

The Impact of Differences in Consumer Knowledge about Food Products from the Aspects of Food Quality, Food Safety, Halal, and SNI on Purchase Decisions (Study on Food and Beverage Consumers in Indonesia)

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Abstract

The halal logo is an important point in this study because it is considered not only by Muslim consumers but also by non-Muslim consumers (Buddhist, Hindu, Christian, and Catholic). For Muslim and non-Muslim consumers, the halal logo on product packaging maybe a reference to recognize between halal and non-halal food, as well as a guarantee of product safety, cleanliness, and quality which are highly considered by non-Muslim consumers. In addition, consuming halal food is a recommendation and obligation for all Muslims.

The data was obtained based on the results of a survey to 898 consumers from various domicile areas in Indonesia. Multivariate Analysis of Variance (MANOVA) was utilized in analyzing information about the data to reach reason of this study. The results showed that consumers based on gender, religion, domicile, and profession had differences on 3 of 4 aspects including food safety, halal, and the Indonesian National Standard (SNI) label in deciding the purchase of food and beverage products. Meanwhile, consumers based on age and level of education do not pay much attention to these aspects. Therefore, this study confirms that there are 3 out of 4 aspects concepts that are the main considerations for consumers in deciding to purchase food and beverage products, to be specific food safety, halal, and the Indonesian National Standard (SNI) label.

Keywords: Food products, Consumer choices, Food safety, Purchase decision

Introduction

McKinsey & Company report presented by Agarwal, R. et al. (2021) stated that over the last twenty years, Indonesia's annual Gross Domestic Product (GDP) growth rate fluctuated around 5%, reaching 6.3% in 2007 before falling back to 5% in 2019. However, the COVID-19 pandemic hit the economy hard, and in January 2021, Oxford Economics expects the economy to

contract by as much as 2.2% in 2020. Despite the setbacks, it is expected that the economy could recover to 6.0% growth in 2021, due to increased consumer and infrastructure spending.

Food Safety Risk Perception (FSRP) plays an important part in food safety since it appears consumer behavior in reacting to food-related risks (Adinolfi, F. et al., 2016). In the end, consumer behavior leads companies to reduce the risk of contamination and disruption in the supply chain by improving operational processes (Scoenherr, T. et al., 2015). The indicators for fulfilling food safety certification consisting of MD/ML, HACCP, ISO and the production and expiry time stamped on the product packaging become research gaps on food safety, considering that so far there have been many discussions related to food safety but related to product guarantees that are safe and healthy for consumption as well as the rules regarding Food Additives (BTP).

The halal aspect that has been researched so far is related to halal knowledge and education on how to get a halal logo from the relevant certification body (eg MUI).

Notation

BPOM	National Agency of Drug and Food Control	ML	outside food
BSN	national standardization body	MS	qualify
BTP	food additives	MUI	Indonesian Council of Ulama
CAC	<i>codex alimentarius commission</i>	NIE	distribution license number
FDA	<i>food drugs & administration</i>	PIRT	home industry food
FSRP	<i>food safety risk perception</i>	SNI	Indonesian national standard
HACCP	<i>hazard analysis critical control point</i>	TMK	does not meet the conditions
ISO	International Standard Organization		
MD	inside food		
MK	meet the conditions		

The increasing number and types of food products circulating in Indonesia have increased significantly, this is certainly inseparable from the supervision carried out by the Food and Drug Administration (BPOM). Meanwhile in the United States, the supervision of circulating food products is controlled by the Food Drugs & Administration (FDA). Viewpoints of the Indonesian National Standard (SNI) which have been examined so far are related to the socialization and education of SNI-standard products from the National Standardization Agency (BSN). These conditions are considered by analysts to add indicators including,

- a. Complete information (as well as costs) to get mandatory SNI inclusion
- b. All products marketed domestically must meet the standard criteria for these products with SNI
- c. Exported products must comply with SNI
- d. SNI standards burden business actors
- e. There are sanctions from the apparatus if the products sold in the Indonesian market do not comply with SNI

Purchasing decisions as a measure of consumer behavior associated with subcultures in the form of demographic factors as the concept of Sumarwan, Ujang (2015: 252) where consumer behavior is seen from the determination of purchasing decisions on food and beverage products consumed based on demographic factors including gender, age, education, religion, domicile, and occupation. Consumer purchasing decisions based on age by Setiadi, NJ (2019: 279-282) are divided into 4, namely the children's market (consumers aged 7-15 years). Youth market (consumers aged 18-27 years), Baby boomer market (containing consumers aged 28-37 and 38-47 years), Adult market (containing consumers aged 48-57 years and 58 years).

Previous research on Purchase Decisions manifested in the form of purchase intentions and Willingness To Pay (WTP) using demographic factors of gender, age, education, religion, occupation, household size, and income. Therefore, the researcher added Demographic Factors based on the domicile area in 6 Big Islands in Indonesia including Sumatra Island, Sulawesi Island, Java Island, Bali and Kep. Nusa Tenggara, Kalimantan Island, and Kep. Maluku and Papua Island as research by Setiadi, NJ (2019: 272-277) which explains the character of each consumer based on their domicile area, which as a whole is associated with religion and culture.

Thus, referring to some of these phenomena, it is necessary to analyze and test the significant differences in consumer knowledge in Indonesia about food and beverage processed food products from the aspect of Quality, Food Safety, Halal and Indonesian National Standard Label (SNI) on purchasing decisions based on demographic factors. gender, age, education, religion, domicile, and occupation. Considering that not all consumers understand and implement knowledge in more detail in the decision-making process of purchasing processed food products and beverages consumed.

Literature Review

2.1. Food Quality

Kotler and Armstrong (2012: 272) relate quality with a mix product comprising of assortment, quality, design, distinctive features, brand, bundling, service level, ensure/guarantee, size, and returns. More point product quality indicators incorporate: form, features, customization, performance quality, conformance quality, durability, reliability, repairability, style, design. The quality of a product is closely related to bundling, just as consumers in Lebanon are attracted to products that include nutritional info and health claims (Bou-Mitri, C., et al., 2020). Regional products and their features also indirectly influence consumer buying interest (Charton-Vachet, F., et al., 2020). Consumers in Japan, the United States, Germany, China, and Thailand consider product quality based on the accuracy and assurance of food information which is a major role of governments, producer associations, and experts as a trusted source of information in the world (Ruppreth, CD et al., 2020). While consumers in Vietnam consider quality based on health and service factors that play a role in purchasing decisions (Tran, et al., 2020).

2.2. Food Safety

Food safety is related to several things, in Zimbabwe the culture of food safety is related to the susceptibility to microbial contamination of the company's food production systems (Nyarugwe SP et al., 2020). Meanwhile, in Turkey, food safety is closely related to attitudes but not to

knowledge (Baser, F. et al., 2017). Turkish consumers tend to be more concerned with food additives and hereditary designing than bacterial contamination. Knowledge about food safety is dominated by adult or elderly consumers, whereas youthful consumers are more optimistic about new food processing techniques (Bolek, S., 2020). For young consumers, especially women in Saudi Arabia, they prefer food safety practices rather than just food safety knowledge (Farahat, MF et al., 2015).

The relationship between food safety risk perception (FSRP) and willingness to buy (WTB), where trust, subjective knowledge, income, control, and perception can reduce FSRP and WTB, while negative attitudes towards products, worry about food, preference for natural foods, and children were able to increase FSRP and WTB (Nardi, et al., 2020). From a food company point of view, consumers must truly consider WTB for quality and safety in an effort to improve marketing strategies (Riccioli, F. et al., 2020). Consumer trust in a product can directly reduce the risk and perception of food risk which is supported by the requirement of food safety regulations and transparency of food product information (Ha, TM. et al., 2020).

Indonesian consumers themselves, make knowledge as a basis in responding to the food safety of the products purchased because knowledge has been proven to impact consumer attitudes and behavior towards product safety (Elinda-Patra, et al., 2020). However, in a different area, it is further known that knowledge, hygiene, and economic motives have no effect on food security (Gusdia, T., 2020). This shows that local products with their features affect consumers' knowledge of the food safety of the products purchased.

2.3. Halal

The Indonesian government has made regulations governing Halal products through several regulations including Law Number 33 of 2014 about Halal Product Guarantee, Government Regulation of the Republic of Indonesia Number 39 of 2021 about Implementation of the Halal Product Guarantee Sector. Minister of Religion Regulation Number 26 of 2019 concerning the Implementation of Halal Product Guarantees and the Decree of the Minister of Religion Number 464 of 2020 about Types of Products that must be Halal Certified. The first and most trusted halal certification agency, both nationally and internationally, which is authorized to study and analyze the halalness of a product in Indonesia is the Institute for the Study of Food, Drugs and Cosmetics, the Indonesian Ulema Council (LPPOM MUI). In 2017 to 2018 LPPOM-MUI achieved SNI ISO/IEC 17025:2008 Certification for Halal Laboratories and SNI ISO/IEC 17065:2012, and the Halal Certification Agency of the Indonesian National Accreditation Committee (KAN). This standard is recognized in Indonesia and also by the United Arab Emirates Accreditation Board (ESMA). The halal certification system and halal assurance system designed and implemented by LPPOM MUI have been recognized and adopted by 45 foreign halal certification institutions from 26 countries.

The concept of halal extends to foodstuffs, beverages, meat, cosmetics, cleaning products, accommodation, banking, and even lifestyle. It is important for Muslims that the food consumed must be halal and not limited by Islam. Within the modern world, it is very important to understand the concept of Halal by consumers, producers, suppliers and all industry players (Mat et al., 2018). Halal food products are produced in a safe, hygiene, free from unhealthy and

prohibited ingredients. Hence, halal food products maintain the health of individuals (both Muslim and non-Muslim) and prevent disease (Ambali and Bakar, 2014).

Muslim consumers consume food as a form of worship, halal food information is needed to ensure traceability, transparency, and authenticity in the market. Therefore, information on certification, labeling, and monitoring through appropriate regulations is required. This of course requires the involvement of the government as a regulator and accredited private certification body (Adekunle, B., et al., 2020). The lack of public knowledge about information on food products that have been labeled halal, reinforces the important role of the government in socializing halal labels to the public, especially Muslim consumers (Rangkuti, 2013). Further socialization of the halal label can attract a wider range of consumers for halal products (Khan W. et al., 2020). Halal products that are certified and labeled as halal are obligatory in halal production, trade, and regulation because halal products can not only be verified and proven and are the main indicators of the legitimacy of halal food (Fischer, 2019; Hussain et al., 2016).

Halal logos influence purchasing decisions on food, while consumers choose halal-certified cosmetic products depending on marketing, consumer awareness, labeling and trust in the elements, personal religiosity, attitude, and supermarket location (Bakhtiar, A. et al., 2021). Transparency about products and processes leads to food safety, encourages consumers to decide to buy halal food (Nurhayati and Hendar, 2019) and is a symbol of trust and quality of a halal product (Mostafa, 2018).

For non-Muslim consumers in Malaysia, the choice to buy halal products is impacted by attitudes, subjective norms and perceptions of behavioral control. Mixing acculturation moderates the relationship between attitude and purchase intention (Lim, YH et al., 2020). Indeed for non-Muslim consumers, knowledge of halal food has an impact on attitudes towards halal food (Mumuni et al., 2018). Accessibility to authentic halal products (Murugaiah et al. 2009; Demirhan et al. 2012; Chuah et al. 2016; Fuseini et al. 2017) will help ensure product safety and quality for consumers who are culturally compatible with halal food (Patel, R., 2009; Wittman and Demarais, 2012; Adekunle, et al., 2015; Adekunle, 2016; Filson and Adekunle, 2017).

The sense of smell and taste cannot be used as a determinant of the halalness of a product or not (Alserhan, 2010). Therefore, Muslim and non-Muslim consumers identify halal food only through the halal logo on the packaging (Aziz and Chok, 2013; Arifin, A. et al., 2021; Golnaz et al., 2010; Azam, 2016; Marzuki et al., 2012) to eliminate uncertainty in consumer perceptions (Borzooei and Asgari, 2016). It is recommended to place the halal logo in the right position and size so that it is clearly visible to consumers because it provides authenticity and guarantees the quality of a product. Through the consumption of halal food, it is easier for consumers to gain awareness and a better understanding of the halal context, including its relation to health (Arifin, A. et al., 2021; Ishmael et al., 2018; Bonne and Veberke, 2008), ethics in food preparation (Siti Hasnah and Haslenna, 2013; Nastasha, N., 2015; Lee et al., 2016; Damit et al., 2018), as well as hygiene and cleanliness (Mathew et al., 2014; Jusoh et al., 2013) which influences the purchase

intention of halal products. Ensuring the halalness of a product gives inner satisfaction to consumers because it follows religious rules and Islamic principles for halal food (Bukhari et al., 2019) as well as affirmation that concurring to the religious aspects of consumption (Sobari et al., 2019).

Non-Muslims in Malaysia tend to have a positive perception and religious adoption of Halal products due to the impact of their Muslim friends or colleagues (Damit et al., 2018). The perception so far is that, amid various religions, beliefs, and ideologies, non-Muslim Malaysians are familiar with Halal Food (Vloreen et al., 2014; Rezai et al., 2010). Halal food is no longer a mere religious obligation and observance, but has now become an option for Muslims and non-Muslims alike (Rezai et al., 2010; Nastasha, N., 2015). This is influenced by halal certificates, marketing strategies that can be realized in the form of advertisements, awareness of halal products (Aziz and Chok, 2013), for sustainability of life, social status, integrity, environmental sustainability, and free from any exploitation of animals (Krishnan et al., 2017). In addition, non-Muslim consumers mingle and learn about the culture and values of the Muslim community thereby increasing awareness of halal food (Siti Hasanah and Haslenna, 2013; Wibowo and Ahmad, 2016; Haque et al., 2015).

Non-Muslim consumers, especially Christians, have very high halal attitudes and awareness compared to Muslim consumers (besides the majority of respondents are Christian consumers). This proves that non-Muslim consumers have awareness of halal products (Bashir, AM., 2019).

Non-Muslim consumers in Japan do not pay much attention to halal products because indirectly the availability of halal products in Japan is able to attract foreign tourists to visit Japan without worrying about getting non-halal products (Kawata et al., 2018).

2.4. Indonesian National Standard Label (SNI)

Law Number 3 of 2014 concerning Industry states that food products must comply with the Indonesian National Standard (SNI) set by the National Standardization Agency (BSN). Every product that is circulated in Indonesia must have a Marketing Permit Number (NIE) issued by the Food and Drug Supervisory Agency (BPOM) of the Ministry of Health of the Republic of Indonesia through a laboratory test process that is authorize with SNI.

Herjanto (2011) states that the application of SNI in Indonesia itself is experiencing obstacles, especially with the additional costs and technical difficulties, producers have used trade standards in accordance with consumer or customer demands, the market or buyers do not require SNI on the products purchased, do not know SNI, limited human resources, difficulties in calibrating laboratory and production equipment, as well as differences in the technical specifications of SNI used by Indonesia and abroad (example: heavy metal contamination constants in Indonesia with European Union CAC regulations) (Pradianti et al., 2019). In addition, the restraining variables for government-certified products or SNI are the low awareness and knowledge of consumers about the certification system, inadequate promotion, and the low availability of certified products. Therefore, it is necessary to spread information

about the benefits of implementing SNI to the public, especially in the business world (Bakhtiar, A. et al., 2021).

Methodology

3.1. Respondents dan Sampling

This research collaborates on 3 important points to get a deeper understanding, including (1) explanation of phenomena; (2) the utilize of numerical data as material for analysis; and (3) the use of statistics in conducting the analysis. A population of 272,229,372 Indonesians (Adminduk Dirjen Dukcapil, 2021) which is determined on the basis of demographic factors in the domicile area including Sumatra, Java, Kalimantan, Sulawesi, Bali and Nusa Tenggara, Maluku and Papua, does not permit a thorough research to be carried out. sampling by purposive sampling according to the research sample criteria incorporate: 1). Man or woman; 2). Age range 18-27 years, 28-37 years; 38-47 years old; 48-57 years; and over 58 years; 3). The last education level is high school; Diploma; S1; S2; S3; 4). Hindu religion; Buddha; Islam; Catholic; Christian; 5). Work as educators (teachers/lecturers); PNS/ASN; private sector employee; student; housewife/not working; and 6). Domiciled scattered in Sumatra; Sulawesi; Java; Bali and Nusa Tenggara; Kalimantan; Maluku and Papua. Referring to these 6 criteria and using the Slovin formula, the total sample of the study was 898 respondents, adjusted for the proportion of each domicile area according to the archipelago in Indonesia.

3.2. Research data and instrument

The primary data of this research is in the form of measurable qualitative perception data with research instruments in the form of a Likert questionnaire on a scale of 4 where a scale of 1 is very important (SP), a scale of 2 is important (P), a scale of 3 is not important (TP), and a scale of 4 is very unimportant (STP). Previously, it was necessary to test the questionnaire through a tryout session, where the questionnaire was dispersed to at least of 30 of 898 respondents and then tested the validity and reliability of the perception data of the survey results. The questionnaire was declared valid, meaning that the research objectives had been achieved because the respondents understood the intent of the questions compiled by the researchers in the distributed questionnaires. Meanwhile, the questionnaire was declared reliable, meaning that the respondent's perception of the questions within the questionnaire would be consistent as long as repeated research was carried out in similar conditions and environments.

The survey process was carried out for 2 months from October 15 to December 15, 2021 by distributing questionnaires in the form of a google form link via whatsapp, email, or other supporting online media. Secondary data in the form of journals and references to previous research as material for comparing and combining research results to find out gaps and research findings as a reference for recommendations from related parties. Some of the research instrument indicator points include,

1. Quality Criteria (Food Quality) Variabel

Indicators:

- a. Clarity of product name and brand in packaging

- b. Clarity of the standard portion of each serving
- c. Color compatibility/uniformity of food products for product display (appearance)
- d. Net weight of each pack
- e. Food product texture
- f. Product taste and aroma sensation
- g. Information on the composition of ingredients found on food labeling
- 2. Food Safety Variabel
 - a. Products are safe for health for consumption
 - b. If the product contains Food Additives, then it is authorized and in accordance with the standards.
 - c. Information on production & expiration times is listed
 - d. Availability of consumer feedback information
 - e. Product has ML or MD number
 - f. Company has HACCP certificate
 - g. Manufactured by company that have an ISO certified
- 3. Halal Variable
 - a. Product socialization with halal logo for the community
 - b. Education obtains a halal logo from MUI or from other certification bodies.
 - c. Information on the raw material of the food product within the label.
 - d. Halal test certificate of raw material composition.
 - e. All products sold within the domestic market must have a halal logo.
 - f. Products with the halal logo must pass the halal test by the MUI.
 - g. There is a need for sanctions if they do not have the halal logo
- 4. Indonesian National Standard (SNI) Variabel
 - a. Product socialization with SNI standards
 - b. Mandatory and Voluntary SNI standardized product education from the National Standardization Agency (BSN).
 - c. Information to obtain mandatory SNI inclusion and costs.
 - d. All products marketed domestically must meet the standard criteria for these products with SNI.
 - e. Exported products must comply with SNI standards
 - f. SNI standards burden business actors
 - g. There are sanctions from the authorities if the products sold in the Indonesian market do not comply with SNI standards.
- 5. Purchase Decision Variables
 - a. Food Quality
 - b. Food Safety
 - c. Halal
 - d. Indonesian National Standard (SNI)

3.3. Statistic Analysis

An overview of the profile of respondents who are consumers of processed food products is analyzed using descriptive statistics in the form of tabulation of data with frequency, percentage, and average score per questionnaire answer. According to Walpole, RE. (1988:2) descriptive analysis is an analytical method in the form of presentation and general information related to the condition of research data. Meanwhile, MANOVA inferential analysis (Multivariate Analysis of Variance) with the help of SPSS software version 25.0 was used in analyzing survey results which involved measuring indicators of respondents' perceptions based on survey results via a google form link that had been distributed to 898 sample respondents. Solimun et al. (2018: 29) states that MANOVA is an analysis that deals with the difference test which examines differences in the dependent variable in the categories of independent variables. The stages of MANOVA analysis include,

- a. Testing the assumption of homogeneity of the covariance matrix
- b. Determination of the significance level
- c. Test statistics using Wilk's Lambda (Rencher, AC., 2002)
- d. Determination of the critical area for each factor influence and its interactions
- e. Test decision (acknowledgment or rejection of H₀)
- f. Determining the conclusion of the test decision, if it is chosen that H₀ is acknowledgment then it is stated that there is no significant difference between the independent and dependent variables, and vice versa.
- g. Main effect test for factors that are proven to be significantly different
- h. Difference test (post hoc) to find out which group or groups have the most influence in forming differences from the factors that have been proven to be different after being tested statistically at the main effect test stage.

The combination of the results of descriptive analysis of respondent profiles with MANOVA inferential analysis aims to determine the impact of differences in consumer knowledge on food quality, food safety, halal, and SNI labels on purchasing decisions for processed food products in Indonesia.

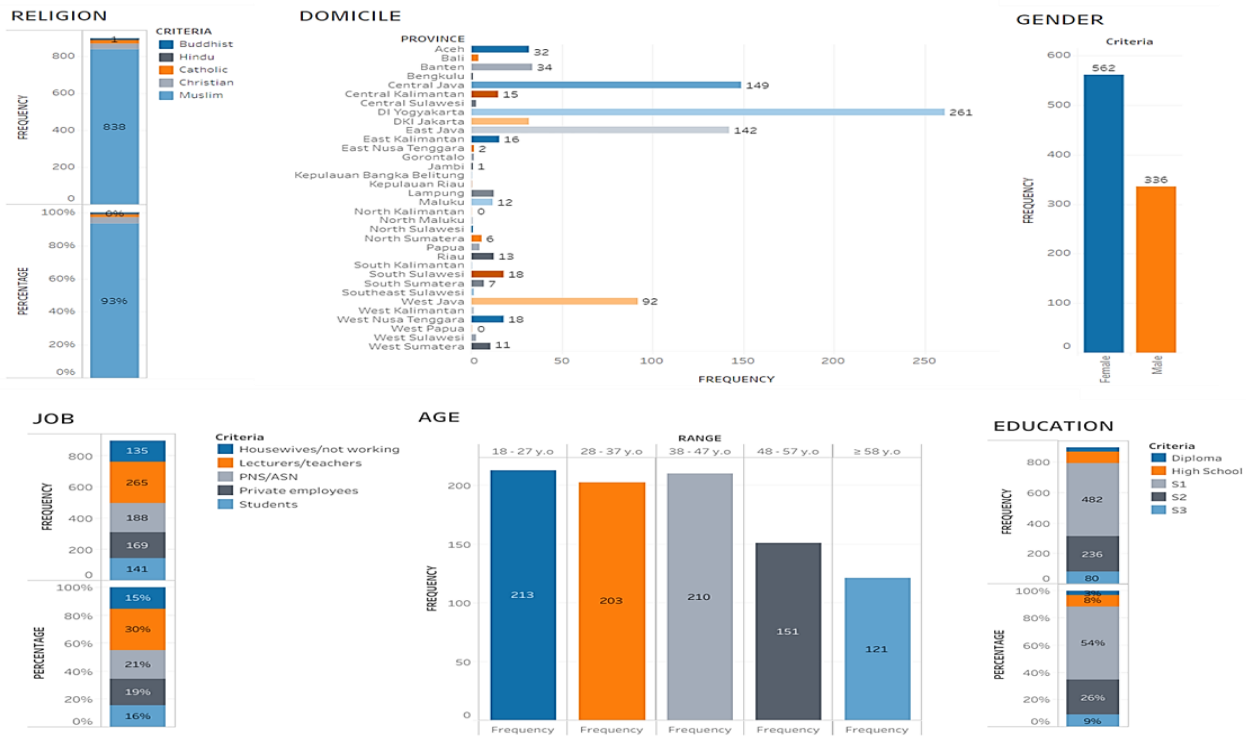


Figure 1. Graphic of Respondent Profile in Descriptive Analysis (Source: Analysis, 2021; Appendix 1)

4. Results

4.1. Respondent Profile

The consumers in this study were dominated by women (63%), while the rest (37%) were men. Consumers of productive age (18-47 years) were 69.71%, while those aged 48 to more than 58 years were 30.29%. The last level of education that consumers have taken in this study, almost 54% is S1, 26% is Master, 9% is S3, 8% is High School, and 3% is Diploma. In terms of religion, the majority of consumers are Muslim (93.3%), 3.8% Christian, 1.9% Catholic, 0.9% Hindu, and 0.1% Buddhist. The center of dominance of the domicile area of consumers in this study is on the island of Java (79%), the remaining 9% on the island of Sumatra, 4% on the island of Kalimantan, 3% each in Bali and Nusa Tenggara and Sulawesi, 2% in Maluku and Papua. Based on profession criteria, the majority of respondents are educators (lecturers/teachers) (29.5%). PNS/ASN (20.9%), private employees (18.8%), students (15.7%), and housewives/not working (15%). Thus, consumers who are respondents in this study are dominated by female consumers, age range 18-47 years, have taken a Bachelor's degree education, are Muslim, domiciled on the island of Java centered in DI Yogyakarta, and work as educators (lecturers / teacher).

The characteristics of the respondents became the basis for the researcher's consideration to determine the level of understanding of the respondents in replying the items of the questionnaire which were analyzed to get the results of the research purposes. Respondent's perception in the age range of 18 to 47 years is the contribution of the population that is included in the productive age category. The consumer's perception, which is dominated by the productive age group, becomes an important illustration regarding the selective considerations made by consumers in deciding to purchase processed food products, both food and beverages consumed based on aspects of Quality, Food Safety, Halal, and SNI Labels.

The results of SP2020 (Central Bureau of Statistics, 2021) noted that the majority of Indonesia's population is Generation Z (27.94% or 74.93 million people) and Millennial Generation (25.87% or 69.38 million people). The dominance of this generation becomes one of the development capital and opportunities to accelerate economic growth. Referring to the demographic side, all Generation Z consisting of unproductive and productive age is an opportunity and a challenge for Indonesia because the next seven years, especially the unproductive generation, has the potential to be a determining actor for Indonesia's future.

Figure 1 shows that consumers based on gender, religion, domicile, and profession have their respective considerations from aspects of food safety, halal, and SNI in choosing the products they consume. However, this is not the case with consumers based on age and education level. In more detail, it is known that the halal aspect is considered by the majority of consumers with demographic factors of gender, religion, and domicile area. The character of consumers with their respective domicile areas is often associated with the religion adopted and the culture formed in the area (Setiadi, NJ, 2019: 272-277).

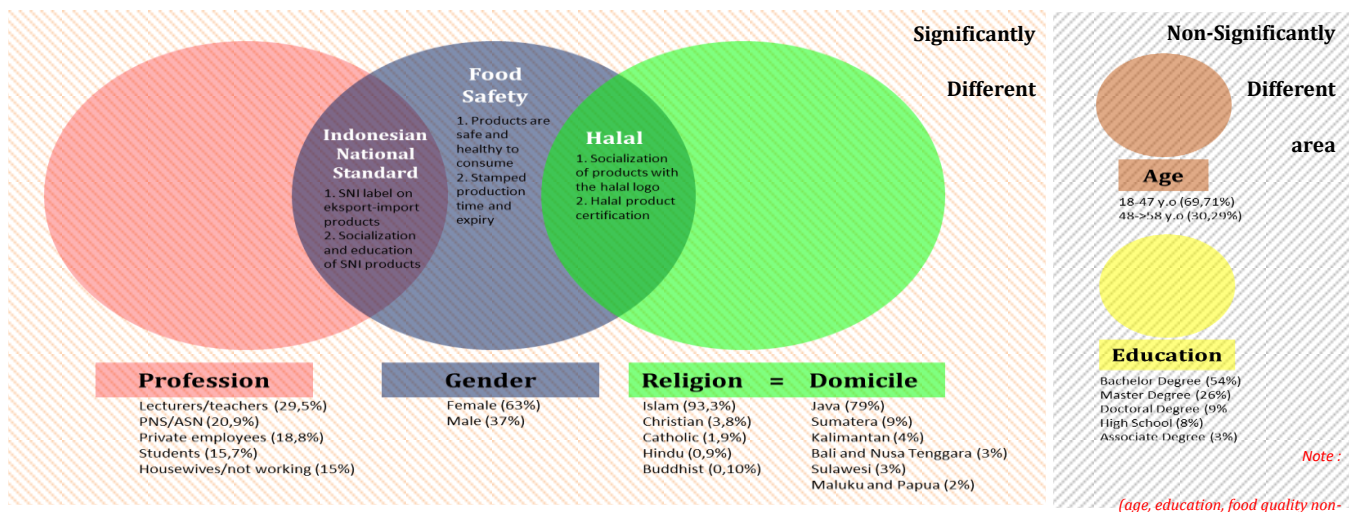


Figure 2. Venn diagram Similarities and Differences Factors in Products Purchase Decisions Based on Consumer Demographics in Indonesia (Source: Analysis, 2021; Appendix 2)

4.2. Purchase Decisions of Male and Female Consumers

Male and female consumers in Indonesia have implemented their knowledge of food safety and halal, but the results of the analysis show that the SNI aspect is also an equally important consideration.

Furthermore, it is known that the inclusion of production time and expiration information on product packaging is the dominance of the food safety aspect for male consumers. Meanwhile, female consumers consider the condition of the product to be safe and healthy for consumption. Male and female consumers have comparable and good knowledge and implementation of food safety, especially related to taste, temperature, presentation, food health, cleanliness of serving places, and appearance of food handlers (Al-Shahib et al., 2016). Effectiveness of food safety knowledge can overcome major challenges, especially in food security for safe and nutritious food (Barret, T. and Y. Feng, 2020) in a small scope, namely self and family. Besides that, this knowledge also acts as a basis in addressing the food safety of the products purchased because it affects consumer attitudes and behavior towards product safety (Elinda-Patra, et al., 2020). In relation to social influence, the implementation of food safety knowledge acts as a driver of food safety change and motivates consumers to be aware and sharpen their food safety knowledge (Barret, T. and Y. Feng, 2020). Consumer trust in a product can specifically decrease the risk and perception of food risk which is supported by the enforcement of food safety regulations and the transparency of food product information (Ha, TM et al., 2020). In the end it all comes down to the willingness to buy (WTB) of male and female consumers where trust, knowledge, and perception becomes a reference in assessing product safety (Nardi, et al., 2020). Therefore, food companies as producers are expected to be able to consider important aspects that affect consumers' willingness to buy (WTB), especially food safety as an effort to improve marketing strategies (Riccioli, F., et al., 2020).

From the Halal aspect, male and female consumers consider the dominance of the importance of knowledge about products with the halal logo and the certification process. This is because the halal logo is the only and easiest way to identify a halal or non-halal product (Aziz and Chok, 2013; Arifin, A. et al., 2021; Golnaz et al., 2010; Azam, 2016; Marzuki. et al., 2012) to eliminate uncertainty in consumer perceptions (Borzooei and Akgari, 2016) without using the senses of smell and taste (Alserhan, 2010). Through the consumption of halal food, it is easier for consumers to gain awareness and better understanding of the halal context, including its relation to health (Arifin, A. et al., 2021; Ismail et al, 2018; Bonne and Veberke, 2008), ethics in preparation food (Siti Hasnah and Haslenna, 2013; Nastasha N., 2015; Lee et al., 2016; Damit et al., 2018), as well as hygiene and cleanliness (Mathew et al., 2014; Jusoh et al., 2013) which impact purchase intention of halal products. Ensuring the halalness of a product provides inner satisfaction for consumers because it follows religious rules and Islamic principles for halal food (Bukhari et al., 2019) and guarantees that it is in accordance with the religious aspects of consumption (Sobari et al, 2019). Muslim consumers consume food as a form of worship, halal food information is needed to ensure traceability, transparency, and authenticity in the market (Adekunle, B., et al., 2020). Transparency about products and processes leads to food safety,

encouraging consumers to purchase halal food (Nurhayati and Hendar, 2019) and a symbol of trust also quality of a halal product (Mostafa, 2018).

In relation to the importance of halal product certification, information is needed through appropriate regulations and involving the government as a regulator and accredited private certification bodies (Adekunle, B., et al., 2020). The lack of public knowledge about information on food products that have been labeled halal, emphasizes the important role of the government in socializing halal labels to the public, especially Muslim consumers (Rangkuti, 2013). Further socialization of the halal label can attract a wider range of consumers for halal products (Khan W. et al., 2020). Halal products that are certified and labeled as halal are required in halal production, trade, and regulation because halal products can not only be verified and proven and are the main indicators of the legitimacy of halal food (Fischer, 2019; Hussain et al., 2016).

Based on the aspect of the SNI label, labeling according to SNI standards for export-import products and the importance of socialization and education about SNI labeled products are the main considerations for male and female consumers. The Health Star Rating (HSR) system and Front of Pack Labeling have the potential to influence consumers, especially parents, in choosing cereal foods for their children. The basis for consideration is nutrition, health and marketing attributes and cost. Written and other visual claims on packaging are not considered in the selection of processed food and beverage products (Russell, GC et al., 2017). In Indonesia, the application of the SNI label is regulated in Law Number 3 of 2014 concerning Industry. Every product that is circulated in Indonesia must have a Marketing Permit Number (NIE) issued by the Food and Drug Supervisory Agency (BPOM) of the Ministry of Health of the Republic of Indonesia through a laboratory test process that is authorize with SNI. However, the application of SNI in Indonesia is experiencing obstacles, especially with the additional costs and technical difficulties, the existence of consumer or customer standards that have been used by manufacturers, lack of knowledge about SNI, limited human resources, difficulties in calibrating laboratory and production equipment (Herjanto , 2011), inadequate promotion, low availability of certified products (Bakhtiar, A. et al., 2021), as well as differences in the assessment standards of a product used by Indonesia and abroad (example: determination of heavy metal contamination in Indonesia with European Union CAC regulations) (Pradianti et al., 2019).

Therefore, it is necessary to disseminate information about the benefits of applying SNI to the public, especially in the business world, behavioral control, subjective norms, awareness of quality labels, image quality labels, perceptions of product quality labels, attitudes towards label quality, intention to use quality labels, food color. nutritional content of food, product quality, and SNI certification (Bakhtiar, A. et al.,2021). Hope, the obstacles that have been experienced by producers can immediately be handled and get solutions so that consumers get guarantees for SNI-standard products.

In the end, food safety, halal, and SNI are 3 aspects that play a role in each other in influencing the purchasing decisions of male and female consumers. Starting from the implementation of halal food products that are produced in a safe, hygiene, free from unhealthy and prohibited ingredients, maintaining individual health (both Muslim and non-Muslim), and preventing disease (Ambali and Bakar, 2014), then continued to implementation of food safety and SNI

labels makes consumers believe and be more confident in making decisions to purchase processed food and beverage products that are consumed.

4.3. Purchase Decisions Based on Age Demographics

Food quality, food safety, halal, and SNI labels are proven not to be considered by consumers with an age range of 18 years to more than 58 years in deciding to purchase products. There is no one or several dominant aspects that are taken into consideration in determining product purchases. This can be explained by the fact that basically consumers based on age range have a market that is divided into 4 segments with their own characteristics (Setiadi, NJ, 2019: 279-282), namely the children's market, the youth market, the baby boomer market, and the market. mature. The children's market has a character with a high level of loyalty because consumers in this segment experience the initial phase of forming brand loyalty and play a role in making decisions about products consumed in the household. Meanwhile, the youth market, which contains consumers aged 18-27 years, is the main target for high-tech marketing and is a selective and smart consumer in choosing products based on brand loyalty that has been formed since they were in the children's market segment. The baby boomer market with a character that emphasizes the importance of health, sports, education, and the majority are consumers with the status of "new parents" becomes a wetland for marketers because it has long-term plans which if traced can cover the needs of the market for children, youth, baby boomers, to the adult market. Meanwhile, the adult market which contains consumers with an age range between 48-57 years and 58 years are consumers who are free from the financial burden of child care, house installments, as well as household furniture so that consumers in this age range tend to retreat when faced with high-risk products.

4.4. Purchase Decisions Based on Educational Demographics

Aspects of food quality, food safety, halal, and SNI labels are proven not to cause differences in consumer purchasing decisions with education levels of SMA, Diploma, S1, S2, to S3. In implementation, these consumers have applied the principles of food safety and halal in every decision-making to purchase the products they consume. In more detail, it is known that the product is safe and healthy for consumption as well as the printed production time and expiration date on the product packaging label, which are the domination of contemplations for consumers at all levels of education. This gives a sense of security and trust within the selected product.

As set in Law No. 18 of 2012 concerning Food, which requires producers (companies) to sell food that is free from biological, chemical and other contaminants. In addition, Law Number 8 of 1999 about consumer protection ensures the safety of food products based on benefits, equity, adjust, security and consumer safety as well as legitimate certainty.

4.5. Purchase Decisions Based on Religious Demographics

Muslim and non-Muslim consumers (Buddhist, Hindu, Catholic, and Christian) in Indonesia have implemented food safety and halal aspects in their daily lives. However, it was further found that the Halal aspect proved to be the main aspect considered by Muslim and non-Muslim consumers in choosing the products they consumed, especially those related to the socialization

and certification of products with the halal logo. This can be explained by religiosity (Sobari et al., 2019) and inner satisfaction from following the rules and principles of Islam for Muslim consumers (Bukhari et al., 2019). Meanwhile, for non-Muslim consumers, this condition is related to awareness of the importance of consuming halal products that are guaranteed hygiene, cleanliness and safety and lead to purchasing decisions for products bearing the halal logo (Theben A., et al., 2020; Ambali and Bakar, 2014; Mathew et al., 2014; Jusoh et al., 2013). This condition shows that non-Muslim consumers are starting to consider the importance of halal aspects in making product purchase decisions (Arifin, A., et al., 2021). Awareness of the consumption of halal food, perceived risks, and behavioral tendencies in halal food products is a form of consumer attitudes towards halal food products (Akin and Okumus, 2020). Non-Muslim consumers, especially Christians, have very high halal attitudes and awareness compared to Muslim consumers, which proves that non-Muslim consumers have awareness of halal products (Bashir, AM., 2019). Intense implementation provides a good experience and understanding for Muslim and non-Muslim consumers in distinguishing products with halal standards or not (Astuti and Asih, 2021). In more detail, it is known that there are 2 factors that determine consumers in buying halal products, namely food safety and the inclusion of a halal logo or halal product on the bundling of halal food products. Meanwhile, halal knowledge, consumer attitudes, product origin brands, consumer religiosity, and product prices are the driving factors but not the determinants of consumers in buying halal products (Khan, W. et al., 2020; Bakhtiar, A. et al., 2021; Abdul et al., 2009; Ismail et al., 2016).

Regarding imported products, the majority of Muslim consumers consider the halal aspect in buying imported food from non-Muslim countries (Astuti and Asih, 2021). Meanwhile, for non-Muslim consumers, purchasing decisions are influenced by several factors including attitudes, subjective norms, and perceptions of behavioral control (Lim, YH et al., 2020; Mumuni et al., 2018). In case, western food products are given a halal logo or made with halal ingredients, these products have the opportunity to penetrate among Muslim and non-Muslim consumers which will continue to guarantee public health improvement (Bukhari, SFH et al., 2020). For non-Muslim consumers, the effect of purchasing decisions on halal products can be through several factors including acculturation mixing (Lim, YH., et al., 2020; Siti Hasanah and Haslenna, 2013; Wibowo and Ahmad, 2016; Haque et al., 2015) , easy accessibility of halal products (Murugaiah et al., 2009; Demirhan et al., 2012; Chuah et al., 2016; Fuseini et al., 2017), the influence of friends or acquaintances of Muslim consumers (Damit et al., 2018). Transparency of products and processes that lead to food safety, encourages consumers to decide to purchase halal food (Nurhayati and Hendar, 2019), a symbol of trust and quality of a halal product (Mostafa, 2018), and helps ensure the safety and quality of the halal product for consumers (Patel, R., 2009; Wittman and Demarais, 2012; Adekunle, et al., 2015; Adekunle, 2016; Filson and Adekunle, 2017). Halal food is no longer a religious obligation and observance, but has now become an option for Muslims and non-Muslims alike (Rezai et al., 2010; Nastasha, N., 2015). This is influenced by halal certificates, marketing strategies that can be realized in the form of advertising, awareness of halal products (Aziz and Chok, 2013), for sustainability, social status,

integrity, environmental sustainability, and being free from any exploitation of animals (Krishnan et al., 2017).

The high awareness of halal products for Muslim and non-Muslim consumers is the main factor in the need for information on certification, labeling, and monitoring through appropriate regulations. This of course requires the involvement of the government as a regulator and accredited private certification body (Adekunle, B., et al., 2020). The lack of public knowledge about information on food products that have been labeled halal, emphasizes the important role of the government in socializing halal labels to the public, especially Muslim consumers (Rangkuti, 2013). Further socialization of the halal label can attract a wider range of consumers for halal products (Khan W. et al., 2020). Halal products that are certified and labeled as halal are required in production, trade, and halal regulation because halal products can not only be verified and proven and are the main indicators of the legitimacy of halal food (Fischer, 2019; Hussain et al., 2016). The halal logo is an important point that is considered by Muslim and non-Muslim consumers in Indonesia. The sense of smell and taste cannot be used as a determinant of the halalness of a product or not (Alserhan, 2010). Therefore, Muslim and non-Muslim consumers distinguish halal food only through the halal logo on the packaging (Aziz and Chok, 2013; Arifin, A. et al., 2021; Gornaz et al., 2010; Azam, 2016; Marzuki et al. ., 2012) to eliminate uncertainty in consumer perceptions (Borzooei and Asgari, 2016). It is recommended to place the halal logo in the right position and size so that it is clearly visible to consumers since it provides authenticity and guarantees the quality of a product. Regulation of products bearing the halal logo in Indonesia has been directed in Law Number 33 of 2014 about Guaranteed Halal Products, PP of the Republic of Indonesia Number 39 of 2021 about the Implementation of the Halal Product Assurance Sector, Minister of Religion Number 26 of 2019 about the Implementation of Halal Product Guarantees, and the Decree of the Minister of Religion Number 464 Year 2020 concerning Types of Products that Must Be Certified Halal. The wide variety of products circulating in the market also provides a scope of certification standards that extends not only to food and beverage products but also to meat products, cosmetics, cleaning products, accommodation, banking, and even lifestyle. Therefore it is very important to understand the concept of halal (Mat et al., 2018).

Thus, this condition provides an opportunity for halal food producers and distributors to increase sales which are not only aimed at Muslim consumers, but also non-Muslim consumers in Indonesia.

4.6. Purchase Decisions Based on Domicile Area

Consumers in Indonesia based on the area of domicile are divided into 6 groups based on the islands, specifically Bali and Nusa Tenggara, Java, Kalimantan, Maluku and Papua, Sulawesi, and Sumatra. Overall, it is evident that halal is the main factor that consumers from various regions consider when deciding to purchase a product. In more detail, it is known that the socialization of halal products and their certification is the main indication in these considerations. This condition is inseparable from the influence of acculturation of culture, ethnicity, and consumer character in each region. Consumers who live on the islands of Bali and

Nusa Tenggara are consumers who are predominantly Hindu with a variety of local cultures that still adhere to the clan and caste system. Consumers domiciled on the island of Java are consumers who are predominantly Muslim and are more passive towards life. Consumers who are domiciled on the island of Kalimantan, consider the kinship system (aboriginal descent) and the majority are Muslim, indigenous, Christian, and Catholic. Consumers on the islands of Maluku and Papua are predominantly Christian and Muslim who adhere to the patrilineal lineage which allows most of the decision makers to be made by male consumers. Consumers on the island of Sulawesi are predominantly Muslim, the rest are Christians and Catholics. Meanwhile, consumers on the island of Sumatra are predominantly Muslim and Christian who adhere to the lineage of the mother (matrilineal) which allows most of the decision makers to be made by female consumers (Sumarwan, U., 2015). Besides that, consumers use knowledge as the basis for responding to the character of the product purchased because knowledge has been shown to influence consumer attitudes and behavior towards product safety (Elinda-Patra, et al., 2020). However, in a different area, it is further known that knowledge, hygiene, and economic motives have no effect on food security (Gusdia, T., 2020). This shows that local products with their features affect consumers' knowledge of the food safety of the products purchased. This condition strengthens the analysis results that Halal is an aspect that causes differences in consumer purchasing decisions on the islands of Bali and Nusa Tenggara, Java, Kalimantan, Maluku and Papua islands, Sulawesi islands, and Sumatra islands.

4.7. Purchased Decisions on Profession Demographics

Consumers with different profession backgrounds in Indonesia are divided into 5 segments in this study, including lecturers/teachers, PNS/ASN, private employees, students, and housewives or not working. Overall, it is evident that the five consumer segments, based on professions, consider the aspect of the SNI label in deciding the purchase of consumed products. In more detail, it is known that the importance of SNI standards for export-import products as well as socialization and education of SNI labeled products are the 2 main indications for consumers in various types of work in considering product purchases. Employment through income factors affects the frequency of purchases (Andini and Famiola, 2019) which is based on the consumer's personal habits. Private employees emerged as a potential market with buying preferences for home-made and ready-to-drink products, both of which are characteristics of processed food and beverage products. It is not surprising that in this study private employees have their own considerations in determining the purchase of consumed products, particularly education for products with required and deliberate SNI standards from the National Standardization Agency. The ASEAN food safety policy principles aim to provide direction and facilitate the development of a sustainable and robust food safety regulatory framework for the ASEAN region (Anal, AK, et al., 2019). Traceability and components of a food safety management system are defined as the ability to track the movement of food through the stages of production, processing and distribution. Within the food system, traceability as an important tool to deal with food safety and quality affirmation issues so as to lead to risk prevention. Therefore, food traceability must be strengthened to support food security worldwide.

Regulations related to products labeled with SNI in Indonesia are regulated in Law Number 3 of 2014 concerning Industry which states that food products must comply with the Indonesian National Standard (SNI) set by the National Standardization Agency (BSN). Every product that is circulated in Indonesia must have a Marketing Permit Number (NIE) issued by the Food and Drug National Agency (BPOM) of the Ministry of Health of the Republic of Indonesia through a laboratory test process that is required with SNI.

However, the application of SNI in Indonesia is experiencing obstacles, especially with the additional costs and technical difficulties, manufacturers have used trade standards in accordance with the demands of consumers or customers, the market or buyers do not need SNI on the products purchased, do not know SNI, limited human resources, difficulties in calibrating laboratory and production equipment (Herjanto, 2011), as well as differences in the technical specifications of SNI used by Indonesia and abroad (example: heavy metal contamination constants in Indonesia with European Union CAC regulations) (Pradianti et al., 2019). In addition, the inhibiting factors for government-certified products or SNI are the low awareness and knowledge of consumers about the certification system, inadequate promotion, and the low availability of certified products. Therefore, it is necessary to disseminate information about the benefits of implementing SNI to the public, especially in the business world (Bakhtiar, A. et al., 2021). Government certification factors that influence purchasing decisions in purchasing government-certified food and beverages or SNI are influenced by behavioral control, subjective norms, awareness of quality labels, image quality labels, perceptions of product quality labels, attitudes towards label quality, intention to use quality labels, food color, nutritional content of food, product quality, and SNI certification (Bakhtiar, A. et al., 2021).

Thus, SNI-standard products as an important aspect considered by consumers from various professional backgrounds can be implemented properly as long as various related parties together with consumers cooperate to support food safety through traceability of circulating processed food and beverage products.

5. Managerial Implication

The managerial implications in this research are manifested within the form of contributions to the study of consumer behavior practices on purchasing decisions for processed food and beverage products in Indonesia based on aspects of food quality, food safety, halal, and SNI labels, as follows:

- a. On average, this study confirms that there are 2 main aspects of purchasing decisions that are considered by all consumer groups in Indonesia based on demographic factors (gender, age, education, religion, domicile area, and occupation) namely Food Safety and Halal aspects. More specifically, consumers in Indonesia perceive food safety to be considered in the purchasing decision-making process, including information on production and expiration times, safe and healthy products for consumption, licensed Food Additives (BTP), and products that have an MD/ML number. Meanwhile, the Halal aspect is related to the socialization of products with the halal logo, education on procedures for obtaining the halal

logo, information on production raw materials, the existence of halal certification from the composition of raw materials, products with the halal logo passing the MUI test.

- b. Referring to the MANOVA results, this study confirms the trend of determining the pattern of determining the pattern of processed food products in the form of food and beverages consumed based on the aspects considered in each consumer group. In the context of consumer behavior associated with culture based on gender demographic factors, it is more important to consider aspects of food safety, halal, and SNI labels. The demographic factor of religion and the area of domicile considers the halal aspect more, while the occupational demographic factor tends to consider the aspect of the SNI label.
- c. This research provides practical information input to the BPOM Agency in the form of consumer behavior patterns in deciding the products consumed and supports BPOM's strategic plan for 2020-2024. In 2022, the community is actively involved in drug and food supervision so that both producers and consumers can provide perceptions and assessment or complaint on deviations encountered. Meanwhile, in 2023, business actors, in this case producers, will play an active role as subjects in an intensification strategy of coaching/assistance to encourage competitiveness and increase the capacity of drug and food business actors by emphasizing research and innovation (BPOM Regulation No. 2020–2024).
- d. This study provides input to producers in the form of improving aspects of food quality and SNI labels considering that both are perceived as inferior to food safety and halal aspects. According to the SNI Recapitulation of the National Standardization Agency (BSN) for the last 3 years (2018 - 2020) there has been a decline in products with SNI registered labels in the food processing industry by 12% in accordance with the total set SNI, but will increase again by 12% at the end of 2021 (Statistics SNI, 2018 – 2021). This condition shows that the awareness of producers and SMEs in Indonesia on the importance of quality and the SNI label by registering product certification to comply to the standards determined by the National Standardization Agency (BSN) is something that needs full attention.

6. Conclusions and Recommendations

There are differences in consumer knowledge in Indonesia about food and beverage processed food products from aspects of food safety, halal, and SNI labels on purchasing decisions based on gender, religion, domicile region, and occupation. Meanwhile, consumers do not look at their knowledge of aspects of food quality as well as from the demographics of age and education level. This relates to the formation of basic characters related to the loyalty of a particular product.

Male and female consumers almost have the same preference points that are considered in choosing a product to buy. It's just that female consumers are more detailed and prioritize products that are safe and healthy for consumption. Meanwhile, Muslim and non-Muslim consumers (Buddhists, Hindus, Catholics, and Christians) simultaneously have preferences that are adjusted considering the significance of the halal logo listed on the packaging of the products purchased. This also applies to consumers based on their domicile area. The halal logo and

product socialization with the halal logo are considered and considered important by consumers because they are the only way to distinguish halal and non-halal food without going through the screening of the senses of taste and smell. Besides that, consumers from various domicile areas prefer local products in their respective regions, especially local products with their features, so that non-Muslim consumers in their domicile areas require clearer information about halal products. For Muslim consumers, consuming halal products, especially food and beverages, is a recommended requirement and obligation in Islam, while for non-Muslim consumers it is a benchmark in assessing these products based on hygiene, quality, safety and health for the body. The SNI label is an aspect that is also important and considered for consumers for both export and import products. Imported products that use external standards before entering Indonesia, need to be harmonized after entering Indonesia with the applicable standards, namely SNI.

Future perspectives for business actors and producers of processed food and beverage products in Indonesia are mainly related to improving the implementation of food safety, halal, and SNI labels; strengthening consumer attention in various socio-demographic layers; maintain product quality and consumer confidence; increasing awareness of producers on the importance of quality and SNI labels by registering product certification to conform to the standards determined by the National Standardization Agency (BSN). Future perspectives of researchers for the BPOM Institute in the form of the importance of the role of consumers in determining the products consumed and supporting BPOM's strategic plan for 2020-2024, where in 2020 the community is actively involved in drug and food supervision so that both producers and consumers can provide perceptions and assessments or complaints about deviations encountered. Meanwhile, starting in 2023, business actors, in this case producers, will play an active role as subjects in the intensification strategy of coaching/assistance to encourage competitiveness and increase the capacity of drug and food business actors by emphasizing research and innovation (BPOM Regulation No. 2020–2024).

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