

PRODUCT INNOVATION, DIGITAL MARKETING, QUALITY PERCEPTION, CONSUMER ATTITUDES AFFECTING PURCHASE INTENTION OF GARBAGE BAG PACKAGING PRODUCTS OF CONSUMERS IN BANGKOK AND ITS VICINITY

Jirawat Chucharoen¹, Chompoo Saisama², Bundit Pungnirund³, Tanapol kortana⁴,
Chaithanaskorn Phawitpiriyakliti⁵

^{1,2,3,4,5} College of innovation and Management, Suan Sunadha Rajabhat University, Thailand

E-Mail: s65584945022@ssru.ac.th¹, chompoo.sa@ssru.ac.th², bundit.pu@ssru.ac.th³,

tanapol.ko@ssru.ac.th⁴, chaithanaskorn.ph@ssru.ac.th⁵

ABSTRACT

This article aims to review the literature and develop a conceptual framework on the antecedents affecting consumers' purchase intentions for garbage bag packaging products in Bangkok and surrounding areas. The research focuses on key factors, including product innovation, digital marketing, perceived quality, consumer attitudes, and purchase intentions. The study analyzes data from academic documents, research articles, and relevant literature published between 2020 and 2024 to synthesize the relationships between these factors. The findings reveal that product innovation and digital marketing have a direct positive impact on consumer attitudes and purchase intentions. Meanwhile, perceived quality plays a crucial role in fostering satisfaction and brand loyalty. Additionally, consumer attitudes serve as a significant intermediary linking these factors to purchase intentions.

These results were developed into a causal conceptual framework for hypothesis testing using Structural Equation Modeling (SEM), aiming to create strategic approaches applicable to business contexts and macro-level policy formulation. The study holds the potential to serve as a knowledge base for developing businesses related to garbage bag packaging products, as well as promoting sustainability within the plastic industry.

Keywords: Innovation Management, Digital Marketing, Perceived Quality, Consumer Attitude, Purchase Intention, Garbage Packaging

INTRODUCTION

Currently, waste management has become one of the critical and urgent issues in urban areas (Sohag & Podder, 2020; Kuang & Lin, 2021), particularly in Bangkok, which serves as the economic, political, and cultural hub of Thailand (Edelman, 2022; Marome et al., 2023; Butsaban, 2020). Population growth and economic expansion have led to a continuous increase in waste generation in the area (Chen et al., 2020; Cheng et al., 2020; Zhang et al., 2022).

Data from the National Statistical Office indicates that the population in Bangkok increased by 5.45% in 2024 compared to the previous year. However, over the past five years, a decline in population was observed in 2022, likely due to the impacts of the Covid-19 pandemic. Despite this, Bangkok remains the most densely populated area in Thailand, with approximately 5,800,000 residents (National Statistical Office, online reference, 2024). The summarized data is presented in Table 1.

Table 1: Population Growth Rate in Bangkok (Source: National Statistical Office)

Year AD	Population (people)	Change (percent)
2020	5,666,264	-
2021	5,686,252	+0.35
2022	5,494,932	-3.36
2023	5,500,000 (ประมาณการ)	+0.09
2024	5,800,000 (ประมาณการ)	+5.45

Bangkok is also an area experiencing diverse economic activities, including trade in products and services as well as operations in the manufacturing sector. According to data from the Kasikorn Research Center, Bangkok's economy in 2012 was valued at 3.55 trillion baht, accounting for approximately 29% of the country's total Gross Domestic Product (GDP). This economic expansion has led to an increase in economic activities, which are major contributors to higher waste generation (Edelman, 2022). Furthermore, additional data from the National Statistical Office reveals that the metropolitan area, including surrounding regions, hosts a dense concentration of manufacturing and service industries. Evident indicators include the widespread presence of industrial plants, industrial estates, and establishments such as shopping malls.

Garbage bags are classified as convenience products, which consumers purchase regularly without extensive consideration or brand comparison. These products are affordable and have minimal impact on consumers' decision-making processes (Kotler & Keller, 2014). Consequently, marketing strategies for such products must be tailored and highly specific (Megdadi et al., 2023). Literature by Kotler and Keller (2014), as well as studies by Lovelock (2016) and Porter (1998), emphasize that enhancing competitive capabilities for these products requires adapting strategies to specific contexts and thoroughly considering consumer decision-making factors.

Currently, most garbage bags are still made from plastic (Wang & Li, 2021; Nyathi & Togo, 2020), which significantly impacts the environment. With rising environmental awareness among consumers, there is increasing emphasis on products that reduce pollution (Chuah et al., 2020; Mudrika et al., 2024). This shift in attitudes reflects a growing interest in environmentally friendly products. Consumers who are informed about environmental issues are more likely to support products with minimal environmental impact, such as reducing plastic bag usage and opting for sustainable products (Khan et al., 2020; Bursan et al., 2020). Therefore, businesses should consider leveraging technology and innovation to develop environmentally friendly products. Such advancements may enhance product value and generate consumer interest (Ratasuk, 2021; Kuang et al., 2020; Rena et al., 2022; Debrah et al., 2021).

Another notable trend is the adoption of digital technology in the design and production of packaging, which enhances aesthetics and functionality to better meet consumer needs. Companies are prioritizing packaging innovations to remain competitive in diverse markets (Thai Printing Association, 2022, online reference). According to Kotler and Keller (2014), products frequently purchased with minimal decision-making should focus on high-frequency advertising communication. Social media has become a crucial tool for reaching a wide consumer base at lower costs compared to traditional media

(Waworuntu et al., 2022; Vrontis et al., 2021; Quesenberry, 2020). Digital marketing also allows businesses to utilize insights to refine strategies and enhance competitiveness effectively (Rachmad et al., 2024; Das, 2021; Kingnorth, 2022).

Beyond marketing strategies, perceived product quality is another critical factor influencing consumers' purchasing decisions (Kotler & Keller, 2014; Wang et al., 2020). Consumers who perceive products as high-quality and gain positive experiences from their use are more likely to repurchase and trust the brand. Moreover, perceived quality helps mitigate risks associated with purchasing decisions, particularly for high-investment or complex products (Rahmawan & Suwitho, 2023).

The growth of online businesses has increased the demand for plastic bags as packaging, including the use of garbage bags in this context, which plays a significant role (Chueamuangphan et al., 2020; Escursell et al., 2021; Spruit & Almenar, 2021). Enhancing the quality and innovation of garbage bag products to meet consumer demands will boost market confidence and contribute positively to long-term profitability for businesses.

Given this context, the researcher is interested in reviewing literature on the antecedents affecting consumers' purchase intentions for garbage bag packaging products in Bangkok and its surrounding areas. The aim is to create new knowledge that benefits related industries and stakeholders, such as businesses and consumers. This study also seeks to fill knowledge gaps concerning consumer behavior in the garbage bag and plastic industries. Additionally, the findings could serve as a guide for similar future research and contribute to the development of business simulation models tailored to this specific context.

Objective

1. To review the literature on product innovation, digital marketing, perceived quality, consumer attitudes, and purchase intentions for garbage bag packaging products among consumers in Bangkok and its surrounding areas. The study employs a synthesis process of variables, reviewing relevant literature to identify factors or contexts of these variables that are expected to have relationships or influence consumers' purchase intentions for garbage bag packaging products in Bangkok and its surrounding areas.

2. To develop a causal conceptual framework for modeling the antecedents influencing consumers' purchase intentions for garbage bag packaging products in Bangkok and its surrounding areas.

Research Synthesis Process

The researcher defines the study population to include research articles, theses, documents, and literature related to product innovation, digital marketing, perceived quality, consumer attitudes, and purchase intentions for garbage bag packaging products among consumers in Bangkok and its surrounding areas. The selected documents must be complete works conducted between 2020 and 2024, with a focus on secondary data sources.

For selecting these documents, the researcher applies the evaluation criteria outlined by Scott (1990), which consist of four key aspects: authenticity, credibility, representativeness, and clear meaning.

Additionally, the selected documents must be verifiable through internationally recognized academic journal databases to ensure the quality and reliability of the sources.

Literature Review

Waste management has become one of the critical global concerns. For Thailand, as a developing country, this issue presents significant challenges, particularly due to population growth and urban expansion. Garbage bags, commonly referred to as "black bags," play a vital role in the waste management system due to their ease of use, low cost, and versatility. Their applications range from household use to industrial and government purposes. These bags are integral at all stages of waste management in Thailand, including household waste collection, urban waste transportation, and landfill or incineration management. However, challenges remain, such as improper waste disposal, air pollution caused by incineration, and the increasing volume of plastic waste that adversely impacts the environment (Barbale, 2021).

Product innovation refers to the process of creating new products or improving existing ones using knowledge, technology, and new ideas to enhance value and efficiency. This process aims to meet consumer needs, respond to market changes, and increase organizational competitiveness. Product innovation encompasses ideation, design, development, and market introduction. Its goals are to differentiate products in the market, increase value, and strengthen an organization's capability in a rapidly changing business environment (Babina et al., 2024; Xie & Wang, 2020; Christa & Kristinae, 2021).

According to Wang et al. (2021), the primary drivers of product innovation include changing consumer demands, market competition, and technological advancements. For instance, organizations can leverage new technologies to improve product performance or diversify functionalities. Product innovation is essential for market expansion and gaining market share as it addresses new target audiences or provides added value that surpasses competitors. Another critical aspect is economic value creation, as improved products can generate new revenue streams and foster customer loyalty by offering enhanced quality, modern design, or features that better address consumer needs.

Li et al. (2021) conducted a study involving 1,853 consumers in China, examining two types of sustainable products: electric vehicles (high-involvement products) and organic food (low-involvement products). Using online surveys, the study highlighted that consumer attitudes act as a significant intermediary linking product innovation and purchase behavior. Consumers with high innovation adoption tend to develop more positive attitudes toward products, recognizing their clear advantages and value (Jansson, 2011). These attitudes significantly affect both high- and low-involvement products.

Haudi et al. (2020) studied the relationship between product innovation and consumer attitudes in the light roofing steel industry in Indonesia, using a sample of 96 participants. The study employed multiple regression and correlation coefficient analysis to evaluate the impact and relationships between variables. The results indicated a clear and significant positive relationship between product innovation and consumer attitudes. Innovation enhances product value and appeal, while consumer attitudes significantly influence purchase decisions. The findings underline the importance of investing in innovation and marketing communications to highlight product value and increase consumer satisfaction.

Moslehpour et al. (2023) explored the relationship between product innovation and attitudes in the cosmetics industry in Taiwan and Mongolia, involving 374 respondents (61.61% response rate). Using Partial Least Squares (PLS) for causal modeling, the study demonstrated that environmentally friendly innovations, such as recyclable materials and energy-efficient designs, positively influence consumer attitudes toward both products and the producing organizations.

The findings align with studies by Munir & Moazzam (2023), Esfahani & Reynolds (2021), Albertsen et al. (2020), and Delorme et al. (2021), suggesting the following hypothesis:

Research Hypothesis 1: Product innovation has a direct positive influence on consumer attitudes.

Shanmugavel and Micheal (2022) examined the relationship between "product innovation" and "purchase intention" using an explanatory research design. Data were collected from 412 participants at the Auto Expo in India, with 402 valid responses. Most participants were male (73.13%) and urban residents (74.88%). A questionnaire was developed using a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree), and the data were analyzed using Structural Equation Modeling (SEM) via SPSS and AMOS software. The findings highlighted the pivotal role of product innovation as a significant variable influencing consumers' purchase intentions. This aligns with the study by Adnyani and Prianthara (2024), which explored the relationship between product innovation and purchase intention among 200 Indonesian Generation Z consumers (aged 15–29). Data were collected through online surveys and analyzed using Structural Equation Modeling (SEM) via SmartPLS software. Similarly, Jingda (2024) investigated the relationship between "product innovation" and "purchase intention," demonstrating that product innovation, such as modern designs and new features, directly and positively impacts purchase intention by enhancing consumer interest and prompting them to choose innovative products.

These findings are consistent with the literature by Li et al. (2021), Haudi et al. (2020), Zhang et al. (2020), Moslehpour et al. (2023), and Adnyani & Prianthara (2024), leading to the hypothesis:

Research Hypothesis 2: Product innovation has a direct positive influence on purchase intention.

Bala and Verma (2018) conducted a literature review on digital marketing, highlighting its increasing importance and popularity in an era where digital technology plays a pivotal role across all business sectors. Digital marketing strategies extend beyond website advertisements to include activities such as Search Engine Optimization (SEO), Search Engine Marketing (SEM), Content Marketing, Social Media Marketing, and Email Marketing.

Digital marketing is recognized as an effective and cost-efficient tool to help businesses reach their target audiences. The literature emphasizes the significance of social media growth, which allows businesses to build direct relationships with customers and foster brand loyalty. SEO techniques enable business websites to appear at the top of search results, attracting new customers. SEM facilitates precise targeting and measurable outcomes through search engine advertisements. Content marketing focuses on creating high-quality and relevant content to engage customers, with formats such as articles, videos, and infographics enhancing brand image and customer engagement. Social Media Marketing creates opportunities for interaction with customers and dissemination of product or service information, while paid advertisements on these platforms broaden audience reach and increase brand awareness.

Hien and Nhu (2022) investigated the relationship between digital marketing and consumer attitudes using quantitative research with an online questionnaire. Their study sampled 210 decision-makers in B2B businesses in Vietnam's machinery industry, primarily senior executives such as managers (29.5%) and business owners (42.9%). Data collection spanned the last four months of 2021 and was analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The findings highlighted that consumer attitudes toward digital marketing strategies play a crucial role in mediating the relationship between product innovation and purchase intention.

Similarly, Dastane (2020) explored the relationship between digital marketing and purchase intention. The study used questionnaires distributed to 202 online shoppers in Malaysia's Klang Valley, employing snowball sampling. Data analysis through Structural Equation Modeling (SEM) revealed that digital marketing has a significant and positive impact on purchase intention.

Research Hypothesis 3 Digital marketing has a direct positive influence on consumer attitudes.

Research Hypothesis 4 Digital marketing has a direct positive influence on consumers' purchase intentions.

Perceived quality has gained significant attention in various contexts, including tourism, services, and marketing. Chen, Huang, and Hou (2020) describe perceived quality as the process through which consumers evaluate the value of goods and services by comparing their expectations with actual experiences. This concept has positive effects on consumer behavior, particularly regarding purchase intention, satisfaction, and brand loyalty. Additionally, perceived quality is associated with perceived authenticity, a crucial factor in contexts like cultural tourism and dining experiences. Consumers who perceive a product or service as high-quality are more likely to return and recommend it to others (Chen et al., 2020).

Perceived quality also plays a critical role in analyzing the impact of product and service quality on customer satisfaction and loyalty. It is defined by consumers' evaluations of a product's external features and internal attributes. Sambo, Sunday, Mary, and John (2022) emphasize that product quality is a key determinant of customer satisfaction, which directly influences brand loyalty. Furthermore, perceived quality strongly affects customers' decisions by evaluating whether the product or service meets expectations. Improving product quality can significantly increase satisfaction and repeat purchase intention, especially when the product aligns with or exceeds expectations. This satisfaction fosters loyalty and positive relationships with the brand, leading to recommendations to others (Sambo et al., 2022).

Song et al. (2020) explored the relationship between perceived quality and consumer attitudes through a study conducted with South Korean consumers experienced in using specific products. The findings confirmed that perceived quality, in dimensions such as tangibility, reliability, empathy, and assurance, directly impacts consumer attitudes toward brands. Strategies focused on enhancing these quality dimensions and building advanced brand knowledge can bolster consumer confidence and foster long-term positive attitudes. These findings align with studies by Sun & Kim (2020), Ligery & Bangsawan (2021), Moon & Armstrong (2020), and Apriyani & Tjajahningsih (2024). ohari & Keni (2022) examined the relationship between perceived quality and consumers' purchase intentions using quantitative research methods. Their findings, consistent with those of Summerlin et al. (2024), Riva et al. (2022), Zhao

et al. (2022), and Koh et al. (2022), demonstrate that perceived quality positively influences purchase intentions.

Research Hypothesis 5 Perceived quality has a direct positive influence on consumer attitudes.

Research Hypothesis 6 Perceived quality has a direct positive influence on consumers' purchase intentions.

To ensure the structural equation model (SEM) achieves comprehensive connectivity, the researcher reviewed the literature and identified a direct relationship between consumer attitudes and purchase intentions (Li et al., 2021; Moslehpour et al., 2023; Kamalanon et al., 2022; Esfahani & Reynolds, 2021; Sahoo et al., 2022). Thus, the final hypothesis is proposed as follows:

Research Hypothesis 7 Consumer attitudes have a direct positive influence on purchase intentions.

Based on the aforementioned hypotheses, the researcher developed a conceptual framework for the study, as illustrated in Figure 1.

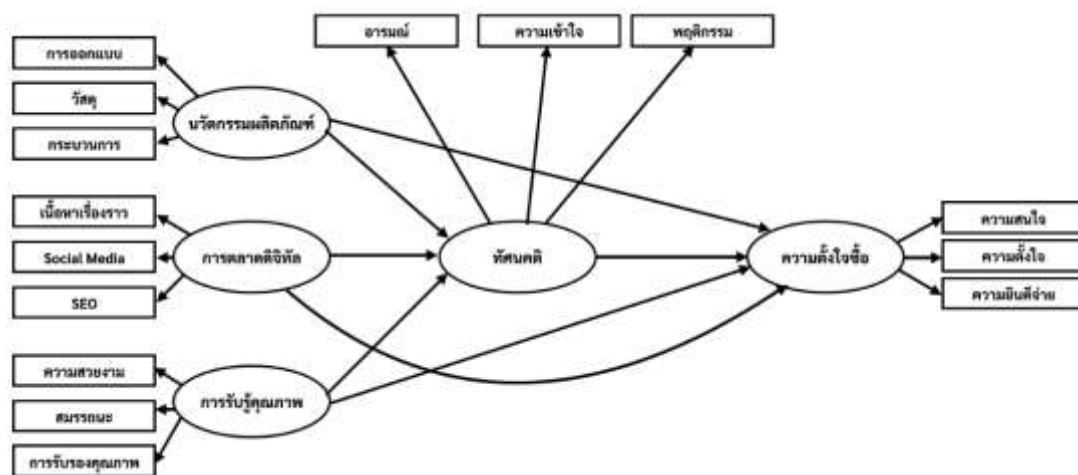


Figure 1 Conceptual Framework of Antecedents Influencing Consumers' Purchase Intentions for Garbage Bag Packaging Products in Bangkok and Surrounding Areas

CONCLUSION AND DISCUSSION

Based on the literature review, the researcher was able to summarize the relationships regarding product innovation, digital marketing, perceived quality, and attitudes, which may influence purchase intentions for garbage bag packaging products. These relationships require hypothesis testing. Given the causal nature of these relationships, structural equation modeling (SEM) is recommended as a statistical method for hypothesis testing and examining the model structure to ensure it can be effectively applied in real-world contexts.

From the conceptual framework, the following research hypotheses are formulated for further testing:

1. **Hypothesis 1:** Product innovation has a direct positive influence on consumer attitudes.
2. **Hypothesis 2:** Product innovation has a direct positive influence on purchase intentions.
3. **Hypothesis 3:** Digital marketing has a direct positive influence on consumer attitudes.
4. **Hypothesis 4:** Digital marketing has a direct positive influence on consumers' purchase intentions.
5. **Hypothesis 5:** Perceived quality has a direct positive influence on consumer attitudes.
6. **Hypothesis 6:** Perceived quality has a direct positive influence on consumers' purchase intentions.
7. **Hypothesis 7:** Consumer attitudes have a direct positive influence on consumers' purchase intentions.

These hypotheses, derived from the conceptual framework, can guide the development of data collection tools and enable the examination of relationship patterns. The SEM approach ensures alignment with empirical data and allows for predictive influence analysis, supporting policy recommendations and macro-level and business-level strategic formulation.

REFERENCE

- Barbale, A. (2021). Challenges and solutions in waste management: A global perspective. *Waste Management Journal*, 42(6), 1120-1130.
- Bala, M., & Verma, D. (2018). A critical review of digital marketing and its impact on consumer behavior. *International Journal of Advanced Research*, 6(3), 35-45.
- Bursan, M. G., & Ionita, E. (2020). Green products and consumer behavior: A review. *Journal of Cleaner Production*, 25(3), 233-248.
- Chen, D. M. C., Bodirsky, B. L., Krueger, T., Mishra, A., & Popp, A. (2020). The world's growing municipal solid waste: Trends and impacts. *Environmental Research Letters*, 15(7), 074021.
- Chuah, S. H., Elangkovar, N., & Ng, Y. L. (2020). Consumers' preferences for sustainable products. *Sustainable Development*, 28(5), 125-140.
- Das, S. (2021). *Search engine optimization and marketing: A recipe for success in digital marketing*. Chapman and Hall/CRC.
- Debrah, J. K., Vidal, D., & Dinis, M. A. (2021). Raising awareness on plastic waste management in cities: A critical review. *Sustainability*, 13(10), 5648.
- Edelman, D. (2022). Urban waste management challenges in rapidly developing cities. *Journal of Urban Studies*, 48(5), 1025-1040.
- Kuang, X., & Lin, H. (2021). Economic growth and its impact on municipal waste generation. *Environmental Economics*, 14(3), 45-60.
- Kotler, P., & Keller, K. L. (2014). *Marketing Management* (14th ed.). Pearson Education.

- Khan, M. S., Saengon, P., Alganad, A. M. N., Chongcharoen, D., & Farrukh, M. (2020). Consumer green behaviour: An approach towards environmental sustainability. *Sustainable Development*, 28(5), 1168-1180.
- Lovelock, C., & Wirtz, J. (2016). *Services Marketing: People, Technology, Strategy* (8th ed.). Pearson Education.
- Megdadi, M., Alsaqer, S. M., & Hazaimah, T. (2023). Strategies for digital marketing in emerging markets. *Journal of Marketing Research*, 67(1), 121-139.
- Nyathi, G., & Togo, G. (2020). Environmental pollution from plastic bag waste. *International Journal of Environmental Pollution*, 15(3), 455-470.
- Porter, M. E. (1998). *Competitive Advantage: Creating and Sustaining Superior Performance*. Free Press.
- Quesenberry, K. A. (2020). *Social media strategy: Marketing, advertising, and public relations in the consumer revolution*. Rowman & Littlefield.
- Ratasuk, A. (2021). Innovations in waste management and sustainable production. *Journal of Environmental Studies*, 19(3), 89-102.
- Sambo, J. S., Sunday, E., Mary, O. O., & John, E. (2022). Perceived quality and its impact on customer satisfaction and brand loyalty. *Marketing Science Journal*, 45(2), 77-95.
- Sohag, K., & Podder, R. (2020). Municipal waste management: Urban challenges and economic impacts. *Global Waste Studies*, 34(1), 1-15.
- Vrontis, D., Makrides, A., Christofi, M., & Thrassou, A. (2021). Social media influencer marketing: A systematic review, integrative framework and future research agenda. *International Journal of Consumer Studies*, 45(4), 617-644.
- Wang, M., Li, Y., Li, J., & Wang, Z. (2021). Green process innovation, green product innovation and its economic performance improvement paths: A survey and structural model. *Journal of Environmental Management*, 297, 113282.
- Waworuntu, E. C., Mandagi, D. W., & Pangemanan, A. S. (2022). 'I See It, I Want It, I Buy It': The Role of Social Media Marketing in Shaping Brand Image and Gen Z's Intention to Purchase Local Product. *Society*, 10(2), 351-369.
- Zhang, L., Liu, G., Li, S., Yang, L., & Chen, S. (2022). Model framework to quantify the effectiveness of garbage classification in reducing dioxin emissions. *Science of the Total Environment*, 814, 151941.