdemeanour where many private businesses are taking advantage by selling bad-quality meat products. For example, perpetrators often use harmful and unsafe food additives and other elements in manufacturing meat products such as formalin, exotic meat, aniline, and rotten carcasses. Many people still prefer to do groceries in a traditional market instead of a supermarket due to the low price factor (*Sudahkah Pola Belanja Orang Indonesia Bergeser Menuju Digital?*, 2019).

In selecting alimentation, many factors influence consumers in making the decision when purchasing food. Religiosity, knowledge, and the existence of the Halal logo are a few of the many factors that numerous studies are discussing regarding this issue. Religion has a meaningful role to every individual mainly

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that 80% who are affiliating with religions (Pew Forum, 2012). According to Mokhlis (Mokhlis, 2009), a particular cultural demeanour adopts religions, which spiritually and symbolically affects them in terms of attitudes, values, and behaviours of each individual and the population entirely. For instance, a group of people has to follow certain practices and norms that have been in the community, the habit of dietary consumption as one of the examples. So, in this case, even though people are aware of the food they consume despite their beliefs, it could not deny that many of them consume food without being aware of the Halal assurance of the food products they purchase. That is to say as if they were buying food products in the traditional market or private butchers for meat products(Mokhlis, 2009).

All things considered, it is indeed crucial to further study this matter as the Muslims' purchase behaviour on Halal products are questionable because without knowing the food product itself (such as products origin and condition), people would still buy those products. Hence, this study is conducted under the title, "Religiosity, Knowledge, and Halal Awareness on Muslims' Halal Food Buying Behaviour in the Special Region of Yogyakarta".

1.2 Problem Formulation

1. Do product knowledge, religiosity, and Halal awareness influence Muslim consumers' Halal buying behaviour?
2. Does Halal awareness have a role as an intervening variable towards religiosity and knowledge towards Halal buying behaviours?

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3. How should the meat product supply chain be improved based on the aspects that influence Halal meat buying behaviour?

1.3 Research Objective

The aims of this research are the following:

1. To understand whether product knowledge, Halal awareness, and knowledge influence consumer's Halal meat buying behaviour.
2. To know whether Halal awareness mediates religiosity and product knowledge towards Halal meat buying behaviour.
3. To improve possible aspects on the supply chain management in product traceability on Halal meat product.

1.4 Research Limitation

This research is limited on the area of:

1. This study is targeted at Muslims and covering the area of the Special Region of Yogyakarta age 18+ regardless of their nationality, or the city they are coming from (in Indonesia).
2. This research is conducted regardless the social economic of the respondent.

1.5 Research Benefit

This research is expected to give benefits for further study such as:

1. Social Benefit

By providing an understanding of the behaviour of Muslims in the Special Region of Yogyakarta over purchasing Halal food products, it will determine whether they purchase products due to their concern regarding their religious belief or because of sufficient knowledge regarding the products.

2. Future Research

This research can be used as a reference to a study of Muslims' buying behaviour over Halal products in other places in the world in the future.

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3. Authority

By understanding the necessity of providing Halal certified product to the customers, it will help customers accessing the available information regarding the Halal integrity of the food they consume. On the other hand, adding such value could increase customer's trust in the locally made product which somehow would help in economic development.

1.6 Systematic Writing

➢ **Chapter II   Literature Review**

The chapter provides information on the theory used in this research and discuss about the past studies that are related to this research. It explains about Halal in Islam, the factors that affect Halal buying behaviour of Muslims consumers, product knowledge and Halal awareness and religiosity.

➢ **Chapter 3   Research Methodology**

Researchers explains in detail of the methodology that is used in this study, beginning from the research design which consists of research subject and object, system development, research procedures, which includes data analysis (validity and reliability, multiple linear regression, Sobel Test).

➢ **Chapter IV   Data Collection and Findings**

This chapter demonstrates the data collection result and the analysis.

➢ **Chapter V   Discussion**

Researchers provides the analysis and discussion of the finding.

➢ **Chapter VI   Conclusion and Recommendation**

This is the closing chapter of the study. Researchers concludes the finding and give recommendation for future studies based on the limitation of this particular research.

References

Appendix

CHAPTER II

LITERATURE REVIEW

2.1 Halal

In Islam, consumption is considered to be a noble activity as it is believed to give mankind sustenance from Allah. Consumptions in this case are not merely about fulfilment but include morality and spiritual intentions. one's pleasure, yet it is more about achieving God's pleasure and well-being. Consuming permissible and good (Halal and toyyib) then avoiding the non-permissible (haram) alimentations are a way to gain God's consciousness (taqwa) (Furqani, 2017). In the Islamic view, consumption is not merely for satisfaction for one's need, but the product, service, and lifestyle they have or consume must be Halal.

Halal is an Arabic term defines as permissible or lawful in Islam following the Sharia (Islamic Law), which normally is linked to food and beverages in Islamic dietary standards. Meanwhile, Haram is the opposite that means impermissible or unlawful in Islam. The context of Halal in Islam comprises all kinds of aspects of life; consumption matter, social life, transaction, educations, and others. Primarily, Muslims are obliged to follow the Law, including consuming Halal food, as it is a very important aspect as it shows self-devotion to Allah. So, they have to consider Halal as it determines Muslim's daily behaviour to be a genuine Muslim.

"O mankind, eat from whatever is on earth [that is] lawful and good and do not follow the footsteps of Satan. Indeed, he is to you a clear enemy"(QS. Al-Baqarah 2: 168).

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There are many verses related to consuming Halal consumption, such as the following:

"O ye who believes! Eat of the good things wherewith we have provided you (Halal), and render thanks to Allah, if it is He whom ye worship. (QS. Al-Baqarah, Verse 172)"

In a hadith, the Great Prophet Muhammad PBUH said: "Halal is clear and the Haram (unlawful) is clear. Between the two there are doubtful matters concerning which people do not know. One who avoids them in order to safeguard his deen (religion) and his honour are safe, while if someone indulges in it, he may be indulging in the unlawful......" (Bukhari).

On the other hand, for haram or the non-permissible consumptions are mentioned followed with the reasoning are explained below: Carrion and dead animals; these two are unsuitable for human consumption because of the harmful components contained in those goods after the decomposing process. Blood; harmful bacteria and various toxins from metabolism excess are contained in blood after it is drained. Swine; pathogenic worms (Trichinella spiralis and taenia solium) that are contained in swine meat are harmful when entering the human body. Meanwhile, the fatty acids or the pork fat are incompatible with human fat.

Those consummations that are considered to be Haram are mentioned in the following verses.

"He hath forbidden you only carrion, and blood, and swine flesh, and that on which hath been invoked any other name besides Allah's…….." (QS. Al-Baqarah, Verse 173)

"Eat of that over which the name of Allah hath been mentioned, if ye are believers in his revelations" (QS. Al-An'am, Verse 118)

"And eat not of that whereon Allah's name hath not been mentioned, for lo! It is abomination. Lo! The devils do inspire their friends to contend with you. But if ye obey them, ye will be in truth idolaters" (Al-An'am, Verse 121).

"Forbidden unto you (for food) are: carrion and blood and swine flesh, and that on which hath been invoked the name other than Allah, and the strangled, and the dead through beating, and the dead through falling from a height, and that which hath been gored to death, and the devoured of wild beasts, saving that which ye make lawful (by slaughter) and that which hath been immolated to idols and that ye swear by the divining arrows. This is an abomination…." (Al-Maidah, Verse 3).

Then, in the matter of beverages, alcohol and intoxicants are also prohibited in Islam because they are believed to be harmful for the nervous system.

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"O ye who believe! Intoxicants and games of chance, and idols and divining arrows are an abomination of Satan's handiwork. Leave it aside in order that ye may succeed." (QS. Al-Maidah, Verse 9)

Humans have awareness as a part of their existence, particularly concerning their nutrition intake and lifestyle. Halal awareness happens to Muslims as it is a process and experience about understanding the information towards the goods that Muslims should consume (Ambali & Bakar, 2014). The ability of Muslims to recognize and remember Halal products describes as Halal awareness. It is significantly crucial as if it is a control of consumer risk assessment, in which Muslim consumers have to look at and identify the category of the product correctly (Nurhayati & Hendar, 2019).

2.2 Halal Supply Chaim Management

Halal Supply Chain Management (HSCM) has been the topic of interest amongst researchers to respond to the rapid growth of the Muslim population in the world that is making 1.8 billion population as a whole and an underserviced market, therefore offers opportunities for success – with the right products. The development of HSCM has opened a substantial new market of people seeking integrated assurance products or services. Halal integrated products always maintain certain stands for quality, hygiene, and safety. Speaking about status, the integrity of halal products should be highly assured, maintained, and sustained to keep the wholesomeness (Ibrahim et al., 2018). To be precise, a specific Halal procedure should be implemented in each activity throughout the whole HSCM

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activities from 'farm-to-fork; procurement/ purchase, manufacture, and logistic (packaging, storage, and distribution). In halal logistics, packaging and traceability are essential (Abdullah et al., 2018). There are many possible hazards and problems that could occur during handling and transporting to cause products to undergo cross-contamination complying to International Halal Assurance System (IHAS) protocol develop by JAKIM (Department of Islamic Development Malaysia), as the trusted provider of halal certification organization, the halal logistic standard operational procedure related to packaging traceability helps somewhat, but alone is far from sufficient to guarantee to a consumer that a product is fully Halal. In fact, the procedure is basically only emphasizing the labelling and assuring that the packaging materials are also halal (Tarmizi et al., 2014; Tieman & Ghazali, 2013). As a result, tracing product movements have been becoming an issue to achieve halal logistic in HSCM concept (Azam, 2016).

2.3 Halal Traceability

Traceability is one very important aspect when it comes to the food industry. The vitality of traceability could be as serious as spreading viruses such as salmonella, bird flu, and many other diseases that come from the source of food. Traceability is a way of communicating in a supply chain system where it promotes transparency of information regarding the manufacturing, logistic, and condition of the product (Mohamed et al., 2016). Halal product, for instance, could lose their halal credibility status if the product is unknowingly contaminated with an unknown substance during the moving (Tieman et al., 2012). Furthermore, it could also lead to a future risk to the health of the consumers.

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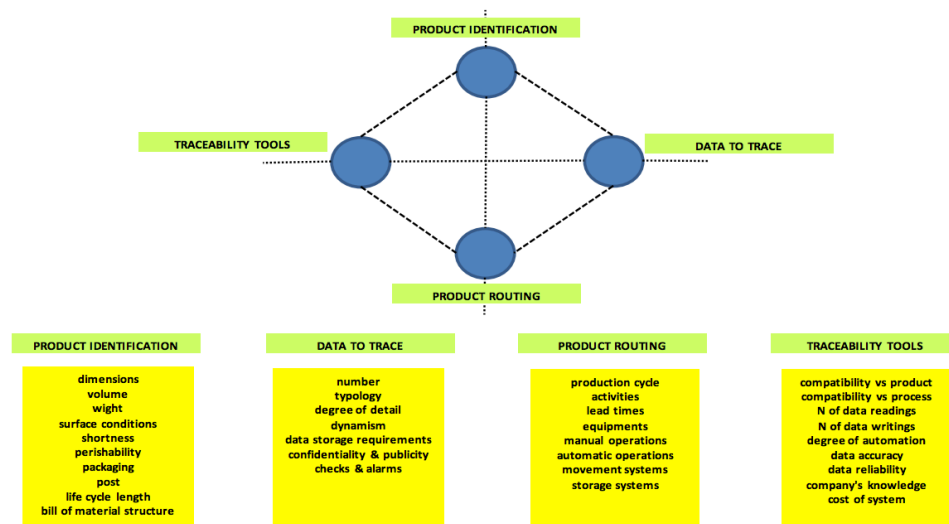
Figure 2- 1. Framework for Product Traceability ((Regattieri et al., 2007)

Above is Regattieri et al. (2007) proposed a model framework for food traceability that consists of product identification, which is a capture of information regarding the product life cycle length, volume, weight, perishability, packaging post. Then data to trace which is system information of product details related to numbers and confidentiality. Next is product routing, which is a piece of information related to movement and storage activities, and lastly, traceability tools, which involves alphanumerical code, barcode, or RFID, as for information transparency knowledge throughout the supply chain production channel. Thus, the Halal Traceability system allows determining the products' halal status backward and forward in the production chain.

2.4 Consumer Buying Behaviour

The consumers' needs and desires of product purchase are varied due to various factors that affect their purchase behaviour. And that is why marketing communication is necessary to get buyers' intention and fulfil the the buyer's needs

(Subianto, 2007). Studying the consumers' buying intention is significantly important to understand their buying behaviour as it is one of many ways to encourage higher purchase by consumers (Haque et al., 2015). Ajzen (Ajzen, 1991), also mentioned in his study consumer's purchase motivation includes intention as one of the aspects. Intention determines a particular behaviour because the higher intention that consumers have the higher probability a behaviour will be performed by individuals. For instance, the intention of buying Halal products in the market is strongly related to the level of religiosity of certain consumers. Muslim purchased decision on the product is depending on the value that is added, which is Halal-ness in the products offered, as it gives them a personal intrinsic of their religion (Haque et al., 2015; Nurhayati & Hendar, 2019). Halal are generally affiliated with the Muslims as they are required to consume Halal food. Hence, religiosity is indeed an important aspect in determining consumer buying behaviour. Apart from that, Woyciechowski (2007) mentions that there are two kinds of religiosities: intrinsic and extrinsic religiosity. In which intrinsic religiosity relates to the commitment of spiritual life goals, while extrinsic religiosity relates to using religion to gain social acceptance and finding the meaning of life. Thereby, there is a positive connection between intention and consumers' buying behaviour, like Halal products and Muslim buying behaviour as per.

2.5 Subjective Norms and Halal Buying Behaviour

The purchase process begins with the recognition of needs, the individual detects a problem or a need. Peter and Olson see consumer behaviour as a dynamic

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interaction of effect and cognition, behaviour and environment, in which it affects the way humans behave in life (Peter & Olson, 2010). This means that human behaviour is influenced by a certain experience (environment), thought (cognition) or feeling (affect), that happens in the consumption process. Moreover, the need can originate from internal (Physiological and Psychological) or external (social and cultural) stimuli rising to a level high enough to become an impulse.

This first stage of the purchase decision process is related to Pavlov's learning model, which starts from the principle that the impulses called needs or motives are the strong stimuli that incite the individual such as (hunger, thirst and sex) to buy a certain product that meets these needs (Wells & VK, 2014). In the same way, Veblen's Psychosocial model considers the man capable of adapting to the general forms and norms of his culture, taking into account the external influencing factors that affect consumer behaviours, which are: social class, level of income, culture, reference groups and family (Mitra & Majumder, 2019).

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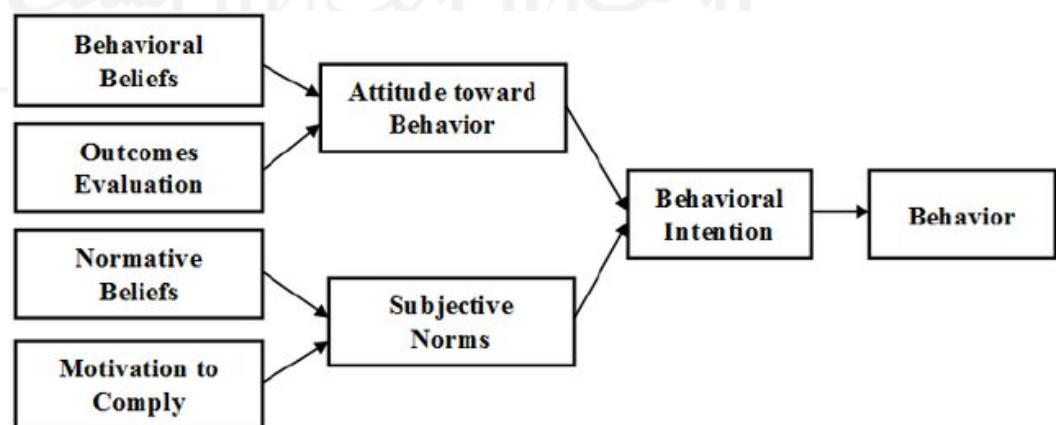
Figure 2- 2. Theory of Reasoned Action (Fishbein&Ajzen, 1975)

Ajzen and Fishbein mention in their Theory of Reason Action that actions or decisions are made based on the willingness of each individual behaviour. These behaviours are determined by two variables as attitude and subjective norms (Vallerand et al., 1992). Subjective norms are a normative belief that is related to individual perceptions of how groups perceive behaviour and evaluation that is normally expressed as individual motivation to comply with reference groups. Because this theory is somehow irrelevant as behaviour is nonpredictable, Ajzen developed another theory named the Theory of Planned Behaviour. This theory adds the control measure to the influence of human behaviour. The relationship between attitudes towards behaviours is an individual's intention in a behaviour that describes the subjective probability of behaving in a certain way, which will represent an implicit judgment. Whilst subjective norms refer to the perceived social pressure to do or not do a certain behaviour (Ajzen, 1991).

Another study by Griffin and Elbert, there are four factors that affect the consumer's behaviour: psychological, personal, social, cultural. Psychological influence in this case includes motivation, perception, knowledge, and individual's attitude. Followed with personal influence includes lifestyle, personality and economic status.

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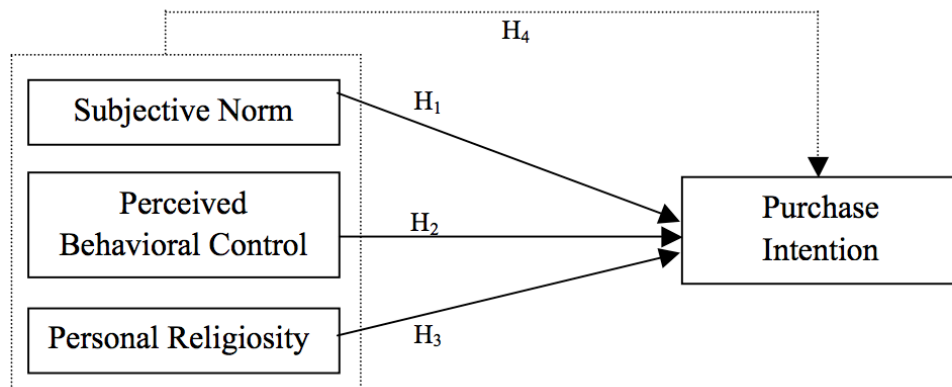
Figure 2- 3. Conceptual Model (Haro, 2016)

Above is a conceptual model created by Haro (2016) on his study on university students in Jakarta, which shows that subjective norms is predominantly affects their buying behaviour towards Halal food. He also mentions that subjective norm is a form of social pressure that forms such behaviour. It is therefore the individual decision in making halal purchase food is affiliated to the factor.

More studies have been done recently, in regard to this particular factor. Al-Swidi et al. (2014) study show that subjective norms have significant role in shaping peoples buying behaviour. Then, Hall and Sevim (2016) shows that subjective norms is being more influential in affecting social characters in consuming halal food. Lastly, Simanjuntak and Nasiha (2019) found a significant result on consumer purchase on Halal food. It is hence hypothesised that:

H1: There is a positive correlation between Subjective Norms and Halal Meat Buying Behaviour.

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2.6 Product Knowledge and Halal Buying Behaviour

Having knowledge and an image about a product are necessary factors because consumers should consider when buying (Ilmy & Setiawan, 2019). The word 'knowledge' is defined as a skill that a person obtained through education or personal experience; facts or information that are known practically; and awareness gained by a subject from certain situations according to the Oxford English Dictionary. The acquisition of knowledge that is acquired by a person goes through several stages of the process, namely starting from the existence of perception, learning, communication, association, and finally giving rise to a thought on the subject the person is facing. According to Brucks (Brucks, 1985), knowledge are divided into two; subjective and objective. In which subjective knowledge is related to the confidential of an individual about something one's perceives on a certain thing, whilst objective knowledge is the measure of the amount of information an individual perceives from self-experiencing.

On top of that, product knowledge is very important for sales or marketers to have to research consumer behaviours in buying a product. Information about this product knowledge needs to be obtained by consumers so that they are making good decisions in purchasing. The characteristics of knowledge of product involve physical and abstract characteristics concerning various information regarding the product origin (manufactured, ingredients used, etc) even the product's purpose (Nurhayati & Hendar, 2019). Understanding the product information accurately including the product attributes, brand, features, price, and confidence in the product is defined as product knowledge (Bysella et al., 2018). The awareness of

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product knowledge determines the consumers' decision in purchasing the product. There are three types of product knowledge based on(Peter & Olson, 2010):

a. Knowledge about the product attribute or characteristic of products. Knowledge about the product attribute or characteristic of products. This matter is significant as it determines the consumers' decision-making in purchasing the products. By that means having sufficient knowledge of the product, will benefit them of understanding their need, also the kind of benefit they seek functionally or psychosocially).

b. The values of the products that helps consumer satisfy or achieve. Then, they will either be satisfied or dissatisfied regarding the products they have consumed.

Consumers dig knowledge up from various sources as they believe it could make them decide better before their purchase, including word of mouth (Aisah & Wahyono, 2018). Many recent studies about product marketing are discussing the Halal paradigm where risk minimisation influences the cognitive, affective, and conative decision-making pattern (Nurhayati & Hendar, 2019).
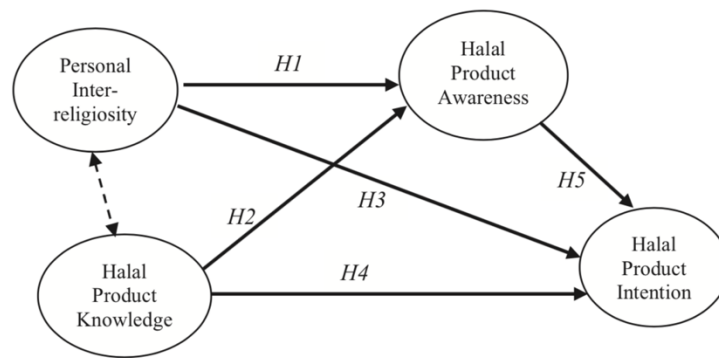
Figure 2- 4. A Framework Model (Nurhayati & Hendar, 2019)

A study by Lim et al. (Lim et al., 2016) explained that food choice behaviour and knowledge about the food one consumes has a significant positive correlation. Another study by Karimi et al. (2015) mentioned that the efficiency of decision-making behaviour is significantly affected by knowledge. In addition to that, it shows that decision-making process behaviour is accumulated from knowledge through problem recognition, information search, evaluations, and post-purchase behaviour. Along with this, Halal food is always being considered amongst Muslims. Especially in a Muslim majority country such as Indonesia, different ethnic groups, both Muslims and non-Muslims are managing and even producing various locals and imported food products. Halal-labels and certification stamps on the product packaging are the easiest way to determine whether the products are Halal to consume. However, not all food products are labelled as it the way it supposed to be. Therefore, the hypothesis is set:

H2: There is a positive correlation between Product Knowledge and Halal Meat Buying Behaviour.

H3: There is a positive correlation between Halal Awareness and Halal Meat Buying behaviour.

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Nonetheless, Muslims' consciousness towards the importance of Halal appears due to the Halal paradigm. And this promotes awareness in the context of consumption and lifestyle. Then since the consumers' insights are influenced by product knowledge, hence the sensitivity of consumerism towards Halal products is depending on the consumer's level of knowledge about the religion they are believing in. As importantly, Hall and Sevim (2016), in his study about immigrant behaviours, mention that those Muslims who are moving then living in a mua multi-cultural countryld have obstacles in making food consumption decision. Their environment changes the Muslims' consuming behaviour. Some would become more sensitive towards halal food purchases, while some are not. This is depending on one's level of religious belief, devoutness.

Besides knowledge, consumer Halal awareness is gained due to experience, exposure, religiosity (Aransyah et al., 2019). This conveys that as consumers have more knowledgeable and strong faith the greater the chance for them to put the effort in evaluating the product they are purchasing and having the tendency of having Halal awareness in the purchase decision making. For this reason, it is very important for Muslims to have knowledge in consideration when choosing food, as shown in Figure 3 (Nurhayati & Hendar, 2019). It is therefore hypothesised that.

H4: Halal Awareness acts as a mediating variable in the relationship of Knowledge and Halal Purchase Behaviour.

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2.7 Religiosity and Halal Purchase Behaviour

Currently, religion has been a popular matter of contention for researchers in the topic of consumption habits. Many researchers are fascinated on discussing the topic of the influence of religiosity towards a person's desires for certain possessions as it determines his/her quality of life (Rakrachakarn et al., 2015). Food purchase consumption habits are influenced by religion in many societies, as it relates to the value (positive and negative attitude) (Khalek, 2014). Religiosity has been used as a measurement to operationalise religious concepts to the people who believe in religious values and ideas. In addition to that, religiosity affects consumer behaviour in many purchasing (Nurhayati & Hendar, 2019). Religiosity is the commitment of a person in believing in a religion accompanied by a level of knowledge of his religion which is manifested in the practice of religious values, namely by obeying the rules and carrying out obligations with sincerity (Nurhayati & Hendar, 2019; Singhapakdi et al., 2013).

Religiosity helps to understand people's moral judgment as the ideology of religion develops people's view of what is allowed and what is not allowed. In addition to that, religiosity influences people's ethical beliefs in which the more religious the person the more the person is expected to be ethical (Abou-Youssef et al., 2015). In the Islamic perception, the subtle manner to identify one's religiosity is by assessing one's frequency to pray. Those devoted Muslims perform prayers five times a day, on time, and obey the principles of Sharia and Sunnah. The second group is those Muslims who perform prayers regularly but

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usually miss one prayer of the day because either they are busy or forgot. Thus they balance the pray at different times also still obey some of the Sharia and Sunnah teaching. The third group of Muslims is those who are somehow devoted by praying few times a day and go to the mosque (if they are men) and they rather understand the Sharia and Sunnah teaching. Lastly, the group of least devoted people is the ones who pray only during a certain occasion such as, Eid al-Adha and Eid al-Fitr. They also barely understand or only follow the main aspects of Shari'ah, for instance performing fasting during the Ramadhan (Abou-Youssef et al., 2015; Nurhayati & Hendar, 2019).

H5: There is a positive correlation between Religiosity and Halal Meat Purchase Behaviour.

Religion determines the way of people understanding the purpose of life and responsibility for themselves, others, and God. Human behaviour and attitudes are also impacted by religiosity, through the role expectation given and determined by religion itself (Abou-Youssef et al., 2015). Mokhlis (2009) mentions that religion is not merely describing the faith or a personal relationship between man and his spiritual, but it also shapes inner habits that slowly determine certain customs in society. There are various scales used to measure religiosity, for instance, extrinsic and intrinsic religiosity measures are used in Esso and Dibb's study. In the study of Ji and Ibrahim, they also use extrinsic and intrinsic measures yet adding some Islamic questions regarding the five pillars. The basic internal religious motivation includes religious identity, religious goals, religious attitudes, values, and beliefs. Meanwhile, the external religious motivation

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includes religious affiliation, services, and being involved in religious communities, and attending its events (Nurhayati & Hendar, 2019). Thus, it could be argued that religion is an important factor in the culture as it is implemented in daily practices and has significance on people's attitudes, values, and behaviour both individually or as a whole (Mokhlis, 2009).

H7: Religiosity acts as an intervening variable in the relationship of Subjective Norms and Halal Meat Buying Behaviour.

This matter is related to Halal consumption as religiosity and religious teachings are related to people's awareness of consuming Halal products. As Muslims are obliged to follow the Quran and the Sunnah, it means that they have to consume Halal and avoid the Haram, in case of food consumption. Those Muslims with a strong belief and truthful to the teachings tend to consider that the religion has a deep impact within themselves spiritually due to the meaning and value, also the spiritual impact in life (Nurhayati & Hendar, 2019).

H6: Halal Awareness acts as intervening variable in the relationship of Religiosity and Halal Meat Buying Behaviour.

2.8 Conceptual Model

To summarize the concept above, below is the conceptual model for this study.
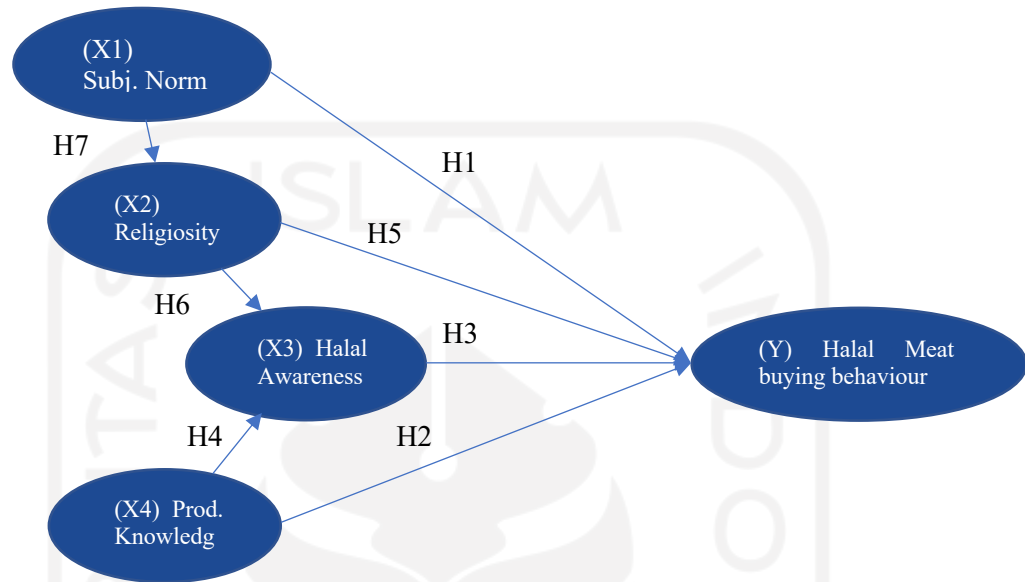
Figure 2- 5. Conceptual Model

Following are the 7 hypotheses to be tested in this study:

H1: There is a positive correlation between subjective norms and Halal meat buying behaviour.

H2: There is a positive correlation between product knowledge and Halal meat buying behaviour.

H3: There is a positive correlation between Halal awareness and Halal meat buying behaviour.

H4: Halal Awareness acts as a mediating variable of product knowledge and Halal meat buying behaviour.

H5: There is a positive correlation between religiosity and Halal meat buyig behaviour.

H6: Halal awareness acts as intervening variable in the relationship of religiosity and Halal meat buying behaviour.

H7: Religiosity acts as an intervening variable in the relationship of Subjective Norms and Halal Meat Buying Behaviour.

2.9 Past Research Studies

Table 1. Past Research Studies

No	Title	Variables	Author	Findings
1	Assessing Consumers' Perception, Knowledge and Religiosity on Malaysia's Halal Food Products (Said et al., 2014)	-Knowledge -Consumer's perception - Religiosity	Mahiah Said, Faridah Hassan, Rosidah Musa, Rahman	- Consumers' perception on Malaysian Halal products differs in terms of level of knowledge and religiosity.
2	The Role of Moral Obligation And Halal Knowledge Toward Purchase Intention of Halal Products (Suparti et al., 2019)	-Moral obligation -Halal knowledge -Perceived behavioural control	Suparti Sudarmiatin Faris Khoirul Anam Vega Wafaretta	- Students purchase decisions are not affected by the attitude, subjective norms, nor moral obligation. - Students have sufficient knowledge thus they will purchase Halal products based on the ease to find.
3	Factors affecting Halal purchase intention - evidence from Pakistan's Halal food sector (Awan et al., 2015)	-Halal awareness -Religious belief -Personal Societal perception -Halal Marketing	Hayat M. Awan, Ahmad Nabeel Siddiquei, Zeeshan Haider	- Halal Marketing is one of the biggest aspects that affect Halal purchase behaviour. - Halal awareness has positive correlation to Halal food purchase behaviour.

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		-Halal Certification		
4	Young Consumers' Attitude towards *Halal* Food Outlets and JAKIM's *Halal* Certification in Malaysia (Khalek, 2014)	-Attitude -Subjective norms -Perceived behavioural control	Aiedah Abdul Khalek	- Young people has positive attitude towards Halal products. - Norms does not significantly affect the behaviour on purchasing Halal food. - They suggest that government should augment the Halal awareness amongst young Malaysian Muslims.
5	Personal intrinsic religiosity and product knowledge on Halal product purchase intention: Role of Halal product awareness (Nurhayati & Hendar, 2019)	-Halal Product Awareness -Halal Product Knowledge -Halal Product -Interpersonal Intrinsic religiosity	Tatiek Nurhayati, Hendar Hendar	- Religious belief is associated to purchasing Halal product and contributes to awareness and purchase intention of Halal product. - Halal knowledge and personal intrinsic religiosity strongly affect Halal product consumptions.
6	The deeper of consumer knowledge towards intention to purchase Halal food	-Halal Awareness -Halal Knowledge -Attitude	Sulis Riptiono	- Knowledge has a positive knowledge on purchase intention.

	products in Indonesia. (Riptiono, 2020)	-Purchase Intention		- Knowledge is proven to have an effect on awareness but not significantly to purchase intention.
7	The Influence of the Consumer's Knowledge of Halal Foods and Purchasing towards Awareness Behaviour (Simanjuntak, 2020)	-Consumers knowledge -Awareness	Megawati Simanjuntak, Crisna Murti	- Knowledge does not significantly influence the purchasing behaviour of Halal food. - Education does significantly influence the purchase behaviour. - Awareness through Halal labelling has significant influence to purchase behaviour.
8.	The Effects of Knowledge, Religiosity Value, and Attitude on Halal Label Reading Behaviour of Undergraduate Students (Simanjuntak & Dewantara, 2014)	-Knowledge -Religious Value -Attitude	Megawati Simanjutak, M. Mardi Dewantara	- Knowledge does not correlated to Halal label reading behaviour. - Religiosity influenced Halal reading behaviour.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Flow
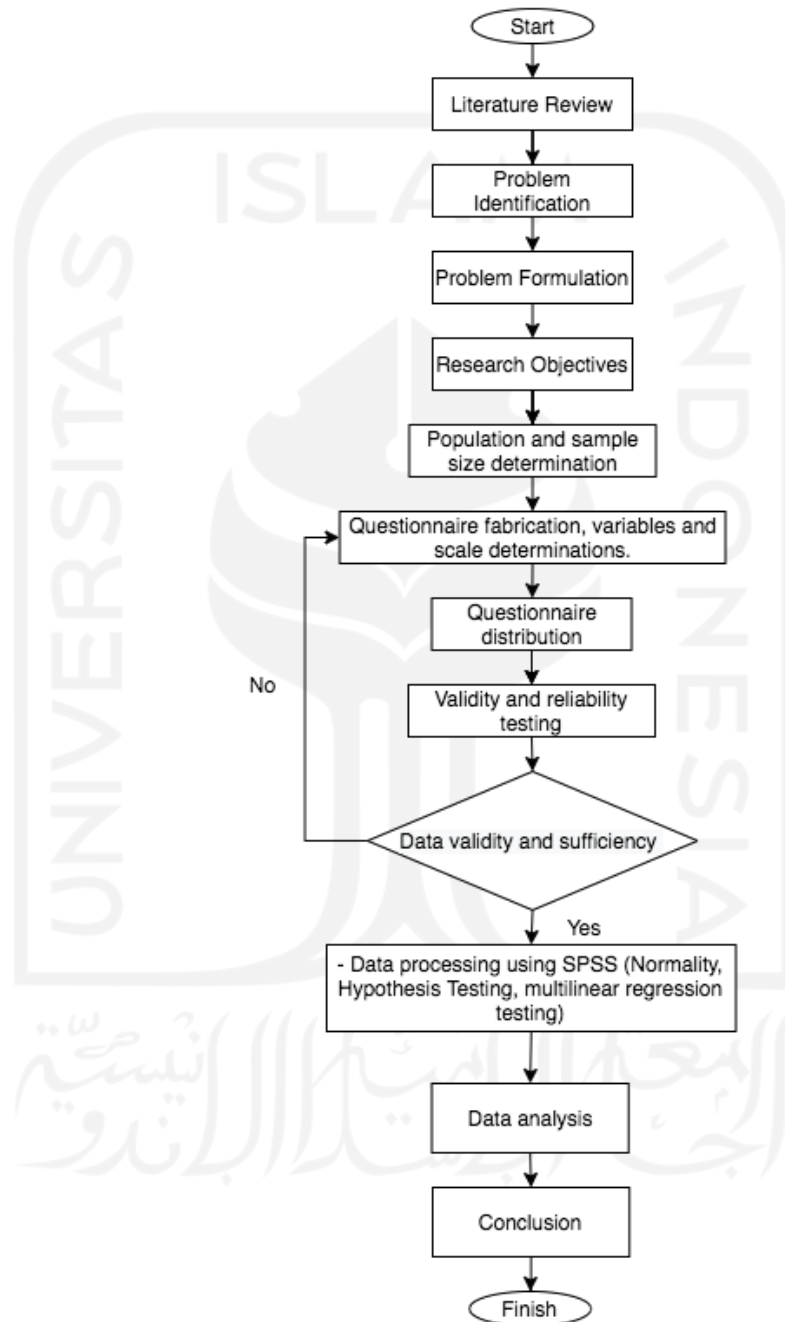
Figure 3- 1 Research Flow Chart

This study requires data sampling or quantitative survey to Muslims who are living in the area of Special Region of Yogyakarta for at least one year. The method in this study is determined based on the research purposes, which is the causal- explanatory study hypothesis testing on the variables that has been suggested (Cooper & Schindler, 2014; Sekaran & Bougie, 2016).

This is a cross-sectional study, which is a study that is conducted once sampling is done by spreading online questionnaire for individual analysis with minimal researchers interference and under a single time frame (Sekaran & Bougie, 2016). The questionnaire consists of open and close questions. The collected data will then be cleansed and classified accordingly using linear regression method to find the correlations amongst variables. The detail steps of this research will be further explained below.

3.2 Research Object

This study is focussing on determining the Muslim's behaviour in the Special Region of Yogyakarta in purchasing Halal products in regard to the influence of religiosity, Halal awareness, and product knowledge. Using the linear regression analysis, this study is able to describe the correlations between the dependent and independent variables.

A. Population and Sample

The entire individual or object of a topic, or measurements obtained from it, is called the population (Groebner et al., 2018) while one part of the population on a topic is called a sample ((Lind et al., 2012)) . This research will require Muslim people age 18 and above as the research object in the Special Region of

Yogyakarta. The people will be randomly chosen based on age, gender and education degree. Based on the Central Statistical Agency Bureau (BPS) of Yogyakarta, the total number of people based on age of 18+ is about 2,633,700 and around 3.4 million people are Muslims in 2020 (*BPS Provinsi D.I. Yogyakarta*, 2021). However, there is no exact data provided regarding the population number by age and religion.

Sampling in this study is using convenience sampling technique. Convenience sampling "collects information from members of the population who most easily (conveniently) provided". This non-probabilistic technique is used by being aware of its strengths and weaknesses. By using convenience sampling, sampling can be done "easily, quickly, and at low cost, although it cannot be used to generalize" (Sekaran & Bougie, 2016).

Despite these drawbacks, convenience sampling is the right choice for this study. The absence of sufficient data on the population based on age and religion, therefore this method is appropriate (Galloway, 2004). As this matter, the determination of sample size has been provided by Roscoe (1975) following the rules of thumbs. Quoted from the book (Sekaran & Bougie, 2016);
"

1. Sample sizes larger than 30 and less than 500 are appropriate for most research.
2. Where samples are to be broken into subsamples (males/females, juniors/seniors, etc.), a minimum sample size of 30 for each category is necessary.

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3. In multivariate research (including multiple regression analyses), the sample size should be several times (preferably ten times or more) as large as the number of variables in the study.

4. For simple experimental research with tight experimental controls (matched pairs, etc.), successful research is possible with samples as small as 10 to 20 in size.

"

This guide in the form of the number of samples needed for a certain population simplifies decision making regarding sample size (Sekaran & Bougie, 2016).

B. Research Location

The research was conducted in Yogyakarta Special Region which consists of four districts and one city, namely Sleman Regency, Gunungkidul Regency, Kulonprogo Regency, Bantul Regency, and Yogyakarta City.

3.3 Research Data Resources

Primary data is a first-hand data that is collected directly from the object of the research target which are the Muslim's in the Special Region of Yogyakarta in the real present time (Ajayi, 2017). This data includes will be obtained by questionnaire. In the primary data, researchers collect the respondents' identity and responses in regard to the given questions.

The questionnaire was developed to obtain data from respondents related to the matters mentioned above. The sufficiency of the number of respondents will be then tested using reliability and validity test. The respondent will begin with answering questions for demographic data purpose (Name, Age, Sex, and

Education Level). Then, respondent will have to fill out the questionnaire which will be divided into 3 parts to answer the three variables; Halal awareness, Halal product knowledge, and religiosity, by responding to the 5 level of agreeableness on Likert scale, in which number '1' indicates Strongly Disagree, number '3' indicates Neutral and number '5' indicates Strongly Agree (Said et al., 2014; Suparti et al., 2019).

Below are the instruments that are about to be tested:

Part 1

Code	Subjective Norms (Suparti et al., 2019)
A1	I consume Halal food because it has more social and family acceptance.
A2	Most people who are important to me prefer the halal food.
A3	My friends always eat halal food
A4	My family consume halal food

Part 2

Code	Religiosity (Awan et al., 2015)(Nurhayati & Hendar, 2019)
B1	I often read texts relating to faith/belief in Islam.
B2	I spend a lot of time to understand beliefs about Islam.
B3	It is important for me to spend time for praying to God.

Part 3

Code	Halal Awareness (Awan et al., 2015)
C1	I make sure that the food product I purchase is Halal.
C2	I make sure that food product contains Halal ingredients.
C3	I make sure that certain food additives contain are Halal.
C4	I make sure to have enough knowledge prior to making purchase decision.

Part 4

Code	Halal Product knowledge (Awan et al., 2015; Nurhayati & Hendar, 2019; Simanjuntak, 2020)
D1	I understand Islamic law about Halal and haram for a product.
D2	I have enough knowledge about what food products are prohibited by Islam.

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D3	I have the knowledge to distinguish between permitted and prohibited products.
D4	I know the latest issue regarding material that is prohibited by Islam because it harms the body.
D5	I believe that Halal certification and logo used to reassure that product is Halal.
D6	I understand that some food products have non genuine Halal logo.

Part 5

Code	Halal Purchase (Adiba, 2019; Nurhayati & Hendar, 2019; Suparti et al., 2019)
E1	I consume Halal food every day.
E2	I recommend Halal foods that are routinely used by people around me.
E3	I purchase Halal food products if labelled as Halal.

3.4 Research Data Collecting Method

Data collection is carried out by distributing an electronic / digital questionnaire through Google Forms on the research object. This questionnaire can be filled out using a personal computer, mobile phone, and other electronic devices that have an internet connection. Electronic questionnaires are easy to administer, reach without geographic boundaries, are low cost, and can be distributed quickly (Sekaran & Bougie, 2016). Now and Bougie also added, electronic questionnaires can be answered by respondents according to their spare time (readiness) (at convenience), although respondents must be able to use electronic communication tools (computer literacy) and have Internet access (Cooper & Schindler, 2013). This is not a problem because the object of research is included in Generation Y which is developing in technological advances (Ilmy & Setiawan, 2019). The use of the internet has also become commonplace for Generation Y in Indonesia (Ramdhani & Wiradhany, 2013).

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3.5 SEM (Structural Equation Modeling)

SEM or Structural Equation Modeling is complex multivariate statistical modelling technic to solve complex analysis such as, factor, path, and regression analysis. This method is frequently used in the behavioural sciences. Model equations with variables attached to one or recursive effect can be analysed using this method (Hox & Bechger, 1998). This model describes the relationship that exist between latent variables. SEM has a similar function multiple linear regression analysis, yet it has a stronger analytic technique. It involves comparing interaction model, nonlinearity, and correlated independents, error measurement, correlated error terms, multiple latent independents, in which each will be measured using different indicators.
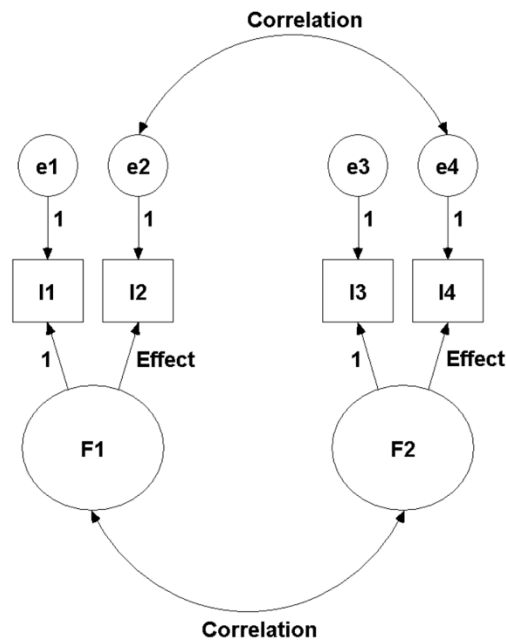
Figure 3- 2. SEM Model Sample

Above is the diagram which is showing F1 and F2 as latent variables, where the bidirectional arrows are representing correlations and covariances and squares are representing the measured variables. In addition to that, SEM has 2 kind of variable groups; exogenous and endogenous variables. In which exogenous that is also known as independent variables are not influenced by the constructs. Meanwhile endogenous variables are the dependent variables, which are influenced by the constructs.

There are various uses in SEM implementations, these include:

1. Causal modelling or path analysis.
2. Confirmatory Factor Analysis (CFA)
3. Second Order Factor Analysis (SOFA)
4. Regression models
5. Covariance Structure Models
6. Correlation Structure Models

3.5.1   Confirmatory Factor Analysis (CFA)

According to Hair et al. (2010), CFA is a measurement model that models the relationship between latent variables and observed variables. The relationship is reflective, where the observed variables are a reflection of the related latent variables. In SEM, CFA relationship is congeneric, in which one observed variable only measures or reflects a latent variable. Determination of the observed variables that reflect a latent variable is carried out based on the substance of the study concerned. Then the measurement model seeks to confirm whether the observed variables are indeed a reflection measure of a latent variable. Therefore, the analysis of this measurement model is also known as confirmatory factor

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analysis. The significance of each indicator could also be determined by the C.R or Critical Ratio, which is also known as t-value ≥ 1.96.

The final results of the CFA are obtained through the overall fit test of the model. CFA is often to be used for construct reliability, like Cronbach's Alpha, to measure scale items. In order for the reliability is valid, CR>0.6 depending on the number of items in the scale with Average Variance Extracted (AVE > 0.5) (Netemeyer et al., 2003).

$$CR = \frac{(\sum \lambda_i)^2}{(\sum \lambda_i)^2 + (\sum \epsilon_i)}$$

CR : Construct Reliability

λ : *Standardized loading*

ϵ : error variance

Hair et al. (2010) also mentioned that in CFA the measurements are indicated using goodness-of-fit indicators to assess a model including Absolute fit measures, Incremental fit measures, Parsimonious fit measures. While the ones that are commonly used are: Normed Fit Index (NFI), Non-Normed Fit Index (NNFI or also known as TLI (Tucker-Lewis Index)), Incremental Fit Index (IFI), Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA).

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Table 3- 1. Model fit indexes according to Hair et al. Indexes (2010)

Categories	Index Name	Accepted Index Value
Absolute Fit	Chisq	> 0.05
	RMSEA	< 0.08
	GFI	> 0.90
Incremental Fit	AGFI	> 0.90
	CFI	> 0.90
	TLI	> 0.90
	NFI	> 0.90
Parsimonious Fit	Chisq/df	< 5.0

3.6 Sobel Test

Sobel test is a test to determine whether there is a significant interaction of the role of mediator variable (M) in intervening the independent variable (X) and the dependent variable (Y) (Hayes & Preacher, 2014; Liu & Mark, 2015; Özdil & Kutlu, 2019).
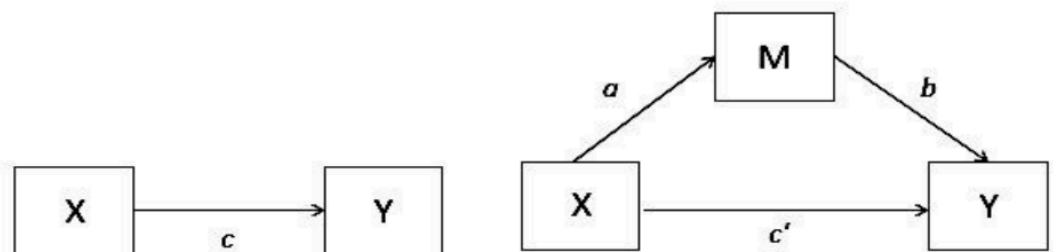
Figure 3- 3. Sobel Test (retrieved from Wikipedia)

The Sobel Test is a coefficient multiplication test of a and b The test is used in many studies to examine indirect effect within variables and it is formulated as followed (Özdil & Kutlu, 2019);

$$z = \frac{ab}{\sqrt{b^2 \, s_a^2 + a^2 \, s_b^2}}$$

S_a $: Standard\ Error\ (coefficient)$

$a \& b$: path between the mediator variable and the dependent variable

In this case it there would be an indirect effect, which is Halal Awareness (X2), as the intervening variable between Religiosity (X1) and Halal Purchase Behaviour, also between Knowledge (X3) and Halal Purchase Behaviour. The test result will consider that the mediator variable is significant if the z score is greater than 1.96 (z ≥ 1.96), which means that the p-value is less than 0.05 (p < 0,05) or contains 95% of the unit normal distribution (Özdil & Kutlu, 2019; Preacher & Leonardelli, 2001).

CHAPTER IV

DATA COLLECTION AND PROCESSING

4.1. Respondent Profile

There were 173 data are obtained for the research. Respondent variance are grouped into 3 categories such as; Age, Gender, and Education. This questionnaire is randomly delivered to people who are residing in the Special Region of Yogyakarta (Sleman Regency, Gunungkidul Regency, Kulonprogo Regency, Bantul Regency, and Yogyakarta City) who are age 18 and above. Based on the categories, the further details are explained below;

4.2.1 Gender

Jenis Kelamin
175 responses

- Laki-Laki
- Perempuan

58.3%

41.7%
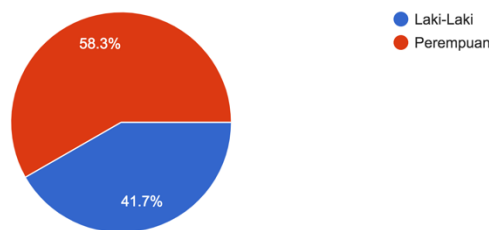
Figure 4- 1. Distribution of respondents based on gender.

From the Figure 4-1, it shows that the majority of the respondents are female with 58.3% and male with 41.7%.

4.2.2 Age

The respondents are varied by age; 23-27 (47.4%), 18-22 (31.4%), 28-32 (6.3%), 33-37 (4.6%), 38-42 (0.6%), 43-47 (4.6%), and lastly 48+ (5.1%). In which it can be seen that the majority of the respondents are youth aged 18-27.

Usia
175 responses
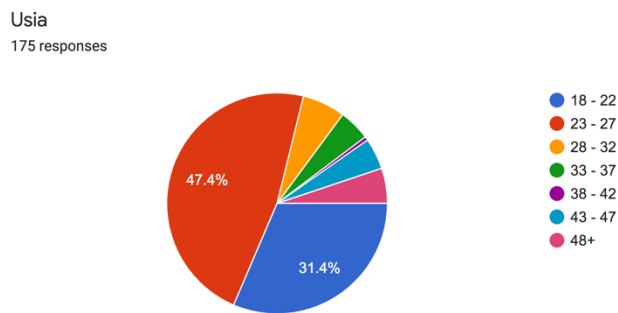
Figure 4- 2. Distribution of respondents based on age.

4.2.3 Education

The education degree is divided into 4 categories; Junior-high (SMP), Senior-high (SMA), Diploma/ Bachelor, Post-graduates.

Pendidikan Terakhir
175 responses
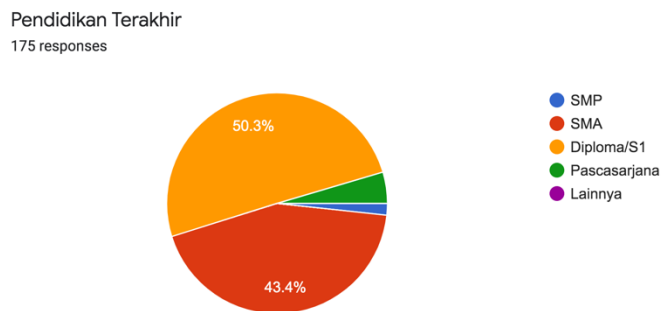
Figure 4- 3. Distribution of respondents based on education (degree).

On the Figure 4-3., it can be seen that the half of respondents has obtained Diploma/Bachelor's degree (50.3%) and followed with high-school graduates (43.4%).

4.2. Research Instruments Testing Using CFA

There are 20 instruments to be tested in this study. But 5 instruments were taken down because they did not fulfil the cut-off of the goodness-of-fit index. While 15 other instruments are reliable and valid for the testing as from the original SEM model.
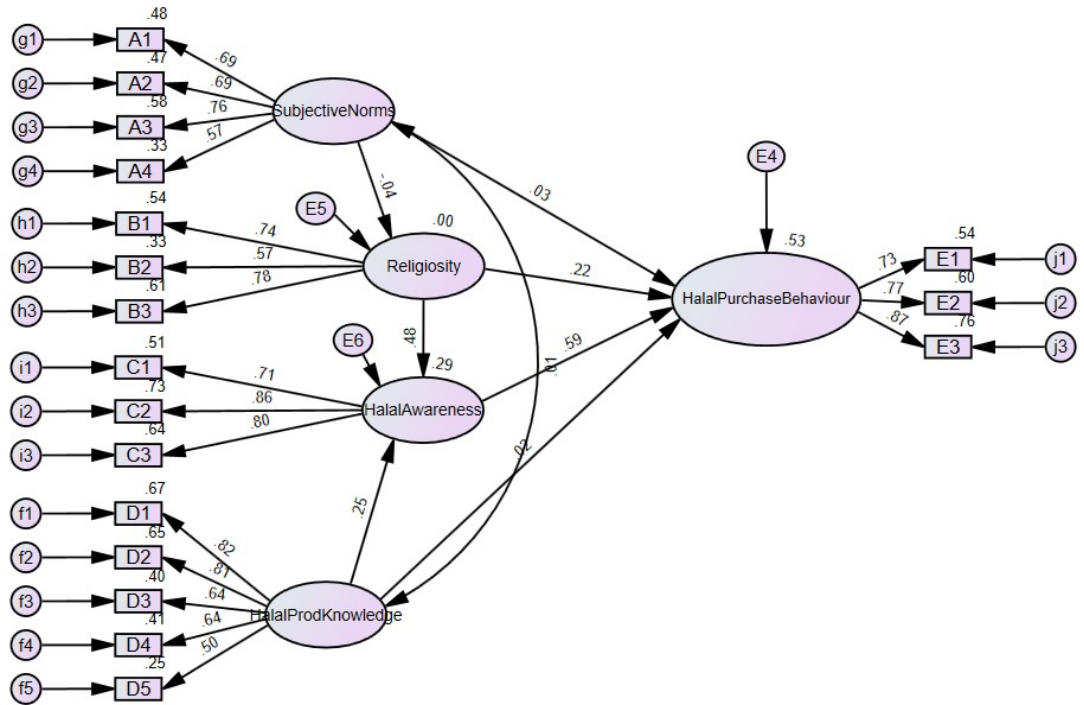
Figure 4- 4. Original Full CFA Model

Below is the standardise weight value or the Beta, which classifies the effect significance as if Beta >0.8 the influence is very significant, > 0.5 is moderate and < 0.2 is low.

Table 4- 1. Standardise Weight Value		
Code	Names	Estimates
A1	x1_subjective_norms	0,687
A2	x1_subjective_norms	0,690
A3	x1_subjective_norms	0,764
A4	x1_subjective_norms	0,568
B1	x2_Religiosity	0,752
B2	x2_Religiosity	0,588
B3	x2_Religiosity	0,760
C1	x3_Halal_Awareness	0,718
C2	x3_Halal_Awareness	0,857
C3	x3_Halal_Awareness	0,813
C4	x3_Halal_Awareness	0,485
D1	x4_Product_Knowledge	0,811
D2	x4_Product_Knowledge	0,801
D3	x4_Product_Knowledge	0,647
D4	x4_Product_Knowledge	0,645
D5	x4_Product_Knowledge	0,522
D6	x4_Product_Knowledge	0,397
E1	Y_HalalPurch	0,672
E2	Y_HalalPurch	0,598
E3	Y_HalalPurch	0,787

On the other hand, from the Model Fit result, it shows that the model is still poor because of the P-Value is < 0.05 and Goodness-of-fit Index is also < 0.90. Therefore, some instruments must be removed.

Table 4- 2. Original Full CFA Model

Criteria	Cut-off Index	Result	Evaluation
CMIN/DF	< 5.0	1.549	Excellent Fit
P Value	> 0.05	0.000	Poor Fit
GFI	> 0.90	0.875	Marginal Fit
TLI	> 0.90	1.001	Excellent Fit
CFI	> 0.90	0.931	Excellent Fit
RMSEA	< 0.08	0.054	Excellent Fit

Below are the measured that are removed:

Table 4- 3. Removed Instruments

Code	Instruments
C1	I make sure that the food product I purchase is Halal.
C4	I make sure to have enough knowledge prior to making purchase decision.
D1	I understand Islamic law about Halal and haram for a product.
D6	I understand that some food products have non genuine Halal logo.
E1	I consume Halal food every day.

4.3. Modified Instruments Testing Using CFA Model

After some modification on the instrument, the analysis is further continued, and

the results are described in more detail in below.

4.3.1 First Order Confirmatory Factor Analysis (Exogenous Variables)

The first order CFA model describes the correlation between 2 exogenous

variables: Subjective Norms and Halal Product Knowledge, with 4 and 5 items in

the variable respectively.

Figure 4- 5 First-Order CFA of Exogenous Variables

Table 4- 4. First Order of Exogenous Variable Fit Index

Criteria	Cut-off Index	Result	Evaluation
CMIN/DF	< 5.0	0.886	Excellent Fit
P Value	> 0.05	0.466	Excellent Fit
GFI	> 0.90	0.967	Excellent Fit
TLI	> 0.90	1.001	Excellent Fit
CFI	> 0.90	1.000	Excellent Fit
RMSEA	< 0.08	0.000	Excellent Fit

From the result of the first order endogenous variable model, it appears that the model is well fitted. It implies that the two variables are valid and are good to be used for the analysis.

4.3.2 First Order Confirmatory Factor Analysis (Endogenous Variables)

Below is the first order CFA model for endogenous variables. This model describes the correlation between 3 exogenous variables: Religiosity, Halal Awareness and Halal Purchase Behaviour.
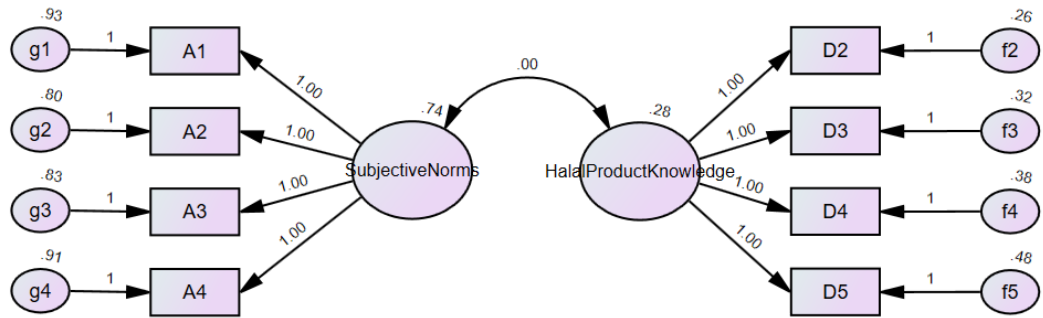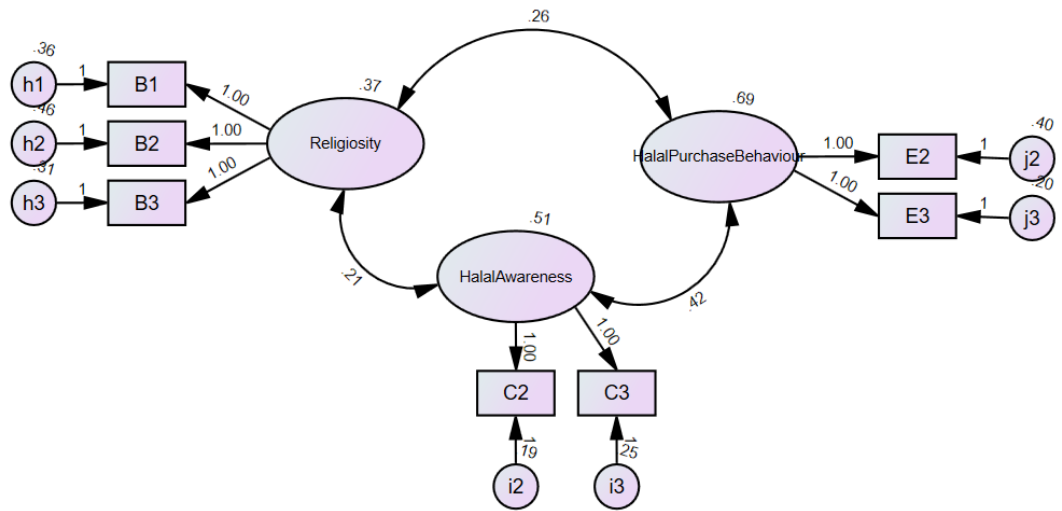
Figure 4- 6 First-Order CFA of Endogenous Variables

Table 4- 5. First Order of Exogenous Variable Fit Index

Criteria	Cut-off Index	Result	Evaluation
CMIN/DF	< 5.0	0.987	Excellent Fit
P Value	> 0.05	0.627	Excellent Fit
GFI	> 0.90	0.976	Excellent Fit
TLI	> 0.90	1.010	Excellent Fit
CFI	> 0.90	1.000	Excellent Fit
RMSEA	< 0.08	0.000	Excellent Fit

The result from the exogenous variable fit index indicates that all indicators have fulfilled the criteria. there are low correlations between Religiosity and Halal Purchase Behaviour (0.26), Religiosity and Halal Awareness (0.21), lastly Halal Awareness and Halal Purchase Behaviour (0.42). Nonetheless, this model is suitable to be used for the CFA model.

4.4. Full Model (Second Order) Confirmatory Model Analysis
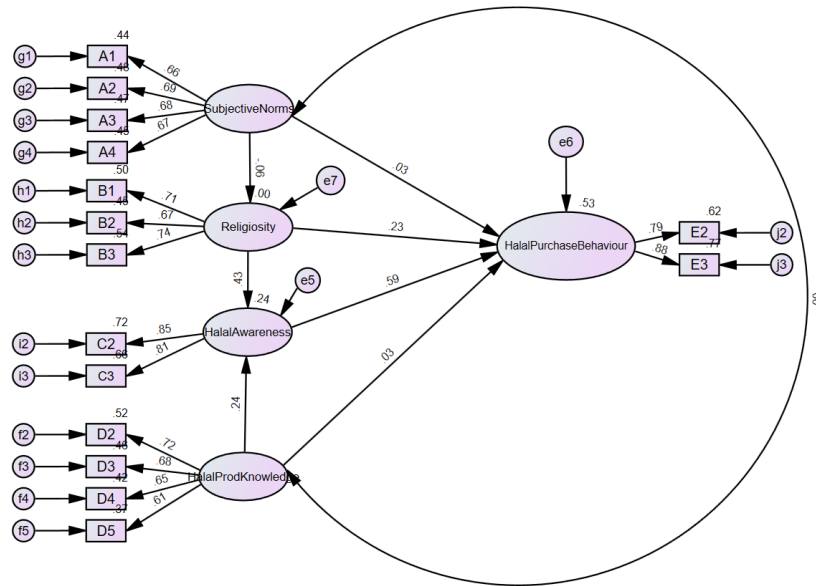
Figure 1. Second-Order Full Model

Table 4- 6. Full Modified Model Fit Result

Criteria	Cut-off Index	Result	Evaluation
CMIN/DF	< 5.0	1.106	Excellent Fit
P Value	> 0.05	0.228	Excellent Fit
GFI	> 0.90	0.926	Excellent Fit
TLI	> 0.90	0.986	Excellent Fit
CFI	> 0.90	0.987	Excellent Fit
RMSEA	< 0.08	0.025	Excellent Fit

From the result above it seemed that the model is fitting pretty well. GFI criteria require value that is ≥ 0.90 and it shows 0. 926, which indicates excellent fit. Also, P-Value indicates excellent fit as P-Val = 0.228 (>0.05). Followed with GFI, TLI, and CFI, each of the criteria has fulfilled the index requirement which is ≥ 0.90 as the value number shows 0.926, 0.986, and 0.987 accordingly. Lastly, RMSEA has also achieved its index fit as 0.025<0.08

4.5. Calculating Construct Reliability (CR) and Average Variance Extracted (AVE)

Once the model is fit, CR and AVE values are then calculated to determine the reliability of each indicators. The CR value should be ≥0.6 while AVE ≥ 0.5. So, on Table 4-7, it is concluded that each indicator in the variable is reliable, because the CR value of X1, X2, X3, X4, and Y are 0.679, 0.799, 0.865, 0.831, and 0,823 respectively. Meanwhile the AVE value are 0.576, 0.521, 0.762, 0.551, and 0.700 correspondingly.

Table 4- 7. CR and AVE Calculation

	Code	S.E.	error	CR	AVE	Indication
X1	A4	0,671	0,6	0,679	0,576	Good
	A3	0,684	0,335			
	A2	0,691	0,406			
	A1	0,664	0,534			
X2	B3	0,735	0,312			
	B2	0,67	0,45	0,799	0,521	Good
	B1	0,71	0,361			
X3	C3	0,82	0,249			
	C2	0,854	0,19	0,865	0,762	Good
X4	D5	0,609	0,467			
	D4	0,648	0,38	0,831	0,551	Good
	D3	0,677	0,326			
	D2	0,717	0,261			
Y	E2	0,795	0,401			
	E3	0,88	0,201	0,823	0,700	Good

4.6. Sobel Test Result

Sobel Test is used in this study to determine whether Halal awareness has a role to become a mediator variable between religiosity and Halal buying behaviour also between knowledge and Halal buying behaviour.

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4.6.1. Halal Awareness Intervening Religiosity and Halal Buying Behaviour.

Firstly, Table 4-6 and 4-7 are the result of the test between the aspect of Religiosity and Halal buying behaviour.

Table 4- 8. Indirect Impact of Religiosity on Halal Purchase Behaviour

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.064	1.093		.973	.332
	Religiosity X2	.232	.079	.194	2.920	.004
	HalalAwareness X3	.494	.063	.517	7.793	.000

a. Dependent Variable: Halal_Purchase

Table 4- 9. Direct Impact of Religiosity on Halal Buying Behaviour

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.099	1.024		5.958	.000
	Religiosity X2	.497	.083	.416	5.981	.000

a. Dependent Variable: Halal_Purchase

From the regression tables it shows that the coefficient between Religiosity and Halal buying behaviour is 0.487 with .000 sig. value. Meanwhile the Halal Awareness is 0.445 and 0.059 standard error and 0.000 sig. value. Using manual calculation of the Sobel formula, the variable is considered as a mediator when z score is $z > 1.96$, else it is not able to mediate the two variables.

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$$z = \frac{ab}{\sqrt{b^2\, s_a^2 + a^2\, s_b^2}}$$

Below is to calculate the $Z_{religiousity}$ score using the following formula:

$$Z_{religiousity} = \frac{0.497 \; x \; 0.494}{\sqrt{(0.497^2 \; x \; 0.063) + (0.494^2 \; x \; 0.083^2)}} = 4.76$$

So, since $Z_{religiousity} = 4.76 > 1.96$, hypothesis null is rejected, which says Halal awareness is able to intervene between the two variables, Religiosity and Halal buying behaviour.
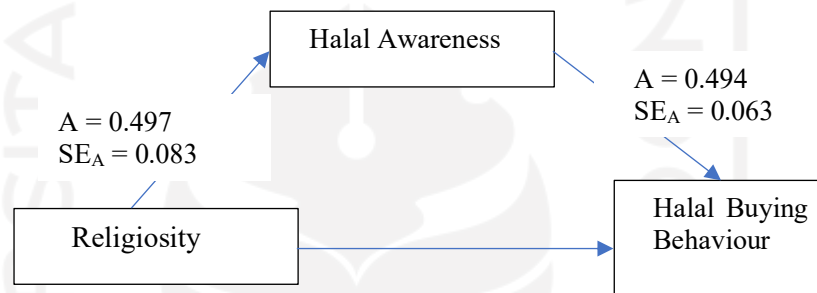
Figure 4- 7. Halal Awareness on Religiosity Model Mediator

4.6.2. Halal Awareness Intervenes between Halal Product Knowledge and Halal Buying Behaviour.

Secondly, below is the test result whether Halal awareness could be a mediator variable for Knowledge in influencing Halal Buying behaviour.

Table 4- 10. Direct Influence of Product Knowledge on Halal Buying Behaviour.

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.788	1.231		2.264	.025
	Halal_Product_Knowledge	.019	.045	.025	.425	.671

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| | | | | | 11.014 | .000 |
| Halal_Awareness | .547 | .050 | .655 | | | |

a. Dependent Variable: Halal_Purchase

Table 4- 11. Indirect Influence of Product Knowledge on Halal Buying Behaviour.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.691	1.447		6.007	.000
	Halal_Product_Knowledge	.149	.057	.195	2.598	.010

a. Dependent Variable: Halal_Purchase

From the regression tables it shows that the coefficient between Halal Product Knowledge and Halal Buying Behaviour is 0.148 with .006 sig. value. Meanwhile the Halal Awareness is 0.027 and 0.045 standard error and 0.575 sig. value. Using manual calculation of the sobel formula, the variable is considered as a mediator when z score is z > 1.96, else it is not able to mediate the two variables. So,

$$Z_{\text{prdctknwldg}} = \frac{0.148 \; x \; 0.027}{\sqrt{(0.027^2 \; x \; 0.053^2) + (0.148^2 \; x \; 0.045^2)}} = 2.67$$

Figure 4- 8. Halal Awareness on Product Knowledge Model Mediator

From the calculation result, the z value of product knowledge is 2.54 or z > 1.96, which means that the hypothesis null is rejected, and Halal Awareness is able to

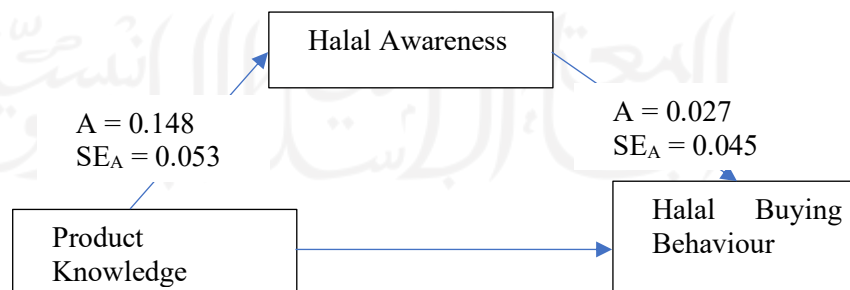intervene Halal Product Knowledge and Halal Buying Behaviour as a mediating variable.

4.6.3. Religiosity Intervenes between Halal Product Knowledge and Halal Buying Behaviour.

Table 4- 12. Direct Influence of Product Knowledge on Halal Buying Behaviour.

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.406	1.185		4.562	.000
	Subjective_Norms	.040	.046	.059	.870	.385
	Religiosity	.523	.080	.450	6.582	.000

a. Dependent Variable: Halal_Purchase

Table 4- 13. Indirect Influence of Product Knowledge on Halal Buying Behaviour.

Coefficients[a]

Model		Unstandardized Coefficients	Standardized Coefficients		t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11.706	.780		15.002	.000
	Subjective_Norms	.048	.051	.072	.945	.346

a. Dependent Variable: Halal_Purchase

From the regression tables it shows that the coefficient between Subjective Norms and Halal Buying Behaviour is 0.048 with .346 sig. value. Meanwhile the Religiosity is 0.536 and 0.080 standard error and 0.000 sig. value. Using manual calculation of the Sobel formula, the variable is considered as a mediator when z score is $z > 1.96$, else it is not able to mediate the two variables. So,

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$$Z_{\text{subjnorms}} = \frac{0.017 \; x \; 0.50}{\sqrt{(0.017^2 \; x \; 0.083) + (0.50^2 \; x \; 0.049^2)}} = 0.205$$
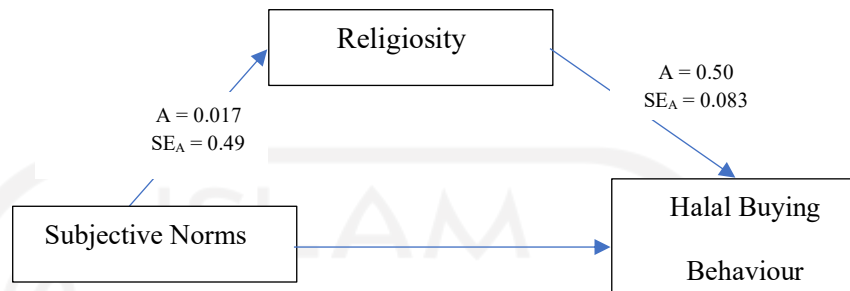

Figure 2. Religiosity on Subjective Norms Model

Mediator

From the calculation result, the z value of product knowledge is 0.205 or z < 1.96, which means that Religiosity is not able to intervene Subjective Norms and Halal Buying Behaviour.

CHAPTER V

DISCUSSION

Halal living has been adopted in daily life worldwide. Then due to the significant growth of the Muslim population, the demand for Halal products is also increasing such as food and beverages. Halal market has a wide kind of consumer behaviour. In which following up with the demand could become very complex. Various aspects could be taken into considerations such as subjective norms, religiosity, halal awareness, and knowledge. Just as what Woyciechowski (2007) mentions in his study, saying that religion affects people's intrinsic and extrinsic life. In addition to that, Peter and Olson mention that consumer behaviour is indeed dynamic as cognition, interactions, behaviour, and environment affects the way people behave (Peter & Olson, 2010). Then, according to Griffin and Elbert, consumer's behaviour is influenced by psychological aspects as well, which knowledge, perception, and motivations include in it. This being said that determining a consumer's behaviour is never that simple. Various studies have been studying different cases in different areas for instance.

As the major population of the Special Region of Yogyakarta is Muslims, this study is conducted to determine whether the factors that have been theorised are suitable for these samples. Furthermore, to understand whether subjective norms, religiosity, product knowledge, and Halal awareness have an influence on the Muslim consumers' halal meat buying behaviour here in the region. On top of

that, it is to understand if Halal awareness has a role as an intervening variable to mediate the other two independent variables; Religiosity and Product Knowledge, on the dependent variable; consumers Halal awareness and Halal meat buying behaviour, and below is the result of the study.

Table 4- 13. Regression Weight Model Result

			Estimate	S.E	C.R	P	Result
X3	<---	X2	.486	.120	4.064	***	Accepted
X3	<---	X4	.267	.135	1.975	.048	Accepted
Y	<---	X1	.028	.073	.389	.698	Rejected
Y	<---	X2	.316	.135	2.335	.020	Accepted
Y	<---	X3	.697	.109	6.377	***	Accepted
Y	<---	X4	.011	.011	.076	.939	Rejected

Based on the data obtained from Table 4-11:

1. Subjective Norms (X1) → Halal Meat Buying Behaviour (Y)

The result obtained in this study shows that there is no correlation between Subjective Norms and Halal Meat Purchase Behaviour. The hypothesis is rejected as the Critical Ratio is 0.389 (≤1.96). This result is corresponding to Suparti et al. (2019). Vanany et al. (2019) also Soon and Walace (2017). This shows that there is no certain group of people that gives direct pressure on Muslim consumers to always buying halal products (Vanany et al., 2019). In the study conducted by Soon and Wallace (2017), shows that respondents do not receive social pressure to consume halal products. Although people around will not agree if respondents buy non-halal products, there is no certain party that directly pressures them to always buy halal products (Vanany et al., 2019). The second possibility is that the social pressures that respondents receive vary, which this study does not identify the respondent's family background (Soon and Wallace, 2017), so it does not show

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each role in forming an intention. Nevertheless, respondents still have the intention to buy halal products as a form of obligation as a Muslim.

So, this study is not in line with the study conducted by Griffin and Elbert, Al-Swidi et al. (2014), Haro (2016), Hall and Sevim (2016), and Simanjuntak and Nasiha (2019) which stated that subjective norms have significant role in shaping peoples buying behaviour as it is being more influential in affecting social characters, so it predominantly affects their buying behaviour towards Halal food.

2. Religiosity (X2) → Halal Meat Purchase Behaviour (Y)

There is a positive correlation between religiosity and Halal purchase behaviour as the Sig. value is $0.022 \leq 0.05$. This study corresponds to Nurhayati and Hendar (2019) and Simanjuntak and Dewantara (2014). Although it is aligned to this statement as it is stated that the high and low level of religiosity of the consumers still affecting their purchase decision. People's devotion towards a religion affects their concepts internally. This means that the more devoted a person the higher the awareness they have, Halal food for instance (Nurhayati & Hendar, 2019). In the case of Simanjuntak and Dewantara (2014), religion is affecting 45.4 percent of the total respondent about the Halal label in a food product. Pointing out that religion is, again, affecting consumers' values.

3. Halal Awareness (X3) → Halal Meat Purchase Behaviour (Y)

From the analysis, there is a positive correlation between Halal Awareness and Halal meat purchase behaviour, as the critical ratio is 6.377 ($\geq$1.96). So, it is

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aligned with the studies in the past. Riptiono's study (Riptiono, 2020) shows that consumer awareness influence consumer's behaviour in purchasing Halal product. Consumers are also aware of the food they consume because there are Muslims and non-Muslims who produced and sold the product. Lim et al. (2016) mentions that the Halal awareness occur due to past experience as it reflects the consumer's. Also Abou-Youssef et al. (2015) state that religiosity creates concerns to the people thus Halal awareness exists. Then, followed with the studies conducted by Simanjuntak, Nurhayati and Hendar, Aziz and Chok, also Azam (Azam, 2016; Aziz & Chok, 2013; Nurhayati & Hendar, 2019; Simanjuntak, 2020).

4. Product knowledge (X4) → Halal Meat Purchase Behaviour (Y)

There is no influence of product knowledge on Halal purchase behaviour. The critical ratio is 0.076 (≤1.96) which means the hypothesis is rejected. So this result is not aligned to the studies that are conducted by Suparti et al.(2019), and Lim et al. (2016). In their studies, knowledge has a strong effect on buying intention. It is because that knowing provides a source of information in purchase decision making (Nurhayati & Hendar, 2019; Suparti et al., 2019). Then, a study conducted by Suki and Saleh (2018) has also a similar result where Halal principle knowledge was insignificant in influencing the Muslim consumer's behavioural intention.

However it correlates to the case in the study conducted by Simanjuntak and Murti (2020) about consumer's knowledge and Halal food purchase amongst housewives. The study shows that the correlation between knowledge and Halal

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food purchase is negative. Even though the knowledge in regard to Halal product amongst the subjects are considered to be high, the lack of Halal awareness is what matters here that makes the insignificant correlation to Halal purchase behaviour.

5. Halal Awareness as a Mediating Variable Between Religiosity/Product Knowledge and Halal Meat Buying Behaviour.

Few studies consider Halal awareness as an intervening factor that could affect the buying behaviour. For that matter, this research shows that Halal awareness can become the mediating variable for religiosity and product knowledge towards Halal meat buying behaviour. Using the same method, which is Sobel Test, to test the mediating variable, the output value of z is 2.54 and 4.76 for Religiosity and Product Knowledge, which means that the hypotheses are accepted. In which it suggests that the result of this study is in line with a study by Nurhayati and Hendar's study. Researchers found that consumer's decision making towards Halal products are promoted through Halal knowledge which is correlated to Halal awareness. respectively Especially that Halal awareness is able to mediate between personal intrinsic religiosity and Halal purchase intention, also between Halal product knowledge and Halal purchase intention. It could be said that Halal awareness level amongst Indonesian is significant, especially amongst those high knowledgeable Muslims who understand Halal product better (Nurhayati & Hendar, 2019).

6. Religiosity as a Mediating Variable Between Subjective Norms and Halal Meat Buying Behaviour.

Religiosity could also be considered as a mediating variable as, again, Peter and Olson has mentioned previously that religion is a part of a culture (Peter & Olson, 2010). The landscape is imprinted by religion in its culture and lifestyle. It is because human acknowledge that religion shapes people's attitude and behaviour (Park, 2004). Mokhlis (2009) states that religions is what shaping people's habits beyond their spiritual life. This includes on forbidding consuming certain consumption to represent the symbol of spiritual devotion. Nevertheless, the result of this study, religiosity does not correspond to that. It is found that the value of z is 0.205 or z < 1.96, thus, it is not able to mediate the Subjective Norms and Halal Meat Buying Behaviour.

Consuming Halal products is a form of God's devotion by all Muslims. Eating Halal (permissible) and *Toyyib* (pure) happens in each of the individual value also the benefits attributes in life such as healthy lifestyle (Nurhayati & Hendar, 2019). Enriching consumers in regard to Halal products, especially in food industry, is crucial. Religious motivation is not the only way that could improve consumer's awareness towards the food they consume, but also knowledge. Product knowledge includes the information about the product specification, ingredients, and Halal certification, which consumers should be able to recognise. As a matter of fact, the lack of Halal awareness is caused due to lack of Halal knowledge in product purchase intention (Aziz & Chok, 2013). In which it is relevant to result of the study. Especially knowing that there are still Muslims

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who are careless and neglecting the essence of halal consummation, both producers and consumers (Nakyinsige et al., 2012). So, it is also the government responsibility to make Halal consumption products available for all Muslims in to provide them comfort, security and safety, as what it has stated in the Law no. 33 year 2014. They should increase the awareness concerning halal products by creating social expectation such as food labelling and halal certificate logo on the product (Azam, 2016).

Therefore, to increase halal awareness through product knowledge, Halal traceability for food product particularly meat should be implemented to allow customers in obtaining transparency of information regarding the food product they consume. Below is the Halal Meat SCM framework model on meat products;
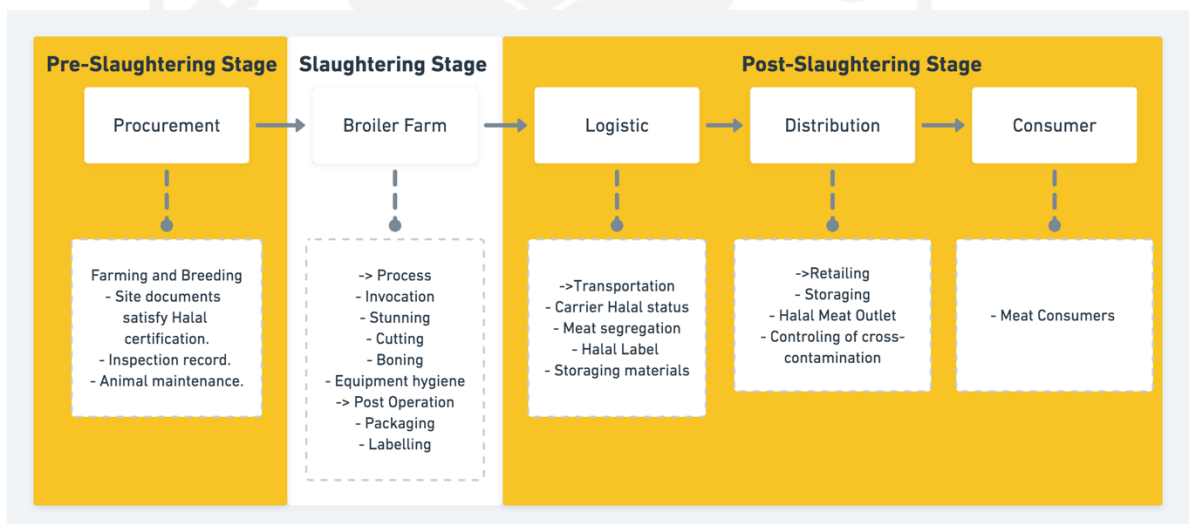

Figure 3. Halal Meat Supply Chain Conceptual Model (Maman et al., 2018)

So, from the process, there are some indicators that needs to be considered as the following.

Table 5- 1. Halal Traceability System on Supply Chain Based on Shariah Law

Phase	Halal Check Point	Traceability Information	Control	Person in charge	Traceability System
Procurement	Raw Materials Tools	-Information of the raw materials -Delivery Code -Storage Code	-Halal Certified slaughterhouse. -Hygienic equipment -Practicing by Islamic Law	Supplier	Monitoring and Inventory System
Manufacturing	Production Process Packing Labelling	-Traceability processing code -Logistic and packing traceability	-Product hygiene and contamination free	Food Industry	Monitoring and Inventory System
Logistic	Storage	-Delivery and Storage code	-Container segregation if needed	Distributor	Monitoring and Inventory System
Distribution	Distribution	-Product information	-Maintaining freshness and product safety.	Retailer	Monitoring and Inventory System

Source: (Mohamed et al., 2016; Zainuddin et al., 2020)

Lastly, understanding the motives behind Halal consumption is significant for marketers and industries. It benefits them to understand the demand better especially in Indonesia, where Islam is the majority religion of the population.

CHAPTER VI

CONCLUSION AND SUGGESTION

6.1 Conclusion

The objective of this study which are to understand whether product knowledge, Halal awareness, and knowledge have an influence on consumer's Halal meat buying behaviour, also to know whether Halal awareness mediates religiosity and product knowledge towards Halal meat buying behaviour, are achieved.

Referring to the analyses conducted from the samples taken in the Region of Yogyakarta, it can be concluded that;

1. Subjective Norms and Product Knowledge are negatively correlated and does not have significant influence on Halal Meat Buying Behaviour.
2. Religiosity and Halal Awareness on the other hand, have positive significant relationship on Halal Meat Buying Behaviour.
3. Halal awareness is able to intervene Religiosity and Product Knowledge towards Halal meat buying behaviour.
4. Religiosity is not able to intervene between Subjective Norms and Halal meat buying behaviour.
5. Traceability in SCM should be improved to provide accessible information of the product to the customers to enhance their knowledge regarding the meat product they consume.

6.2 Limitation

First of all, this study is not able to determine the level of education that people obtain. Thus, the level of knowledge in regard to Halal products might be too varied amongst respondents. Since the questionnaires are distributed online, it is difficult to understand whether the respondents have fully understood the questions thoroughly or not. Thus, such factors caused data distortion in the analysis result.

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Second of all, this study is only conducted for the Muslim's consumers in the Special Region of Yogyakarta regardless their social economic status. So, it cannot be implemented accordingly to other consumers in different regions, especially when they have different kind of religion majority.

Third of all, this study is only focussing on the halal meat buying behaviour. Thus, such limitation should be further considered as future study reference.

6.3 Suggestion

Concerning the limitation that the researcher meets while conducting the study, object scope could be more generalized or specified even further depending on the data needs for the study. Second of all, considering that Indonesia is a vast majority Muslim population government should consider the Halal needs for the Muslims' consumption. Meat products have been the biggest obstacle for government to provide. They should be giving or facilitate the community with Halal standardized and certified slaughterhouses that are proper and well managed. This way, the community would have a better awareness besides a good knowledge over the food they are consuming. Furthermore, the government should also push those companies that supply or manufacture meat products to comply with halal certification. It is not only that it is going to allow Muslims for a better ensured halal consumption but also food safety. Halal economic will grow significantly because of this. Especially that the Muslims' demands for food and

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beverages keep increasing constantly. Lastly, in places such as mosques and Muslim leaders in the community where Muslims round up, they should be better in educating them mainly to promote awareness towards eating halal meat. Halal by means having their food all Halal certified from the farm to table.

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Attachment:

4.7.Questionnaire

Part 1

Name:	
Age:	
Sex:	
Education Level:	

Part 2

Code	Subjective Norms (Suparti et al., 2019)
A1	I consume Halal food because it has more social and family acceptance.
A2	Most people who are important to me prefer the halal food.
A3	My friends always eat halal food
A4	My family consume halal food

Part 3

Code	Religiosity (Awan et al., 2015)(Nurhayati & Hendar, 2019)
B1	I often read texts relating to faith/belief in Islam.
B2	I spend a lot of time to understand beliefs about Islam.
B3	It is important for me to spend time for praying to God.

Part 4

Code	Halal Awareness (Awan et al., 2015)
C1	I make sure that the food product I purchase is Halal.
C2	I make sure that food product contains Halal ingredients.
C3	I make sure that certain food additives contain are Halal.

C4	I make sure to have enough knowledge prior to making purchase decision.

Part 5

Code	Halal Product knowledge (Awan et al., 2015; Nurhayati & Hendar, 2019; Simanjuntak, 2020)
D1	I understand Islamic law about Halal and haram for a product.
D2	I have enough knowledge about what food products are prohibited by Islam.
D3	I have the knowledge to distinguish between permitted and prohibited products.
D4	I know the latest issue regarding material that is prohibited by Islam because it harms the body.
D5	I believe that Halal certification and logo used to reassure that product is Halal.
D6	I understand that some food products have non genuine Halal logo.

Part 6

Code	Halal Purchase (Adiba, 2019; Nurhayati & Hendar, 2019; Suparti et al., 2019)
E1	I consume Halal food every day.
E2	I recommend Halal foods that are routinely used by people around me.
E3	I purchase Halal food products if labelled as Halal.