

THE POTENTIAL OF MINDSPACE FRAMEWORK: NUDGE STRATEGY FOR THAI PLANT-BASED MEAT SMES IN BANGKOK

BY

PRUEK CHEEWAWORANUN

AN INDEPENDENT STUDY SUBMITTED IN PARTIAL
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(Assistant Professor Prapaporn Tivayanond Mongkhonvanit, Ph.D.)

Chairman

(Daniel McFarlane, Ph.D.)

Member and Advisor

(Neil Gains, Ph.D.)

Dean

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Author Pruek Cheewaworanun

Degree Master of Arts in Social Innovation and Sustainability

Faculty/ University School of Global Studies, Thammasat University

Independent Study Advisor Neil Gains, Ph.D.

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ABSTRACT

The plant-based meat industry has witnessed increased attention globally due to its significant impact on sustainability and health. In Thailand, the Covid-19 pandemic has further accelerated this trend, leading to a surge in health consciousness and a growing demand for plant-based alternatives to traditional meat and dairy products. Despite the increasing demand, the market lacks a dominant player, resulting in intense competition among various brands striving to capture market share. The concept of nudging, introduced by Thaler & Sunstein (2008), proposes that subtle changes in the presentation of options can influence decision-making and guide individuals towards more sustainable choices. Also, the MINDSPACE framework, developed by the Behavioural Insights Team (BIT, 2010), offers nine key components for designing effective nudges. While SMEs, or small and medium-sized enterprises, differ from larger organizations (Cacciolatti & Lee, 2015). With resource constraints, including limited financial and human capital, SMEs prioritize production and sales (Cacciolatti & Lee, 2015). Therefore, this paper examines the potential of the MINDSPACE framework as a nudge strategy for Thai plant-based meat small and medium-sized enterprises (SMEs) in Bangkok. By conducting case studies and analysis on six Thai plant-based meat SMEs, namely Meat Avatar, More Meat, Krop, Mudjai, Mantra, and Let's Plant Meat, this study investigates the possibilities and difficulties of implementing the framework to promote sustainable consumption in the plant-based meat industry. The research findings emphasize the possibilities of leveraging the MINDSPACE components, including a combination of defaults and commitment (DC),

messengers and default (MD), salience (S), incentive and ego (IE) and norm (N). However, the difficulties are likely to arise when employing messengers (M), priming (P), and affect (A). The study identifies possible implementation strategies for Thai plant-based SMEs in the Bangkok market, while acknowledging potential challenges such as resource requirements and messaging consistency.

Keywords: Plant-based Meat, Behavioral Economics, Sustainable Food Consumption, Nudge Theory, MINDSPACE Framework, SMEs Thailand

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LIST OF ABBREVIATIONS

Symbols/Abbreviations

Terms

SME

Small and Medium Enterprises

MINDSPACE

Messenger, Incentives, Norms, Defaults, Salience, Priming, Affect, Commitment, and Ego

CHAPTER 1 INTRODUCTION

The plant-based meat industry has gained significant attention due to its impact on sustainability and health (He et al., 2020; Onwezen et al., 2020). In Thailand, the Covid-19 pandemic has resulted in a surge of health consciousness, leading to an increased demand for plant-based alternatives to meat and dairy products ((Bangkok Post, 2022). The market currently lacks a dominant player, with many brands competing for market share, such as Meat Zero, OMG Meat, First Pride, and Let's Plant Meat (Bangkok Post, 2022). Beyond Meat and Omni Meat were among the early entrants in Thailand's alternative meat market, with at least 16 major alternative meat brands currently competing in the market as of 2022 (Rujivanarom, 2022). Simultaneously, with the alternative protein industry gaining momentum in Thailand, there are several SMEs worth monitoring (Ho, 2021). These companies are entering the market with groundbreaking offerings, including dairy-free sesame milk, plant-based shrimp, and plant-based meat. According to the article by Ho (2021), there are six notable Thai plant-based meat brands to keep an eye on as the popularity of plant-based consumption increases across the country: Meat Avatar, More Meat, Krop, Mudjai, Mantra, and Let's Plant Meat. It is important to mention that Sesamilk Foods operates as a milk brand, while Swees focuses on cheese-related products.

A survey conducted by Marketbuzzz in August 2022 among 1,000 Thais nationwide found that the current motivations of a shift towards a plant-based diet were improving overall health (41%) and addressing specific health concerns such as reducing cholesterol or blood fat due to the risk of stroke or heart disease (29%) and digestive problems (29%). Some individuals also opted for a plant-based diet to lose weight (19%) or to protect animal lives (19%) (Bangkok Post, 2022).

According to Marketbuzzz, although 68% of Thais still consume meat in their regular diets, about one-third of the population follow alternative diets, including vegan, flexitarian, vegetarian, and pescetarian. In terms of diet segments in Thailand, 14% are vegans who consume no meat or animal products, 7% are flexitarians who mostly consume plant-based foods but occasionally eat meat, 6% are vegetarians who consume no meat but may eat animal products, 4% are pescetarians who consume no

red meat or poultry but eat fish and seafood, and 1% have general food allergies (Bangkok Post, 2022).

In terms of future consumption, the intention to cut down on meat is high, with 65% of Thais claiming they intend to eat less meat in the future. This is especially so for women and those aged 45 years or older (Bangkok Post, 2022). The survey also revealed that Thai consumers are willing to pay a small premium for plant-based alternatives to conventional meat, besides, two-thirds of Thais are aware of plant-based meat, just over one-third claim they are knowledgeable about the product (Bangkok Post, 2022). This is a similar number to those who have tried plant-based products, although most is coming from vegetarians (89%) and vegans (60%) as well as younger consumers aged 15-24 (52%) (Bangkok Post, 2022).

Vorakan Tanachotevorapong, the founder of More Meat, explains that there is an increasing number of plant-based brands emerging in the country (SME Thailand, 2020). He also notes that the imported plant-based market in Thailand does not meet the needs of Thai consumers due to high prices and the predominance of burgers or sausages, which are not suitable for Thai cuisine. Local brands, like More Meat, have an opportunity to develop plant-based protein that is more popular and affordable for Thai consumers and to compete in terms of pricing (SME Thailand, 2020).

Furthermore, according to a report by Marketbuzzz, the key triggers to plant-based consumption in Thailand are as follows: 30% of consumers are motivated by the presence of nutritional ingredients, 29% value the health benefits associated with plant-based food, 24% perceive it as a way to stay trendy, and 23% prioritize the taste factor (Bangkok Post, 2022).

On the other hand, the report highlights several key barriers to plant-based consumption in Thailand. The challenges identified include difficulty in finding stores that offer plant-based options, which was mentioned by 35% of respondents. Additionally, 34% of consumers expressed concerns about the high prices of plant-based products, while 25% felt a lack of necessity for incorporating plant-based options into their diets (Bangkok Post, 2022). These barriers underscore the need for addressing accessibility, affordability, and consumer awareness to further promote plant-based consumption in the country.

To increase plant-based consumption in Thailand, these barriers need to be addressed (Bangkok Post, 2022). Therefore, to compete effectively and sustainably, plant-based SMEs in Thailand need to adopt effective strategies, such as the nudge approach, to encourage consumers to shift their diets towards plant-based options (Sunstein, 2013).



CHAPTER 2

REVIEW OF LITERATURE

The literature review conducted for this study adopts a thematic approach, focusing on specific themes related to plant-based diets and sustainable food consumption. The selected themes include the drivers and benefits of plant-based diets, the motivations behind diet segments, the application of nudge theory in promoting sustainable food consumption, the utilization of the MINDSPACE framework in the context of sustainable food consumption, and the key barriers associated with plant-based diets.

To gather relevant information, primary papers and studies published between 2010 and 2022 were analyzed. The review primarily examined studies that investigated the impact of nudges on sustainable food choices, with a particular emphasis on dietary choices. The international context, with a specific focus on Asia and Thailand, was taken into account to ensure the applicability of the findings. The search for relevant literature involved utilizing various search engines and websites, including Google Scholar, ResearchGate, ScienceDirect, Research Rabbit, and TU Data Collection.

By examining the existing literature within these thematic areas, this review aims to provide a comprehensive understanding of the factors influencing plant-based diets and sustainable food consumption. Additionally, it seeks to identify any research gaps within these areas, with a particular focus on the role of nudges and the MINDSPACE framework in promoting sustainable dietary choices.

2.1 Market Overview and Benefits of Plant-based Proteins

Plant-based meat alternatives are made from plant-derived proteins and are considered sustainable food options (Toomsan et al., 2012; Lee et al., 2020). Legumes, a key ingredient in many plant-based meat alternatives, offer several health benefits, including reducing the risk of type 2 diabetes, lowering cholesterol levels, and aiding in weight management (Polak et al., 2015). However, despite these benefits of plant-based diets, the market share of plant-based meat alternatives remains low, accounting for only 1% of the total meat market (Choudhury et al., 2020). This highlights the

research gap in understanding the barriers and challenges faced by Thai plant-based SMEs to effectively market and promote plant-based meat alternatives to consumers.

Nevertheless, the global market for plant-based proteins is expected to grow due to various factors, such as venture investments in alternative protein companies, technological advancements, and the shift towards flexitarian diets (Wang et al., 2022). The adoption of plant-based diets would also help mitigate climate change and reduce the use of energy, water, and land resources associated with animal-based diets (Pimentel & Pimentel, 2003). Additionally, the role of health in sustainability is significant (Mertens et al., 2016), and proper dietary selection is closely related to environmental and human health sustainability (Tilman & Clark, 2014). Overall, the adoption of plant-based diets, including plant-based meat alternatives, can benefit both individual health and the environment. Thus, the existing literature sources do not only indicate the necessity for further research to explore the obstacles and difficulties faced by Thai plant-based SMEs, but also to identify potential solutions and interventions to meet the increasing demand for sustainable food options and consumption in Thailand.

2.2 Diet Segment and Food-Choice Motivation

Bryant et al. (2019) found that the attitudinal predictors of purchase intent for plant-based meat varied across countries, with India and China being among those examined, implying the need for further research in other countries in Asia, including Thailand, to develop effective strategies for promoting plant-based diets.

Meanwhile Szejda et al. (2020) suggest that understanding the motivations for food choice across different consumer segments is essential, as many studies have assessed motivations to consume conventional meat within population segments, providing a more nuanced view of these drivers. The review also highlights that the drivers for reducing meat consumption vary among the segments, which can be categorized as traditional meat consumers or omnivores, flexitarians, and vegetarians or vegans (Szejda et al., 2020). Omnivores prioritize taste, health, and social norms, while flexitarians are more open to change and motivated by animal welfare, novelty, and health benefits (North et al., 2021; Rogers, 2003; Apostolidis & McLeay, 2016; De Backer & Hudders, 2015). Vegetarians and vegans prioritize animal welfare and health

benefits and are not the primary target audience for plant-based protein products, as they have already adopted a plant-based lifestyle (Apostolidis & McLeay, 2016).

However, the literature reviews do not explore the specific motivations and drivers for promoting plant-based diet consumption in Thailand to shed light on the development of effective strategies. Therefore, to increase the adoption of a plant-based diet, it is essential to identify and understand the motivations for food choice across different consumer segments in Thailand.

2.3 Nudge Theory

Thaler and Sunstein (2008) popularized 'nudge' as any predictable change to behavior without restrictions or economic incentives (p.6). Sunstein (2013) later suggested that nudges can encourage sustainable consumption. There are various papers that investigate the effectiveness of nudging in promoting sustainable food choices and plant-based consumption. A systematic review found that combining 'salience' and 'priming' nudges consistently promoted healthy food and beverage choices (Wilson et al., 2016). Another study found that changing lunch default to vegetarian was well-accepted and effective at conferences in Denmark (Hansen et al., 2021). Additionally, nudging is optimal with education, incentives, and campaigns, and hindered by bias and external factors (Broers et al., 2017). Meanwhile, producers of meat alternatives should focus on mimicking highly processed meat products in taste and texture, rather than imitating cuts like steak or escalope, to successfully replace meat according to a study conducted in Germany with a sample size of 1039 (Michel et al., 2021). Hence, the effectiveness of nudge theory as a strategy for Thai plant-based SMEs has not been thoroughly investigated through real-world experiments in the context of Thailand and the wider Asia region, resulting in a research gap. Most of the previous research on nudging has been conducted in developing countries and European nations, raising doubts about how effective nudging strategies would be in the Thai context.

However, nudging has faced several criticisms, such as the absence of sufficient empirical evidence to support its effectiveness, implementation challenges, and ethical issues (Kasperbauer, 2017) like paternalism (Hausman & Welch, 2010) and

limitations on human autonomy (Baldwin 2014). Consequently, it's worth noting that while nudging can be an effective strategy for promoting behavior change, it is crucial to consider its potential downsides. Moreover, it is necessary to examine the specific implications of applying the nudge strategy for Thai plant-based SMEs. Unique challenges or issues may arise, requiring further investigation.

2.4 MINDSPACE Framework

In essence, the MINDSPACE framework identifies nine components that are crucial to consider when designing nudges: Messenger, Incentives, Norms, Defaults, Salience, Priming, Affect, Commitment, and Ego (BIT, 2010). Messenger highlights that who conveys the information is important; Incentives notes that people are responsive to rewards and loss aversion; Norms emphasize the influence of social norms on people's behavior; Defaults focus on the impact of pre-set options; Salience underscores the influence of visible and novel things that seem relevant to us; Priming highlights the potential impact of subconscious cues; Affect notes the role of emotions in decision-making; Commitment notes that people may seek pre-commitment devices if they have time-inconsistent preferences, and Ego highlights that people prefer actions that make them feel better about themselves (BIT, 2010).

The MINDSPACE components can also be categorized into two automatic behavioral control mechanisms: impulsive and habit. The former mechanism is triggered by stimuli linked with ingrained processes and classified as "approach" or "avoidance" (Liu et al., 2017). Meanwhile, Blumenthal-Barby and Burroughs (2012) describe the ethical issues and identify six principles for nudging: defaults (D); ego and commitment (EC); incentives (I); messenger and norms (MN); priming (P); and salience and affect (SA) (BIT, 2010; Blumenthal-Barby and Burroughs, 2012). The application of the MINDSPACE framework in addressing behavioral challenges can be beneficial for strategists, particularly in competing, organizing, and collaborating effectively (Powell et al., 2011), as this framework provides an evidence-based approach to tackle these challenges (Liu et al., 2017). In addition, the use of combinations such as P, D/P, SA, D/SA, and I/MN/SA have consistently shown positive influence on healthier food and beverage choices (Wilson et al., 2016).

Therefore, the literatures refer to its potential applications of MINDSPACE framework in addressing behavioral challenges for strategists as well as the positive influence of certain combinations of nudges on healthier food and beverage choices.

The food sector can promote sustainable food consumption through menu design and selection of the dish of the day (Perez-Cueto, 2021), while defaults can be considered to increase uptake of new options by enhancing accessibility, availability, and affordability (Michel et al., 2021). Reisch (2021) adds that endorsement of creative and tasty plant-based meals by opinion leaders can also make them desirable, while producing meat alternatives resembling highly processed meat in taste and texture can boost consumption (Michel et al., 2021). Successful nudges often involve altering portion sizes, enhancing availability and accessibility, and targeting appealing dishes in combination with a default menu (Blackford, 2021). The author notes the need for further research to examine the influence of gender and sensory factors on the attractiveness of target dishes in nudging interventions.

As a result, these literatures provide evidence-based strategies and principles for promoting sustainable and plant-based food consumption that can be applied in various settings, including the food sector, while further research is required to investigate the effectiveness and possibility of applying MINDSPACE framework to promote sustainable food choices among Thai plant-based SMEs in Bangkok, taking into account factors such as gender and sensory influences on the attractiveness of target dishes.

2.5 Key Barriers to Plant-Based Diet Consumption

Several barriers hinder the adoption of a plant-based diet, including meat enjoyment, eating routines, health conceptions, and difficulties in preparing vegetarian foods, as suggested by studies conducted in Finland and other developed countries (Pohjolainen et al., 2015).

A consumer survey in the UK and the Netherlands further revealed that unfamiliarity with meat-alternative products and their low sensory appeal are the primary barriers to adopting a less meat-based diet (Hoek et al., 2011; Onwezen et al., 2021). Additionally, financial constraints and social constraints may arise, including

negative associations with the vegetarian lifestyle, potential development of eating disorders, and the occurrence of motivation based on imitation (Ruby, 2012; Corrin & Papadopoulos, 2017; Rosenfeld, 2018).

In Bangkok, promoting plant-based consumption faces several barriers, as revealed through a combination of secondary research and in-depth interviews. These barriers include the lack of promotion and advertising, along with limited availability of plant-based meat substitutes in restaurants and supermarkets (Maywadee, 2019). Nevertheless, there is a research gap as it is unclear if the awareness and barriers of Thai consumers towards plant-based meat substitutes has changed in 2023, especially in Bangkok, as previous research was conducted in 2019. Moreover, there is a lack of specific recommendations for Thai plant-based SMEs, and the potential application of behavioral economic theory, specifically the nudge theory, remains unexplored.

2.6 Conclusion

In summary, the literature review has identified several research gaps within the field of sustainable food consumption and plant-based diets. These gaps include the need for further research to explore obstacles and identify potential solutions for Thai plant-based SMEs in meeting the increasing demand for sustainable food consumption. Additionally, understanding the motivations for food choice across different consumer segments in Thailand is crucial for increasing the adoption of a plant-based diet. Moreover, there is a research gap in providing specific strategies and recommendations for Thai plant-based meat SMEs. Lastly, there is a need to investigate the specific possibilities and unique challenges of applying the MINDSPACE framework in the context of Bangkok. Given these research gaps, the focus of this study will be on addressing the specific strategies and recommendations for Thai plant-based meat SMEs and exploring the possibilities and challenges of implementing the MINDSPACE framework in Bangkok.

CHAPTER 3

RESEARCH QUESTION AND OBJECTIVES

The research question is "What are the possibilities and difficulties for Thai SMEs in promoting plant-based diets in Bangkok through the use of the MINDSPACE framework?"

The objectives of this study are to investigate the potential, possibilities, and challenges of implementing the MINDSPACE framework as a nudge strategy for Thai plant-based SMEs in Bangkok. The objectives are divided into the following:

- Identifying the current state of the plant-based market in Bangkok and the challenges faced by Thai plant-based SMEs.
- 2. Examining the potential of the MINDSPACE framework in promoting plant-based consumption among Thai consumers in Bangkok.
- Exploring different strategies from the MINDSPACE framework that can
 possibly be implemented by Thai plant-based SMEs to encourage plant
 based consumption.
- 4. Providing recommendations for Thai plant-based SMEs on how to potentially implement the MINDSPACE framework as a strategy to promote plant-based consumption.

CHAPTER 4

RESEARCH METHODOLOGY

The research method for this paper was divided into three phases. The first phase involved scoping down the list of brands to be studied and gathering content and evidence from various sources. Based on the article titled "8 alternative protein brands to watch as plant-based takes off across the country" (Ho, 2021), the selection of brands for analysis includes More Meat, Meat Avatar, Mudjai Plant Based, Krop, Mantra, and Let's Plant Meat. These six brands were chosen for their relevance to the topic of plant-based meat and their potential to contribute to the understanding of implementing nudging strategies in the context of sustainable consumption. It is worth noting that two brands mentioned in the article, Sesamilk Foods (a milk brand) and Swees (a cheese-related brand), were not included in the study as they are not directly related to plant-based meat. Each brand's website and social media platforms were reviewed such as Facebook, Instagram, and YouTube. In addition to gathering preliminary interviews with Thai SMEs' founders, the study involved the observation of online retail shops and offline retail stores in Bangkok, as well as the analysis of news articles.

In the second phase of the research method, content analysis was conducted to analyze the communication patterns, key themes, target approaches, consumer conversation, current barriers, and consumption triggers of the selected Thai plant-based meat SMEs, including their brand logo and icon, online and offline experience, labeling, and mood and tone.

The final phase of the research method was mapping and synthesizing. In this phase, each element of the MINDSPACE framework was mapped to the findings from the previous content analysis phase of Thai plant-based meat SMEs. Then the synthesis was conducted to evaluate the potential, possibilities, and difficulties of applying the MINDSPACE framework for Thai plant-based meat SMEs in Bangkok.

The conceptual framework for this paper included the use of nudge theory and MINDSPACE framework as effective tools, which were utilized to investigate the potential, possibilities, and difficulties of implementing nudge theory as a strategy for Thai plant-based SMEs in Bangkok. The MINDSPACE framework highlights nine key

factors that need to be taken into account while creating nudges: Messenger, Incentives, Norms, Defaults, Salience, Priming, Affect, Commitment, and Ego (BIT, 2010).



CHAPTER 5 RESULTS

The present study focused on the research findings obtained from an analysis of six Thai plant-based meat SMEs, namely Meat Avatar, More Meat, Krop, Mudjai Plant Based, Mantra, and Let's Plant Meat. These brands were selected based on their recognition as emerging players in the plant-based meat industry (Ho, 2021). The analysis encompassed various aspects, including a brand analysis overview, examination of brand logo and icon analysis, exploration of communication themes, analysis of mood and tone, evaluation of labeling and packaging strategies, assessment of online and offline experiences, examination of possible target segment approaches, and analysis of key barriers and triggers.

5.1 Brand Analysis Overview

5.1.1 More Meat

More Meat is a health-focused brand that offers frozen plant-based meat mince made from a blend of mushrooms, non-GMO soybeans, coconut oil, canola oil, and beetroot juice (Ho, 2021). This high-protein minced analogue serves as a suitable meat substitute in various dishes, including popular Thai cuisine such as Pad Kra Pao and spring roll fillings, as well as international dishes like burgers (Ho, 2021). With their key message, "plant-based protein, cooks like meat!" the brand communicates its commitment to providing consumers with plant-based alternatives that closely mimic the qualities of traditional meat. Additionally, More Meat's value proposition of "leaner & cleaner choices" highlights their focus on offering healthier and more sustainable options to consumers, encouraging them to make conscious dietary decisions while still enjoying the familiar taste and texture of meat.

The brand offers a range of product variants, including one ready-to-cook meat and two ready-to-eat meal options. In terms of pricing, the products range from 79 to 219 Thai Baht. More Meat has a strong presence in modern trade channels, with over 200 supermarket stores, and operates through social commerce, e-commerce

platforms, and food aggregator platforms (Ho, 2021). The brand engages in promotional activities monthly at supermarkets.

5.1.2 Meat Avatar

Meat Avatar is a startup brand that aims to address the environmental impact of livestock farming by offering a range of plant-based alternatives, including crispy pork, mince, and fried eggs, made from a legume-based recipe (Ho, 2021). The brand's products are currently distributed through major retailers such as Tesco Lotus, Villa Market, and Home Fresh Mart (Ho, 2021). The key message promoted by Meat Avatar is "make it with passion," emphasizing the brand's commitment to a better future. The value proposition of Meat Avatar is "embrace a better future with a taste of Thai," encapsulates their commitment to promoting sustainable and ethical choices while celebrating the rich flavors and culinary heritage of Thai cuisine

The product lineup includes five ready-to-cook meat options and four ready-to-eat meals. Prices range from 65 to 200 Thai Baht. The brand's products are available in modern trade outlets, social commerce, e-commerce platforms, and food aggregator platforms. Promotional activities occasionally take place at supermarkets.

5.1.3 Mudjai

Mudjai, also known as MJ Plant-Based, specializes in creating plant-based proteins using mushrooms and natural flavorings, without the inclusion of soybeans, gluten, or preservatives (Ho, 2021). The brand's flagship product is a vegan-friendly burger patty made from locally sourced mushrooms in Thailand. The key message conveyed by Mudjai is "future protein from plant," aims to position itself as a leading provider of plant-based protein options for a sustainable future. The brand's focus on utilizing plant-based sources for protein aligns with the growing demand for environmental-friendly food choices. Mudjai's value proposition, "whole food plant-based for your health and harmony," emphasizes the brand's commitment to offering wholesome and nourishing plant-based products that contribute to personal well-being and overall harmony with the environment.

The product lineup includes three ready-to-eat meals and three freeze dried products. Prices range from 90 to 150 Thai Baht. It is currently available in independent stores in Bangkok and Songkhla, as well as through direct-to-consumer

sales on its website (Ho, 2021). Promotional activities occasionally include buy-one-get-one free offers.

5.1.4 Krop

Krop, created by SeaTech Intertrade, is a brand that focuses on providing an extensive selection of frozen, pre-made plant-based dim sum products (Ho, 2021). Their product line offers a wide range of vegan-friendly options, allowing individuals to enjoy delicious dim sum while reducing their meat consumption. Krop's key message, "eat veg, less meat," encourages a shift towards plant-based eating habits, emphasizing the importance of making healthier choices. The brand's value proposition, "make good health simple," highlights their commitment to offering convenient and nutritious plant-based options.

Krop offers a selection of nine ready-to-eat meals, featuring a diverse range of vegan-friendly options such as ha gao, kaprao bao with minced meat analogue, "pork" siu mai, curry buns, and Thai-style grilled pork (Ho, 2021). These products, priced between 69 and 160 Thai Baht, are readily available in various modern trade outlets, social commerce, and e-commerce platforms. Additionally, Krop periodically runs promotional activities in supermarkets.

5.1.5 Mantra

Mantra specializes in offering a range of plant-based ready-made foods, specifically focusing on seafood alternatives that are tailored to Thai cuisine (Ho, 2021). The brand's key message, "good to sea, good to you," underscores their dedication to providing high-quality plant-based seafood options. With a value proposition of "plant-based seafood for your health and sea," Mantra aims to cater to consumers seeking sustainable and nutritious seafood substitutes.

Mantra's product lineup includes nine ready-to-cook meals, featuring plant-based substitutes such as shrimp cakes, minced shrimp, and shrimp balls (Ho, 2021). These versatile options can be prepared in various ways, including in curries, stir-fries, deep-fried dishes, or air-fried creations. Priced between 60 and 440 Thai Baht, Mantra's products are readily available in modern trade outlets, social commerce platforms, and e-commerce platforms. The brand also occasionally runs promotional activities, providing opportunities for customers to discover their plant-based seafood offerings.

5.1.6 Let's Plant Meat

Let's Plant Meat is a vegan meat startup that specializes in plant-based burger patties and meat mince made from a combination of non-GMO soy protein, rice protein, coconut oil, rice bran oil, and beetroot extract (Ho, 2021). The key message conveyed by Let's Plant Meat is "tasty, not guilty," emphasizing the brand's focus on plant-based options. The brand's value proposition, "Our plant-based eating can change the world," highlights their mission to make a positive impact on the environment and society.

Let's Plant Meat offers a range of five ready-to-cook meats and three ready-to-eat meals. Their products are priced between 79 and 295 Thai Baht, making them accessible to a wide range of consumers seeking plant-based alternatives. The brand has established a strong presence, with their products available in over 80 outlets of major supermarket chains across Thailand, including Rim Ping, Tesco Lotus, and Gourmet Market (Ho, 2021). In addition to physical stores, Let's Plant Meat also offers the convenience of online ordering through social commerce and e-commerce platforms. The brand occasionally runs promotional activities to engage and attract customers, providing opportunities to explore their plant-based offerings.

5.2 Logo and Icon Analysis

Five out of the six brands, including More Meat, Meat Avatar, MudJai Plant Based, Krop, and Mantra, prominently feature shades of green and brown in their brand colors. This color choice further reinforces the connection to nature and plants, which aligns with the concept of "Priming" in the MINDSPACE Framework.

Furthermore, half of the selected brands, namely Meat Avatar, Krop, and Mantra, utilize leaves as their logo icon, symbolizing nature, serving as a subtle priming mechanism. By incorporating nature-related logos, these brands create associations with plant-based products and reinforce the idea of natural and sustainable choices to the consumers.

While Let's Plant Meat, one of the chosen brands, does not incorporate nature-related logos or colors, the essence of nature is implied through its brand name.

The name itself serves as a prime, influencing consumers to think about plant-based products and their connection to nature and sustainability.

5.3 Communication Theme

Apart from emphasizing the product attributes of being 'plant-based', the selected brands employ various strategies that align with the MINDSPACE Framework to promote their offerings. The predominant themes in messaging are centered around promoting 'health', which taps into "Ego" of consumer and desire for personal well-being. By highlighting the health benefits of their plant-based products, these brands aim to influence consumers' decision-making process positively and encourage healthier dietary choices. Moreover, the brands also focus on promoting 'taste', utilizing "Affect", "Priming", and "Salience" to evoke positive emotions and desires related to taste. This strategy could make plant-based diets more appealing and enjoyable to consumers, effectively nudging them towards considering and trying these alternatives.

While the brands relatively put less emphasis on the aspects of being 'vegan' and 'sustainable'. By linking their products to these values, they might engage consumers' affective responses or "Affect" and enhance the "Salience" of their offering. Also, the 'sustainable' aspect appeals to "Commitment" and "Ego" of consumers to making environmentally responsible choices.

In other words, the primary focus of plant-based meats is to promote healthy diets (SDG 3), while the attention given to other sustainability aspects may be comparatively lower, including responsible consumption (SDG 12) and climate action (SDG 13) in sustainability messaging or in relation to the sustainable development goals (Gains & Ho, 2023).

5.4 Mood and Tone Analysis

The prevailing mood and tone among the selected brands are characterized as 'friendly and modern', which is reflected in their visual elements and typography choices. Brands like More Meat, Krop, Mantra, and Let's Plant Meat embody this mood

and tone across their branding and communication. This aligns with the "Norm" principle from the MINDSPACE Framework, which suggests that people are influenced by what they perceive as the social norm or what is considered typical behavior in a given context. By presenting themselves in a friendly and modern manner, these brands may be signaling that plant-based diets and trendy menus are becoming more socially accepted and desirable, encouraging consumer preferences for these choices.

Furthermore, More Meat and Let's Plant Meat also incorporate a 'bright' mood and tone through their use of vibrant colors. This aligns with the "Salience" principle from the MINDSPACE Framework, which suggests that attention is drawn to stimuli that stand out and are easily noticeable. By using vibrant colors, these brands are making their messaging more noticeable and memorable to consumers, thereby enhancing the salience of their plant-based offerings. This approach might increase consumer awareness and consideration of plant-based diets as they stand out in the visual landscape.

On the other hand, the Meat Avatar and Mudjai brands adopt a more 'conservative and purposeful' tone, as evident from their brand statements on their websites and Facebook pages. These brands' choice of visual elements, typography, and overall branding conveys a sense of seriousness and purpose in their messaging. This aligns with the "Commitment and Ego" principles from the MINDSPACE Framework, which suggest that people are more likely to be influenced by messages that appeal to their sense of commitment to certain values and beliefs. By emphasizing their commitment to environmental sustainability and support for the local community, these brands are appealing to consumers' values and sense of responsibility, potentially motivating them to choose plant-based products aligned with their personal beliefs.

5.5 Labeling and Packaging Analysis

In addition to the common use of 'plant-based' to communicate product attributes, the labeling and packaging analysis reveals additional connections with the MINDSPACE Framework, particularly in terms of "Priming" and "Salience." For instance, half of the selected brands use the label "Vegan" to communicate their

products' suitability for vegans. This label acts as a priming cue, shaping consumers' perceptions of the products as plant-based and suitable for their dietary preferences. Brands like Mudjai, Krop, and Let's Plant Meat effectively utilize this label to emphasize their vegan-friendly offerings, potentially influencing consumer choices.

Additionally, some brands, such as More Meat, Mudjai, and Mantra, adopt transparent packaging for their plant-based products. The transparency creates salience by making the contents of the packaging more visible to consumers. By showcasing the appearance and texture of the plant-based products, these brands reinforce the similarity they share with meat products, aiming to make them more appealing to potential consumers. This strategy leverages the salience principle of the MINDSPACE Framework, ensuring that the plant-based alternatives stand out and are more memorable to consumers.

Therefore, the combination of these labeling and packaging strategies with the principles of "Priming" and "Salience" from the MINDSPACE Framework could play a vital role in influencing consumer behavior and promoting the adoption of plantbased diets.

5.6 Online and Offline Experience Analysis

In terms of online touch points, the visuals predominantly feature a diverse range of menu items showcasing the actual products, accompanied by product packaging, ingredients, and direct links to e-commerce or social commerce platforms for purchasing. These visual elements align with the principles of "Salience" and "Affect" in the MINDSPACE Framework. By prominently displaying the products and demonstrating how to cook their products, the brands aim to increase the attractiveness and consideration towards the plant-based alternatives.

In offline retail stores or shops, plant-based products are typically separated from a distinct section within the freezers, separate from meat-based products. Moreover, promotional activities at the point of purchase are less frequent for plant-based products compared to their traditional meat counterparts. This separation may have implications for the "Priming" principle in the MINDSPACE Framework. If plant-based products were placed alongside meat-based products or had more promotional

efforts at the point of purchase, it might be able to increase their visibility and accessibility, which might encourage consumers to consider them as viable alternatives (Bangkok Post, 2022). Increasing promotional activities, such as providing premiums or discounts for plant-based products, aligns with the "Incentive" principle in the MINDSPACE Framework, as it aims to motivate consumers to make the desired choice of opting for plant-based alternatives.

5.7 Target Segment Approach

The target approach of the selected brands can be summarized as follows. Firstly, in terms of the diet segment, there is a strong emphasis on the 'plant-based' attribute of the products, with labels such as 'vegan' prominently displayed on the packaging. However, it should be noted that this messaging may primarily resonate with individuals who already identify themselves as 'vegan', potentially limiting its appeal to the majority of Thailand's population who are traditional meat eaters or flexitarians. This raises the question of how plant-based consumption can be promoted to attract a broader range of consumers.

Secondly, the analysis reveals that the selected brands target four distinct value segments. These include 'trend seekers' who are attracted by social norms and trendy plant-based menus showcased by brands like More Meat, Krop, Mantra, and Let's Plant Meat. Moreover, the emphasis on taste, a common theme among these six selected brands, highlights the significance of conveying the message that plant-based products can be equally delicious as their meat counterparts (Gains & Ho, 2023). This particular focus on taste is likely to appeal to 'taste explorers' who value the novelty and deliciousness of plant-based alternatives.

The brands also target 'health-conscious consumers' by promoting their products as healthy food choices. However, there is relatively less emphasis on targeting 'environmental advocates' who actively support sustainable consumption. Brands like Meat Avatar and Mudjai stand out by adopting a 'conservative and purposeful' tone, reflecting their commitment to environmental sustainability. In essence, this highlights their aim to appeal to individuals who prioritize taste, novelty, and personal well-being.

Lastly, the key messaging of the brands primarily revolves around taste and health, with a strong emphasis on offering creative and nutritious menus. This focus on health aligns with Sustainable Development Goal 3 (SDG 3). However, it is important to note that there is room for improvement in addressing responsible consumption (SDG 12) and climate action (SDG 13) aspects (Gains & Ho, 2023). These areas present opportunities for further development and progress, enabling the brands to enhance their sustainability efforts and make a more comprehensive contribution to the achievement of the Sustainable Development Goals.

In conclusion, the target segment approach of the selected brands demonstrates a deliberate strategy to effectively cater to specific consumer groups. These SME brands place a strong emphasis on taste, health (SDG3), and trendiness in their messaging and product offerings. These strategic approaches align closely with the key triggers to plant-based diets consumption in Thailand as identified in the report by Marketbuzzz (Bangkok Post, 2022). Moreover, there is a notable overlap between the diet segment and the value segment. The dietary choices and consumption patterns of individuals are often driven by their underlying values. Therefore, it is understandable that the brands' target segment approach encompasses both aspects, recognizing the interconnectedness between diet selection and personal values. However, it is important to acknowledge that there is still potential for improvement in addressing the areas of responsible consumption (SDG 12) and climate action (SDG 13) (Gains & Ho, 2023).

5.8 Key Barriers and Triggers Analysis

One of the key barriers to promoting plant-based consumption is the complexity of messages conveyed by some SME brands. These brands often struggle with inconsistent messaging, attempting to convey too many messages on their packaging labels or through online communication. This complexity can confuse consumers and make it challenging for them to understand the core value proposition of the products.

Another barrier is the difficulty in accessing plant-based products seamlessly. Unlike meat-based products that are commonly found in the main sections

of retail freezers, plant-based alternatives are often placed in separate sections or corners. This arrangement can make it harder for consumers to locate and access the plant-based options, potentially deterring their purchase decisions.

Moreover, a significant barrier lies in the fact that plant-based products may be unattractive to the majority of the target segment, which consists of traditional meat eaters and flexitarians. These individuals have ingrained dietary habits and preferences, making it challenging to shift their consumption patterns towards plant-based alternatives. The strong emphasis on plant-based labeling and vegan messaging may not resonate with traditional meat eaters and flexitarians, limiting their interest in trying or adopting these products.

Lastly, the higher prices of plant-based products compared to traditional meat pose a barrier to wider adoption. The cost differential can discourage consumers from trying out plant-based alternatives, especially if they perceive them as more expensive without experiencing their benefits firsthand. This, coupled with limited opportunities for trial, can impede the initial uptake of plant-based products.

To overcome these barriers, several key triggers can be implemented. Simplifying messages is crucial, as it helps consumers better understand and connect with the benefits and qualities offered by plant-based alternatives. By delivering clear, concise, and consistent messaging that effectively communicates the core value proposition of their products, SME brands can alleviate confusion and make plant-based options more appealing.

Reducing friction in the consumer journey is another important trigger. This involves addressing the challenges in accessing plant-based products seamlessly. Retailers can play a role by ensuring clear and visible placement of plant-based options within stores. Online platforms can also improve search filters and categorization, making it effortless for consumers to find and purchase plant-based products.

To make plant-based alternatives more attractive to a broader target audience, such as traditional meat eaters and flexitarians, highlighting their relevance is essential. Emphasizing the similarities in taste, texture, and cooking versatility compared to traditional meat products can help bridge the gap and make plant-based options more appealing. Promoting the health benefits, associated with plant-based consumption can also resonate with a wider audience.

Creating a trendy image and positioning plant-based consumption as the norm can act as triggers for adoption. Leveraging marketing strategies that align with current trends and societal norms, SME brands can generate interest among consumers. Collaborations with influencers, engaging social media campaigns, and showcasing plant-based alternatives in popular culinary contexts can enhance their desirability and perceived value.

By addressing these key barriers and implementing effective triggers, SME brands have the potential to enhance the promotion and adoption of plant-based consumption by harnessing the MINDSPACE framework, as explored below.

CHAPTER 6 DISCUSSION

6.1 Potential of MINDSPACE Framework

The conceptual framework employed in this study incorporates nudge theory and the MINDSPACE framework as effective tools, developed by the Behavioral Insights Team, outlines nine key factors that need to be considered when designing effective nudges: Messenger, Incentives, Norms, Defaults, Salience, Priming, Affect, Commitment, and Ego.

Based on the research findings, an analysis and synthesis of the potential application of the MINDSPACE framework to the context of plant-based SMEs in Bangkok is presented. In terms of the Messenger factor, leveraging presenters or influencers, such as Meat Avatar and Mudjai, can serve as effective channels for promoting plant-based products. Collaborating with food vendors or approaching eatery's business owners and chefs, as demonstrated by Meat Avatar, can also enhance consumer's conversation and consideration on the plant-based meat diets.

The Incentives factor highlights the importance of emphasizing promotions and offering rewards to consumers. User-generated content, as exemplified by Let's Plant Meat, can be utilized to engage customers, and incentivize their participation. Norms play a crucial role in shaping consumer behavior and creating a trendy image through diverse and modern menus, displays, mood, and tone can attract a broader audience. Brands like More Meat, Krop, Mantra, and Let's Plant Meat showcase effective norm-building strategies.

Defaults, as a nudge factor, can be leveraged by collaborating with food vendors or chefs, similar to the approach taken by Meat Avatar. Additionally, establishing occasions such as Meatless Day, as observed in the practices of Meat Avatar, Mudjai, More Meat, and Let's Plant Meat, can encourage consumers to default to plant-based options.

The Salience factor emphasizes the importance of making plant-based products stand out. Demonstrating the cooking process, customizing products to suit

local taste preferences, and offering a diverse range of creative menus, as demonstrated by More Meat and Meat Avatar, can enhance the salience of plant-based options. Priming, another factor, can be leveraged by enhancing product availability and accessibility, as exemplified by Meat Avatar and Krop.

Affect, which refers to emotional persuasion, suggests that promoting plant-based foods as "healthier options" can resonate with consumers. All of the selected brands exemplify this strategy by emphasizing the health benefits of their products. Commitment can be fostered by establishing occasions like Meatless Day, as seen in the practices of Meat Avatar and Mudjai. Finally, Ego factors can be leveraged by encouraging online activities that foster user-generated content and consumer discussions about the positive health aspects within the plant-based community, as practiced by Let's Plant Meat.

These findings highlight the potential of the MINDSPACE framework in guiding the strategic implementation of nudges within the context of plant-based SMEs. By incorporating the various factors identified in the framework, these SMEs can enhance their promotional efforts and facilitate the wider adoption of plant-based consumption in Bangkok.

6.2 Possibility of MINDSPACE Framework

The possibility of implementing the MINDSPACE framework within the context of small and medium-sized enterprise (SME) brands to promote plant-based consumption is examined in this study. The framework encompasses various factors that can be utilized as effective nudges in promoting plant-based products.

One factor that holds promise is the utilization of the Messenger and Default (MD) approaches, whereby SME brands can engage with food vendors or chefs as messengers to promote their plant-based offerings. For instance, brands like Meat Avatar have collaborated with food vendors, leveraging their existing networks and customer base. Additionally, creating specific occasions and commitment to reduce meat consumption such as Meatless Day, as demonstrated by brands like Meat Avatar, Mudjai, More Meat, and Let's Plant Meat, can encourage consumers to default and commitment (DC) to plant-based options.

The Salience factor (S), emphasizing the importance of making plant-based products stand out, can be achieved through various strategies. Demonstrating the cooking process of these products, customizing them to suit local taste preferences, and offering a diverse range of creative menus, as seen with brands like More Meat and Meat Avatar, enhance the salience of plant-based options among consumers.

Norms (N) play a crucial role in shaping consumer behavior, and SME brands can tap into this factor by making plant-based consumption trendy. This can be accomplished through the provision of a variety of modern menus and the establishment of a brand community. Notably, brands such as More Meat, Krop, Mantra, and Let's Plant Meat have successfully employed this approach, influenced consumer norms, and made plant-based options more attractive.

The utilization of Incentive and Ego (IE) factors through online activities, including reward programs and giveaways, fosters user-generated content within the plant-based community. By incentivizing consumers to share their experiences and opinions, brands like Let's Plant Meat enhance consumer engagement and involvement.

6.3 Difficulty of MINDSPACE Framework

However, the implementation of the MINDSPACE framework also presents certain challenges. The Messenger (M) factor, which involves the use of presenters or influencers like Meat Avatar and Mudjai, may require significant financial resources and consistent effort from the brands. Priming (P), aimed at enhancing product availability and accessibility, can pose additional costs in terms of product display and inventory management.

Moreover, the Affect (A) factor suggests that focusing on promoting plant-based products as "healthier foods" can be emotionally convincing to the current target segment. However, the effectiveness of this approach may vary depending on the specific segment that each brand aims to expand into, necessitating the development of tailored and simplified messaging strategies.

At last, the MINDSPACE framework offers promising opportunities for SME brands to promote plant-based consumption effectively. By considering these factors and addressing the associated difficulties, SMEs can enhance their promotional strategies and facilitate the wider adoption of plant-based products among consumers.



CHAPTER 7

RESEARCH LIMITATIONS AND FUTURE RESEARCH

7.1 Research Limitations

Limitations of this study may include a lack of real-world experimentation with the MINDSPACE framework, as well as a lack of qualitative research on the actual change in consumer perception or behavior resulting from the application of the framework. The small sample size of only six Thai plant-based meat SMEs selected may also be a limitation.

Additionally, it is possible that different implications may arise for each specific brand within the sample, which may affect the overall applicability of the MINDSPACE framework in promoting plant-based diets among Thai consumers.

7.2 Future Research

Future research opportunities emerge from the limitations of this study. Firstly, real-world experimentation, including the collection and analysis of sales tracking data, is warranted to assess the effectiveness of implementing the MINDSPACE framework in actual settings and its impact on promoting plant-based diets.

Additionally, empirical studies should be conducted to measure consumer perception, behavioral change, and the overall influence on sustainable food consumption. These research endeavors would provide valuable insights into the practical outcomes and effects of nudging strategies in promoting sustainable dietary choices.

Secondly, qualitative research methodologies, such as in-depth interviews and focus groups should be employed to gain deeper insights into consumer responses and perceptions towards nudge strategy and the MINDSPACE framework in the context of plant-based diets. This qualitative approach would provide valuable insights

into underlying motivations, decision-making processes, and barriers faced by consumers.

Moreover, expanding the sample size beyond the limited scope of six Thai plant-based meat SMEs is crucial for a comprehensive understanding of the framework's applicability and effectiveness across different brands and consumer segments.

Comparative analysis between regions or countries can further elucidate the cultural, social, and economic factors that shape the adoption of plant-based diets and the efficacy of nudging strategies.

These avenues of further research would contribute to a more nuanced understanding of the context-specific challenges and opportunities in promoting sustainable food consumption. Such insights would guide scholars, researchers, and SME brands towards tailored strategies for effectively promoting plant-based diets among Thai consumers in Bangkok and beyond.

CHAPTER 8 CONCLUSION

In conclusion, the findings emphasize the possibilities for leveraging the MINDSPACE components, including defaults and commitment (DC), messengers and default (MD), salience (S), incentive and ego (IE), and norm (N). Specifically, the utilization of social affirmation, such as collaboration and community engagement, has been shown to effectively drive increased consideration and trial of plant-based products. Additionally, creating consumption necessities through online activities with rewards and highlighting trendy menu options appear to be viable strategies for generating interest in plant-based diets.

However, difficulties may arise when implementing the MINDSPACE framework, particularly concerning the Messenger (M) factor, which requires financial resources and consistent effort. Priming (P) for product availability and accessibility can also lead to additional costs. Additionally, the Affect (A) factor highlights the importance of tailored and simplified messaging strategies for promoting plant-based products, depending on the specific target segment.

Furthermore, the application of the MINDSPACE framework in promoting plant-based consumption among SMEs requires a focus on simplicity and consistency in messaging and the consumer journey. Cost-efficiency considerations should be taken into account when collaborating or engaging influencers and improving product accessibility through online and offline retail channels. Additionally, SMEs should target specific consumer segments based on their dietary preferences, including traditional meat eaters and flexitarians, as well as their values as trend seekers, taste explorers, and health-conscious individuals. At last, it is also recommended for Thai plant-based SMEs to implement MINDSPACE strategies that encourage incremental or small changes in consumer behavior towards the adoption of plant-based meat in Bangkok.

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APPENDIX

Figure 1: Brand logos and icons of the selected Thai plant-based SMEs.



Figure 2: Communication of the selected Thai plant-based SMEs, including communication snapshots, key messages, dominant themes, unique selling points, and value propositions.



Figure 3: Labeling and packaging used by the selected Thai plant-based SMEs, including More Meat Meat, Meat Avatar, Mantra, Mudjai, Krop, and Let's Plant Meat, respectively.













Figure 4: Potential of MINDSPACE Framework - Based on the research findings, an analysis and synthesis of the potential application of the MINDSPACE framework to the context of plant-based SMEs in Bangkok.

Element	Implication
Messenger	Utilize presenter or influencers to promote plant-based diets, such as Meat Avatar, and Mudjai. Collaborate with food vendor or chefs, such as Meat Avatar.
Incentives	Emphasize the promotion, reward giveaways from user generated contents, such as Let's plant meat.
Norms	Make plant-based diets trendy through a variety of modern menus, attractive displays, and appealing mood and tone, such as More Meat, Krop, Mantra and Let's Plant Meat. Build the brand community or plant-based community, such as Let's plant meat.
Defaults	 Collaborate with food vendor or chefs, such as Meat Avatar. Create occasion on Wednesday or Meatless Day, such as Meat Avatar, MJ, More Meat and Let's Plant Meat.
Salience	Demonstrate the cooking process of the products, tailored to suit the Thai taste, and provide a diverse range of creative menus, such as More Meat and Meat Avatar.
Priming	Enhance product availability and accessibility for consumers, such as Meat Avatar and Krop.
Affect	Promote plant-based diets as the 'healthier foods' seems to be emotionally convincing more than 'food for better planet', such as Let's plant meat.
Commitment	Create occasion on Wednesday or Meatless Day, such as Meat Avatar, MJ, More Meat and Let's Plant Meat.
Ego	Hold online activities that encourage user-generated content and consumer conversations about their positive experiences within the community, such as Let's Plant Meat.

Figure 5: Default & Commitment - Create occasion on Wednesday or Meatless Day, such as Meat Avatar, MJ, More Meat and Let's Plant Meat.



Figure 6: Messenger & Default - Collaborate with food vendor or chefs, such as Meat Avatar.



Figure 7: Salience - Demonstrate the cooking process of the products, tailored to suit the Thai taste, and provide a diverse range of creative menus, such as More Meat and Meat Avatar.



Figure 8: Incentive & Ego - Hold online activities that encourage user-generated content and consumer conversations about their positive experiences within the community, by providing rewards as the incentives, such as Let's Plant Meat.

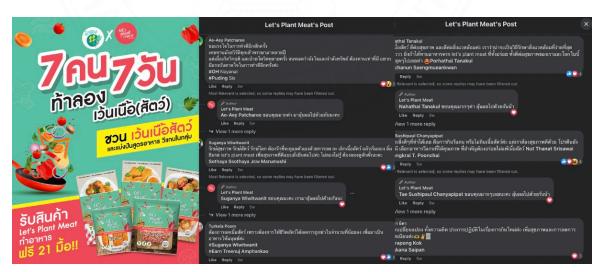


Figure 9: Norm - Make plant-based diets trendy through a variety of modern menus, attractive displays, and appealing mood and tone, such as More Meat, Krop, Mantra and Let's Plant Meat.



Figure 10: Messenger - Utilize presenter or influencers to promote plant-based diets, such as Meat Avatar, and Mudjai.



Figure 11: Priming - Enhance product availability and accessibility, such as Meat Avatar and Krop. The presence of plant-based fridge or plant-based corner, based on the offline retail store observation in Bangkok - Tops Onnut and Gourmet Market Emquartier, June 2023.



Figure 12: Affect - Promote plant-based diets as the 'healthier foods'



BIOGRAPHY

Name Pruek Cheewaworanun

Date of Birth November 28, 1995

Educational Attainment 2014: Bachelor of Communication Arts,

Albert Laurence School of Communication Arts,

Assumption University, Thailand