

CHAPTER I

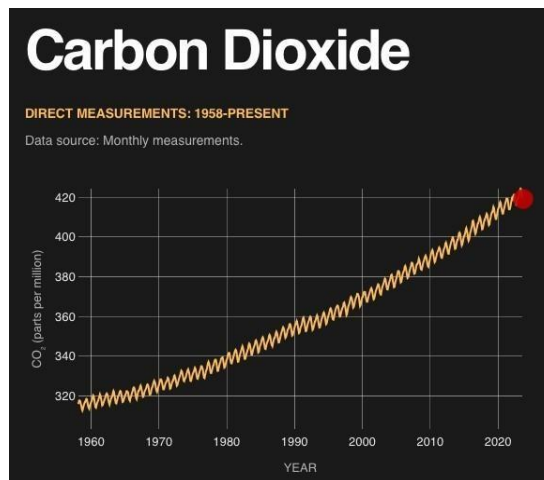
INTRODUCTION

1.1 Research Background

Formula milk is a breast milk substitute made and specifically designed to provide nutrition for babies with certain conditions. According to the World Health Organization (WHO) and the American Academy of Pediatrics, the first six months of life is a very important time for babies to get proper milk. However, there are situations where formula feeding becomes necessary due to certain problems. According to Merry (2023), Formula milk is an alternative that can be provided to newborns under certain conditions. For instance, when a mother is unable to breastfeed due to health issues, has restricted working hours or a demanding lifestyle, experiences inadequate breast milk production, or chooses not to breastfeed for personal reasons. Although formula milk provides a practical solution, the impacts of its production, such as plastic waste, carbon emissions, and environmental pollution, pose new threats. There needs to be awareness that the use of formula milk also has consequences for the environment, and sustainable steps are needed to address its negative impacts.

The formula milk that comes from the dairy factories can emit several types of waste, including liquid waste in the form of wastewater containing chemicals, milk residue, detergent, and other cleaning materials and solid waste such as used milk packaging, paper, plastic, and other materials used in the production process (Wagini, 2020). According to National Waste Management Information System (SIPSN) data, the Ministry of Environment and Forestry (KLHK) states that in 2022 the amount of national waste stockpiles will reach 21.1 million tonnes of the total national waste production, 65.71% (13.9 million tons) can be managed, while the remaining 34.29% (7.2 million tons) has not been managed well (SIPSN, 2023). and in 2023 a total of 68.5 million tons of national waste, the most dominant waste composition recorded is food waste, plastic, and paper (SIPSN, 2023).

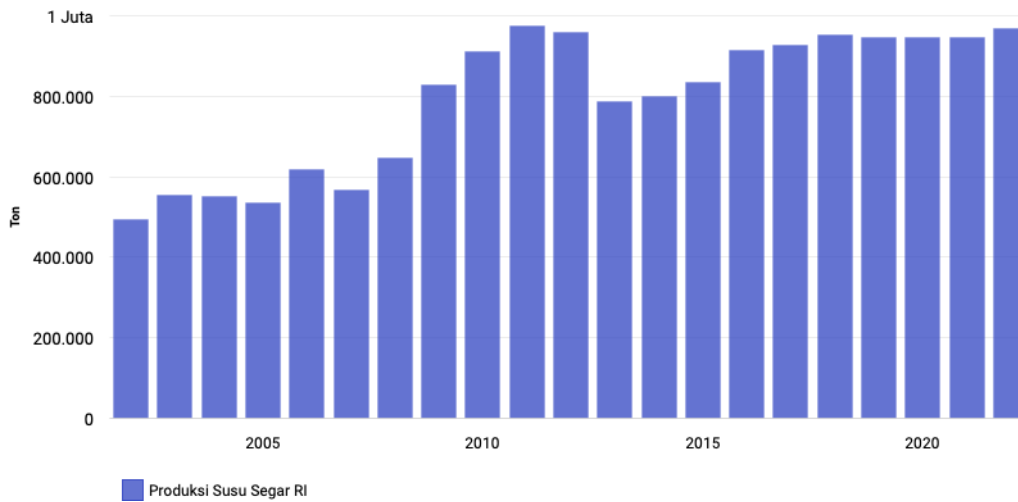
According to Julie (2019), making one kilogram of infant formula releases 4 kilograms of carbon dioxide (CO₂), a greenhouse gas that harms the environment. This carbon, especially in the form of CO₂, has severe consequences for the Earth. In comparison, breastfeeding for six months results in saving approximately 95-153 kilograms of CO₂ equivalent per baby when compared to formula feeding (Natalie, 2019).



Picture 1. 1. Carbon Dioxide (source : Climate.nasa)

The picture above shows the high level of carbon dioxide from year to year which is increasing yearly. One of the highest causes of carbon dioxide is due to the existence of a formula milk factory where high levels of waste and carbon dioxide can cause soil degradation and greenhouse gas emissions. Soil degradation is a condition when soil experiences damage or decreases in quality resulting in loss of function and carrying capacity (Giuliani et al., 2020). This problem is severe and significantly impacts the course of our earth. Soil degradation can cause a decrease in soil fertility, erosion, and various other problems that can harm the environment (Mahcane, 2019). Those negative impacts directly and indirectly lead to global warming, which is a result of an ecological disruption on Earth caused by the ongoing rise in the average temperature of the Earth's atmosphere, oceans, and land (Utina, 2008). Global warming occurs due to human activities which cause an increase in Carbon Dioxide (CO₂), which causes the temperature on earth to feel hotter because this gas absorbs heat.

Unfortunately, Millions of babies, two-thirds of them worldwide, are now consuming formula milk as breastfeeding rates have fallen drastically in Asia (Julie P, 2019). The more milk is produced, the more manufacturing processes are needed. In Indonesia, based on Basic Health Research data (RISKESDAS, 2021), only 52.5%, or roughly half, of the 2.3 million infants under six months old are breastfed. This marks a 12 percent decline from 2019 statistics. According to The Central Statistics Agency (BPS) reports formula milk production in Indonesia will reach 968,980 tons in 2022. This number is up 2.38% compared to the previous year of 946,388 tons.



Picture 1. 2. Bar Chart of Formula Milk Production in Indonesia

(Source: Databoks.katadata)

Insan's research (2022) on formula milk purchases in Indonesia revealed that five provinces had the highest spending in 2021: West Java (Rp. 541.4 billion), East Java (Rp. 426.5 billion), North Sumatra (Rp. 284.8 billion), Central Java (Rp. 185.4 billion), and Banten (Rp. 124.2 billion). This spending is calculated by multiplying the number of babies without breast milk by the monthly formula milk requirement per baby in each province. The high demand for formula milk, as depicted in Figure 1.3, emphasizes the need for the Indonesian breastfeeding mother community to share breastfeeding tips, discouraging the use of formula milk as a substitute for breast milk.

The chart on milk production in Indonesia shows a significant correlation between increased milk production levels and a prevalent trend of formula milk consumption in the community. This trend not only indicates a substantial preference for formula milk but also raises concerns about potential environmental consequences. The heightened consumption of formula milk poses risks such as increased depletion of natural resources, elevated greenhouse gas emissions, and amplified plastic waste from product packaging (Setiawabudiawan, 2021). Addressing these sustainability challenges is crucial, considering the escalating use of formula milk. It is essential for us to collectively confront these challenges by raising awareness about the environmental impact of everyday consumption choices, endorsing sustainable agricultural practices, and advocating for eco-friendly solutions are pivotal in addressing the mounting apprehensions about environmental impact (Hidayah, 2015).

Even though the consumption of formula milk has become a sustainability challenge, the existence of a community of breastfeeding mothers can play an important

role and help reduce the negative impact of this sustainable consumption of formula milk. A community that currently exists is the Indonesian Breastfeeding Mothers Community, with many active followers reaching 165 thousand on the Facebook platform, has become a valuable center of interaction for mothers who share experiences, receive positive support, and receive important education about breastfeeding. Despite providing positive support for breastfeeding, notably, upon deeper reflection, it is observed that education regarding the negative impacts of formula milk production on the environment still lacks depth, even though conveying this information is important for collective awareness.



Picture 1. 3. Indonesian Breastfeeding Mother Community on Facebook

(Source: Facebook)

This community, where mothers can discuss challenges and celebrate their achievements, also needs to broaden its insights to provide a more comprehensive understanding of breastfeeding choices. Acknowledging the option to use formula milk and the lack of awareness regarding the environmental impact of formula milk production as weaknesses is essential. Considering that formula milk production can have negative effects such as pollution and land degradation, bridging this knowledge gap is crucial. Knowledge about the adverse environmental impacts of formula milk production is essential to provide a deeper understanding to mothers on how their perceived behaviors

are controlled. As a platform for interaction and sharing, this community has the potential to be a positive agent of change in providing information to its members. By understanding the knowledge and awareness of the negative impacts of formula milk production and encouraging the community to make more sustainable choices, the Breastfeeding Mothers Community in Indonesia can play a role in creating positive change.

Therefore, based on the description above, a study was conducted to determine the extent to which members of the Indonesian Breastfeeding Community on Facebook possess knowledge about the negative environmental impact of formula milk production, and how this knowledge shapes their perceptions of behavioral control.

1.2 Problem Identification

Based on the research background that has been explained, the research formulation that can be raised is "How much knowledge do members of the Indonesian Breastfeeding Mother Community on Facebook have about the negative impact of formula milk production on the environment, and how does this knowledge shape their perception of behavioral control?" this research aims to identify effective strategies that can enhance mothers' awareness of the benefits of breast milk and its positive environmental impact, aiming to decrease undue reliance on formula milk.

1.3 Research Objective

Based on the identification of the research problem, the goal of this study is to quantify the impact of the Theory of Planned Behavior (TPB) on the influence of mothers' knowledge on their perceived behavioral control.

1.4 Research Significance

1.4.1 Theoretical Benefits

This research aims to explain the influence of mothers' knowledge towards their perceived behavioral control on the negative impact of formula milk production on the environment. Scholarly studies in the field of communication, particularly those focused on the social media community, may also benefit from this investigation.

1.4.2 Practical Benefits

Through this research, is intended to provide input and evaluation for the Indonesian breastfeeding mother community on Facebook to understand the influence of mothers'

knowledge towards their perceived behavioral control on the negative impact of formula milk production on the environment.

1.5 Research Time and Period

Table 1. 1. Research Time and Period

No	Type Of Activity	Month					
		1	2	3	4	5	6
1	Preliminary Research	✓					
2	Seminar Titles		✓				
3	Proposal Drafting	✓	✓	✓			
4	Proposal Seminars			✓			
5	Data collection			✓	✓		
6	Data processing and analysis				✓	✓	✓
7	Thesis Defense						✓

1.6 Research Organization

CHAPTER I. INTRODUCTION

This chapter provides a comprehensive overview of the research subject, its context, the formulation of the problem, objectives, potential advantages, research constraints, and the structure of the writing.

CHAPTER II. LITERATURE REVIEW

This chapter contains theories that are relevant to research. The theoretical foundation aims to form a framework of thinking that

will be used to solve research problems.

CHAPTER III. RESEARCH METHOD

This chapter outlines the strategies, methodologies, and tools employed for gathering and scrutinizing data, enabling it to address or elucidate research inquiries.

CHAPTER IV. RESEARCH FINDING AND DISCUSSION

This chapter explains the process of collecting the data needed during the research and processing the data used to complete it problem in this research.

CHAPTER V. CONCLUSION AND SUGGESTIONS

This chapter encompasses the research findings and offers recommendations to affiliated companies based on the conducted study.