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DETERMINING SUPPORTING FACTORS FOR GREEN PURCHASE INTENTIONS IN AGRO-INDUSTRIAL PRODUCTS WITH THE ANALYTICAL HIERARCHY PROCESS (AHP)

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ABSTRACT

Environmental awareness surged globally and in Indonesia recently supported with 112 percent increase of more environmentally friendly products usage and awareness in 2020. This awareness sparking interest in eco-friendly products like Oatside oat milk. To leverage this trend, understanding green purchase intentions, which represent consumers' desire to buy environmentally friendly products, is crucial. Identifying factors that influence these intentions can offer valuable insights for businesses seeking to emulate Oatside's success in Indonesia. This research adopted a mixed-methods approach, combining qualitative and quantitative methods to uncover these factors from the perspectives of environmental experts and consumers. The study aims to support the growth of environmentally friendly agro-industrial products and sustainable consumption in Indonesia. The methodology involved interviews with five experts, expert-based weight and rank assessments using the Analytical Hierarchy Process, and validation through consumer ranking questionnaires with 115 respondents. Fifteen factors supporting green purchase intentions for agro-industrial products emerged, including taste, product design, durability, raw materials, recyclable packaging, carbon footprint, waste management, social impact, curiosity, word of mouth, environmental concerns, environmental knowledge, social influence, price and quality perception, and self-image. Experts emphasized environmental knowledge (weight: 0.141), waste handling (weight: 0.124), and carbon footprint (weight: 0.101) as most important. Consumers prioritized taste, design, and curiosity. Raw materials, durability, social influence, and self-image factors held consistent importance rank for both groups. Environmental knowledge exhibited a significant disparity in ranking, ranking first for experts but twelfth for consumers. Consumer's focus on immediate purchase benefits and expert's focus on long-term environmental consequences causing differences.

1. INTRODUCTION

Environmental awareness became a growing trend globally, including in Indonesia. Awareness and the use of more environmentally friendly products in Indonesia increased by one hundred twelve percent from 2019 to 2020 (Handayani, 2021). This growth provided an opportunity for environmentally friendly products to expand and boost their sales. Plant-based milk has recently become a trend, as stated by the Plant-Based Food Association (2018), which reported a 9% increase in plant-based milk sales in 2018 compared to 2017. Plant-based milk is considered environmentally friendly because the emissions generated by plants and their processing into plant-based milk are lower compared to the processing of animal milk in general (Carlsson Kanyama et al., 2021). Furthermore, environmentally friendly products represent a product development aimed at comprehensively improving environmental and social quality (T. L. Chen et al., 2020).

The rise of oat milk consumption in Indonesia is not only influenced by the growing vegetarian trend observed from 2016 to 2018, as noted by Angus and Westbrook (2019), but also by strategic collaborations with oat milk brands. Oatside, a brand on the forefront of this movement, has forged partnerships with notable names like Kopi Kenangan, Janji Jiwa, Flash Coffee, and Chatime. Oatside's

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mission to be 'the most delicious milk in the world that is good for both consumers and the planet' firmly establishes it as a leading environmentally friendly agro-industrial product

Figure 1. Oatside Product in 1 Liter size
(Source: Google Images)

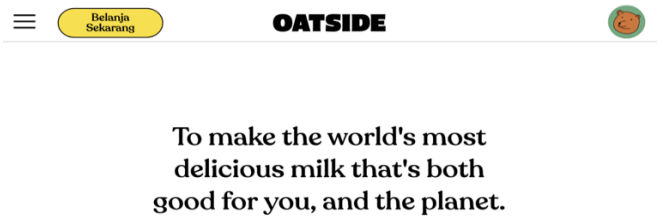

Figure 2. Oatside Mission on their Website
(Source: Oatside Website)

To seize the growth opportunities for environmentally friendly products, purchase intention became crucial, as it represents the initial stage of consumers in making purchase decisions (Sumarwan, 2015). Green purchase intention was examined because the studied product was an environmentally friendly or green product, specifically focusing on Oatside oat milk. Joshi & Rahman (2015) explained that Green Purchase Intention is consumers' willingness to buy environmentally friendly products. Green purchase intention can be supported or influenced by various factors. These factors needed to be examined based on the perspectives of environmental experts, who are experienced in the field of environmentally friendly products. Additionally, the views of consumers, as decision-makers, were also important to consider. This research was conducted to identify the factors that support green purchase intention for Oatside agro-industrial products, using both qualitative and quantitative methods (interviews and Analytical Hierarchy Process). This study was expected to assist small and medium-sized industries in understanding the key factors to consider when selling environmentally friendly agro-industrial products.

2. METHODS

This research used approaches from research onion from Saunders, 2023 (Figure 1). This research used mixed method approach (qualitative and quantitative).

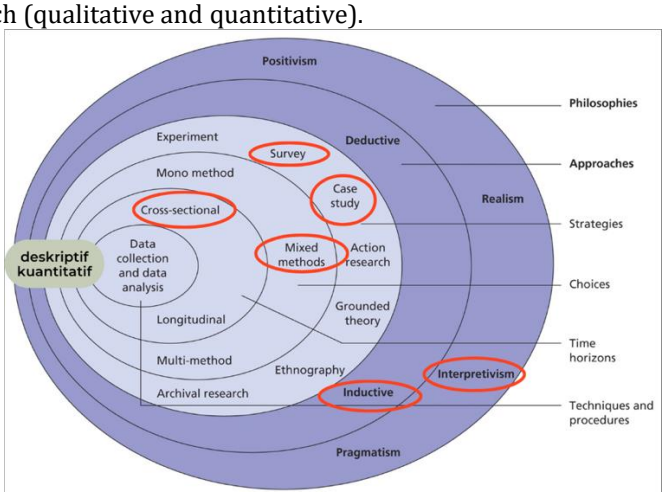

Figure 3. Research Onion
(Source: Saunders, 2023)

Interpretivism is one of the paradigms in research that emphasizes a deep understanding of phenomena through subjective interpretation by participants or individuals being studied. The chosen approach was an inductive approach. In an inductive approach, the researcher collects data first, then looks for patterns within that data, and attempts to formulate theories to explain those patterns (Vuori & Huy, 2016). The research strategy used both survey and case study methods. A case study was employed because the study focused on a specific agro-industrial product, namely Oatside oat milk. Surveys were used to gather data through interviews with experts and the distribution of questionnaires to both experts and consumers. Given that data collection was carried out through interviews and questionnaires, it can be concluded that a mixed-method approach was utilized. Interviews served as a qualitative data collection method, while questionnaires were employed for quantitative data collection. The chosen time horizon was cross-sectional, where the researcher examined various data at a specific point in time. The obtained data would be described using quantitative descriptive methods.

The research began by identifying supporting factors using a qualitative method through a literature review and interviews with five experts with profiles as presented in Table 1.

Tabel 1. Expert Profile

Item	Expert Name	Related Experiences	Experience Duration
1	Bayu Trisna Ramahadi	Management of Organic Waste Processing into Solid and Liquid Organic Fertilizer, and Maggot Cultivation.	Five years
2	Gita Noor W	Zero Waste activist and owner of Seratnusa, an environmentally friendly craft business.	Nine years
3	Tini Martini Tapran	Zero Waste activist and Chairman of the Generasi Semangat Selalu Ikhlas Foundation.	Thirteen years
4	Viringga Kusuma	The founder of AMATI Indonesia, a startup focused on developing green skills or sustainable skills.	Seven years
5	Aisha Anindita H. Achir	Business Development Strategist dan konsumen produk ramah lingkungan termasuk Oatside	Seven years

Source: Processed primary data (2023)

Quantitative methods were employed to calculate the importance ranking weights of factors according to experts and consumers. The targeted consumer profile includes individuals aged over seventeen, who have purchased Oatside products in the last two months, and reside in the provinces of DKI Jakarta, Jawa Barat, Banten, Bali, or Riau. These provinces were determined based on Google Trends data as of June 17, 2023, for the past seven days, where the keyword "Oatside" was most frequently searched. Quantitative data from experts were collected using the AHP questionnaire, while consumer data were gathered using the Qualtrics Experience Management questionnaire. Quantitative data from experts were processed using the Analytical Hierarchy Process (AHP) method with Expert Choice software to obtain the importance rankings of factors according to experts. Analytical Hierarchy Process provides a tool and method for determining priorities according Munthafa dan Mubarok 2017. Meanwhile, Microsoft Excel was used to process consumer data to validate the importance rankings of factors according to consumers.

3. RESULTS AND DISCUSSIONS

Supporting Factor for Green Purchase Intention

Based on interviews conducted with five practitioners, each with a minimum of five years of experience as experts, the supporting factors for green purchase intention were identified as taste, product shape and design, product durability, raw materials, recyclable packaging, carbon footprint, waste handling, social impact, curiosity, and word-of-mouth promotion. Literature review findings added environmental concerns, environmental knowledge, social influence, perception of product price and quality, and self-image to the list. These initial ten factors were selected based on expert input and research.

Experts-based Importance Factor of Green Purchase Intention

According to Table 1, the three most important factors according to experts are environmental knowledge, waste handling, and carbon footprint. These importance rankings were then validated with consumers.

Table 2. Experts Conclusion of Rankings

Rank	Factor
1	Environmental Knowledge
2	Waste Handling
3	Carbon Footprint
4	Recyclable Packaging
5	Social Impact
6	Raw Materials
7	Environmental Concerns
8	Taste
9	Product Durability
10	Product Shape and Design
11	Curiosity
12	Perception of Product Price and Quality
13	Word-of-Mouth Promotion
14	Social Influence
15	Self Image

Source: Processed primary data (2023)

Respondent Characteristics

The study involved 115 respondents with specific characteristics. The majority of the respondents, totaling 83 individuals (72%), were found to be residents of West Java province. In terms of age distribution, most respondents, constituting 72% of the total, fell within the 17–22 years age bracket. Among the respondents, the predominant occupation was that of students, with 67 individuals (58%) identifying as such. Interestingly, a significant portion of the respondents, 52 individuals (45%), reported not being aware of the green purchase intention variable in the study. These demographic details provide valuable insights into the respondent profile, which was crucial for the research analysis. Analyzing respondents' characteristics can facilitate a comprehensive understanding of the majority of consumers and their personality traits. Consequently, small and medium-sized enterprises can tailor their solutions if they align with the characteristics identified in this research.

Consumer-based Importance Factor of Green Purchase Intention

Based on Table 2, the three most important factors according to consumers were taste, product shape and design, and curiosity.

Table 2. Consumer Conclusion of Rankings

Rank	Factor
1	Taste
2	Product Shape and Design
3	Curiosity
4	Perception of Product Price and Quality
5	Word-of-Mouth Promotion
6	Raw Materials
7	Recyclable Packaging
8	Waste Handling
9	Product Durability
10	Carbon Footprint
11	Social Impact
12	Environmental Knowledge
13	Environmental Concerns
14	Social Influence
15	Self Image

Source: Processed primary data (2023)

There were 15 supporting factors for green purchase intention in agro-industrial products: taste, product shape and design, product durability, raw materials, recyclable packaging, carbon footprint, waste handling, social impact, curiosity, word-of-mouth promotion, environmental concerns, environmental knowledge, social influence, perception of product price and quality, and self-image. According to consumer perceptions, the three most important factors supporting green purchase intention in agro-industrial

products were taste, product shape and design, and curiosity. However, the three ideal factors according to expert perceptions were environmental knowledge, waste handling, and carbon footprint. Expert perceptions were considered ideal because experts were aware of the critical importance of considering the long-term impact of purchase intentions for a product.

There was a difference in the overall importance rankings of factors according to experts and consumers. However, four factors shared the same ranking and level of importance according to both experts and consumers. These four factors were raw materials, product durability, social influence, and self-image. Meanwhile, the factor with the most significant ranking difference was environmental knowledge, with an eleven-place gap. Differences in factor rankings indicated a gap between the existing condition and the ideal condition. The existing condition represented the factor rankings considered important by consumers, while the ideal condition represented the factor rankings deemed important by experts. Existing condition is caused by consumer only focusing their purchase interest for current moment without considering the future impact of their purchase. Meanwhile experts considered the effect of every purchase they are likely to make, therefore they prioritized factors impacting and relating to the environment.

4. CONCLUSION

The difference in importance rankings factors of green purchase intention of agroindustry products indicated a gap between the existing condition and the ideal condition. The existing condition represented the factor rankings considered important by consumers, while the ideal condition represented the factor rankings deemed important by experts. This gap signified that small and medium-sized agro-industrial businesses in the environmentally friendly sector could further thrive in Indonesia by developing creative ways to convey the importance of the top three factors according to experts to consumers. More precisely, small and medium-sized enterprises could communicate the significance of environmental knowledge, waste handling, and carbon footprint through taste, product shape and design, and curiosity about the product. Meanwhile, practitioners could contribute to this development by creating new educational techniques relevant to consumers.

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