

CHAPTER II

LITERATURE REVIEW

2.1 The Theoretical Background of the Study

2.1.1 Product Design

The cosmetics industry considers product design to be more than just the appearance of the packaging. It encompasses the entire customer experience, from the texture of the product to its effectiveness and ease of use (Hashmi et al., 2021a). Products must have functional, aesthetic, and even symbolic features when designed.

In this increasingly crowded market, well-designed products can provide a satisfying experience, increase customer satisfaction, and differentiate a brand from its competitors. According to (Stanujkic et al., 2015) Product design is the process of creating and developing products that consider aspects of aesthetics, ergonomics, and user experience in addition to meeting functional needs. The goal is to attract consumers attention and increase their satisfaction with the product.

2.1.2 Self- Determination Theory and Need Satisfaction

Self-Determination Theory (SDT), introduced by Edward L. Deci and Richard M. Ryan (2025) is a macro theory that focuses on human motivation. It was developed from extensive research on intrinsic and extrinsic motivation, and has been applied in many fields, such as organizational management, education, and health. SDT argues that motivation comes in different types, and each type has a different impact on a person's behavior and well-being.

The feeling of being able and effective in achieving goals is called competence. For example, features that enable users to feel successful and mastery of a task, such as appropriate challenges or immediate feedback, can increase users' feelings of competence.

Studies show that considering competence in product design can increase customer engagement (Hashmi et al., 2021b). Autonomy means feeling in control of your choices. Products that offer choice, personalization, and flexibility in use can meet this need. A study of self-service technology in Indonesia found that autonomy and ability increased users' willingness to use the technology (Widyarini, 2021a) . The need to feel accepted and connected

to others is demonstrated by relationships. Products that enable social interaction or community building can fulfill this need. For example, adding community or social media features to a product can improve customer relationships. Studies show that fulfilling the need for connectedness in product design can make customers more interested in the product. (Widyarini, 2021b).

2.1.3 The Relationship between Self-Determined Need Satisfaction and Customer

Engagement

According to self-theoretical, when basic psychological needs such as connectedness, autonomy, and competence are met, customer engagement can increase. A study conducted by Japutra et al.(2024) indicates that meeting the need for relevance and skill significantly increases customer involvement in all aspects of mobile business. This suggests that not only external elements, such as quality of goods or prices, are important, but also how the customer's experience feels fed and involved. Entanglement that comes from intrinsic motivation is usually more emotional and lasts longer.

Brand experience that can meet the psychological needs of customers increases emotional attachment, loyalty, and community participation (H. Li & Zhao, 2019). According to the Giang et al (2024a) giving customers the ability to meet autonomy, skill, and connection can increase involvement through trust on platforms and service innovation. Therefore, customer involvement is not merely the result of a marketing approach; It's a psychological process that comes from meeting basic human needs. The SDT approach gives you a solid basis for understanding customer involvement thoroughly.

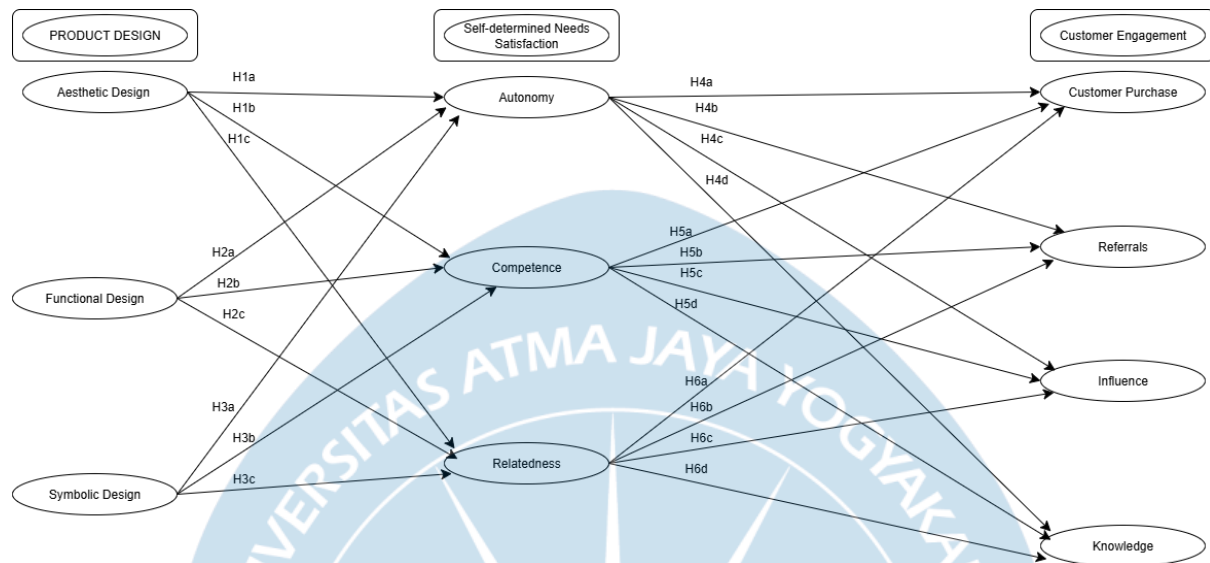
2.2 The Previous Research of the Study

Table 2. 1 Previous Study

No	Researcher and Research Title	Research Variables	Research Method	Research Findings
1	(Hashmi et al., 2021a). Bridging The Gap Between Product Design And Customer Engagement : Role Of Self-Determined Needs Satisfaction.	Product design Aesthetic design Functional design Symbolic design Self-determined satisfaction (autonomy, competence,relatedness) Customer engagement (customer purchase, referrals, influence,knowledge) Promotion and prevention focus	This study uses a quantitative method by collecting data from 500 electronic product customers in Xi'an, China. This study uses three methods to collect data. First, the mall intercept approach, where researchers intercept customers in shopping malls, second, an email survey, which involves sending questionnaires via email, and finally a WeChat survey, which collects responses through the WeChat platform. After the data was collected, the Structural Equation Modeling (SEM) analysis method was used to analyze the relationship between product design, self-determined need satisfaction, and customer engagement.	The results of the study indicate that product design that includes functional, aesthetic, and symbolic elements has a positive relationship with the satisfaction of self-determined needs, namely autonomy, relatedness, and competence. In addition, the satisfaction of self-determined needs increases customer engagement.
2	(2019 16th International Conference on Service Systems and Service Management (ICSSSM), 2019) The effect of	Brand Name Product Quality Product Design Promotion Brand Loyalty Repurchase Intention	This study uses a quantitative research method, by distributing questionnaires to obtain data from respondents and questionnaires are distributed online. The proposed hypothesis is tested through a structural formula model (SEM). Furthermore, to assess the validity and reliability of the study, reliability	This study shows that although product quality and brand name have a significant influence on brand loyalty and repurchase intention, product design is still a problem for some people. This finding also supports the relationship between product design and brand loyalty and repurchase intention. Product design is very important

No	Researcher and Research Title	Research Variables	Research Method	Research Findings
	Korean beauty product characteristic on brand loyalty and customer repurchase intention in Indonesia		analysis/Cronbach's alpha, exploratory and confirmatory factor analysis (EFA and CFA), and descriptive statistics were carried out.	because many customers think that product design must have aesthetic value.
3	(Gilal et al., 2018) Integrating self-determined needs into the relationship among product design, willingness-to-pay a premium, and word-of-mouth: a cross-cultural gender-specific study	Aesthetic design Functional design Symbolic design Gender male vs female Self determination needs Self determination needs Willingness-to-pay premium Negative word of mouth	This research uses a quantitative methode, and the data were collected through a questionnaire covering aspects of product design such as aesthetics, functionality, and symbolism; customer satisfaction and frustration with self-determined needs; willingness to pay a premium; and negative reviews. Exploratory Factor Analysis (EFA) was used to determine the factor structure of the measured variables for statistical analysis. Structural Equation Modeling (SEM) was used to evaluate the hypotheses and relationships between variables.	This study shows that frustration with self-determination needs has the greatest negative impact on society. Frustration with self-determination needs has the greatest positive impact on WTP premium and the greatest negative impact on revenge WOM for Pakistanis. For Chinese participants, frustration with self-determination needs has the greatest positive impact on WTP premium and the greatest negative impact on revenge WOM for both Pakistani and Chinese participants. In addition, cross-cultural findings on gender indicate that Pakistani men value aesthetic design more than women, while Chinese women value aesthetic design more than men. These results provide marketers with important insights into how to create products that meet customers' psychological needs.

2.3 The Research Model



Picture 2. 1 Research Framework

Source : Adapted from Hashmi et al., (2021a)

2.4 The Hypothesis of the Study

2.4.1 Aesthetic Design Towards Self-Determined Needs Satisfaction

One of the important components in product design is aesthetic design, which reflects elements of visual beauty such as shape, colour, texture, and overall design harmony (Liu et al., 2017) . As explained in the Self-Determination Theory (SDT), design aesthetics aims to attract customers' attention and provide a pleasant sensory experience so that it can fulfil basic psychological needs such as the need for autonomy, competence, and social connectedness.

In terms of fulfilling self-determined needs, aesthetic design plays a role in supporting autonomy by giving consumers the freedom to express themselves through choosing products that suit their visual tastes and personal identities (Hashmi et al., 2021a). In addition, attractive designs can also increase a sense of competence by creating pride in products that are considered beautiful and of high quality (Shi et al., 2021). In addition, through attractive and aesthetic designs, consumers can feel a stronger social connection, because the products they choose function as symbolic communication tools in social interactions (Gilal et al., 2018b).

A study by Aldughmi (2017) showed that aesthetic design helps meet the needs of autonomy and social connectedness. This is because beautiful design encourages customers to participate more actively in their social environment. In addition, Bunker (2024) was found that attractive design can increase users' self-efficacy and emotional satisfaction, which is in line with the need for SDT competence. Therefore, the possibility of meeting self-determined consumer needs increases with a better design level.

H1a: Customers' evaluation of aesthetic design satisfies customers' need for autonomy

H1b: Customers' evaluation of aesthetic design satisfies customers' need for competence

H1c: Customers' evaluation of aesthetic design satisfies customers' need for relatedness

2.4.2 Functional Design Towards Self-Determined Needs Satisfaction

One of the important elements in product design is functional design, which focuses on usability, ease of operation, reliability, and functional performance that can meet the basic needs of users. According to Self-Determination Theory (SDT), functional design is very important to meet customers' autonomy and competence needs. When a product is designed functionally, users feel able to control how to use it (autonomy) and easily achieve the expected usage goals. Functional design increases the fulfillment of autonomy and competence needs, increasing customer engagement (Hashmi et al., 2021a).

Functional design plays an important role in fostering customers' intrinsic motivation through fulfilling psychological needs, which increases emotional attachment or brand attachment (Gilal et al., 2020). the functional design of a product affects the willingness to pay a premium; satisfaction of autonomy and competence needs is an important mediating factor that strengthens the relationship (Gilal et al., 2018c). Meanwhile, Oppl and Sary (2022) found that functional design allows users to feel more empowered and in control of their data privacy in the context of cyber-physical technology. This directly satisfies the autonomy and capability needs emphasized in SDT.

According to research conducted by Chang (2016) in the field of physical education, functional instructional design that provides freedom and ease of understanding helps customers fulfill their autonomy and capability needs. This also applies to functional product designs in the market. Overall, this empirical evidence suggests that functional design not only

has practical benefits for users, but also helps fulfill basic psychological needs that drive self-motivation. This has an impact on positive consumer behaviors such as engagement, loyalty, and curiosity to pay.

H2a: Customers' evaluation of functional design satisfies customers' need for autonomy

H2b: Customers' evaluation of functional design satisfies customers' need for competence

H2c: Customers' evaluation of functional design satisfies customers' need for relatedness

2.4.3 Symbolic Design Towards Self-Determined Needs Satisfaction.

Symbolic designs that allow customers to express a particular identity, personal style, or life values can satisfy the need for independence because customers feel free to choose options that reflect themselves (Huiwen Sun & Albert Young Choi, 2024). On the other hand, symbolic designs that reflect quality, exclusivity, or innovation can also increase perceptions of competence because customers feel confident that they have the ability to choose the product.

In addition, symbolic designs can make customers feel connected to the product because they feel part of a certain social group that uses or identifies with it. These social groups can include vegan cosmetics enthusiasts or members of the beauty community (Hashmi et al., 2021a). Symbolic designs indirectly encourage stronger self-determined motivation in consumers when they satisfy these three needs. Ultimately, this will increase bonding, loyalty, and reluctance to pay a premium (Gilal et al., 2018d). Therefore, it can be concluded that through personal meaning, social identity, and self-value representation, the symbolic design of cosmetic products contributes significantly to self-determined customer satisfaction.

H3a: Customers' evaluation of symbolic product design satisfies customers' need for autonomy

H3b: Customers' evaluation of symbolic product design satisfies customers' need for competence

H3c: Customers' evaluation of symbolic product design satisfies customers' need for relatedness

2.4.4 Influence of Self-Determined Needs Satisfaction Autonomy Aspect on Customer Engagement.

In Self-Determination Theory (SDT), one of the three basic psychological needs is autonomy. Autonomy refers to the extent to which a person feels they have freedom, control, and choice to act in ways that align with their values and interests. According to Koole et al., (2019), fulfilling the need for autonomy increases intrinsic motivation, a sense of engagement, and active participation in various contexts. This includes consumer behavior. Previous research has shown that supporting autonomy makes customers more engaged because they believe that their own desires, not external coercion, drive their decisions (Slomp et al., 2021).

In the context of consumer engagement, autonomy makes consumers more likely to make a purchase or purchase because they feel confident and comfortable with their choice. Furthermore, because customers feel ownership over their experiences, autonomy encourages them to recommend or refer products to others, as these recommendations are perceived as an expression of their self-worth and personal beliefs about the product (Y. Li et al., 2022a). Furthermore, autonomy increases customers' tendency to influence others through opinions or content (Giang et al., 2024a). Finally, consumers who feel empowered are more motivated to share knowledge, namely by providing reviews, suggestions, or feedback to companies. This is due to the fact that they feel valued and contribute to building their brand (Merdiaty & Aldrin, 2022) .

Empirical evidence supports the notion that customer empowerment related to autonomy such as freedom of choice, product personalization, and information transparency positively influences all aspects of customer engagement, both transactional (purchases) and non-transactional (referrals, influence, knowledge). Therefore, the following hypotheses are formulated in this study:

H4a: Autonomy is positively linked with customer engagement in terms of customer purchase

H4b: Autonomy is positively linked with customer engagement in terms of referrals

H4c: Autonomy is positively linked with customer engagement in terms of influence

H4d: Autonomy is positively linked with customer engagement in terms of knowledge.

2.4.5 Influence of Self-Determined Needs Satisfaction Competence Aspect on Customer Engagement.

Competence, in Self-Determination Theory (SDT), is the psychological need to feel capable, effective, and in control of one's work or activities. This need is not only crucial for fulfilling educational and career goals, but also crucial for consumer behavior. Consumers who feel capable of using a product or service are more confident, intrinsically motivated, and more likely to actively engage with the brand (Bitrián et al., 2021).

A sense of competence impacts various aspects of customer interactions by increasing cognitive and emotional engagement with the brand. First, consumers may be motivated to make repeat purchases or purchase intentions (customer purchase) because they are confident in their ability to optimally utilize the product (Wu et al., 2024). Second, as a result of sharing their positive experiences and expertise, customers may make recommendations to others, either through word of mouth or digital media (Li et al., 2024).

The positive relationship between competency fulfillment and dimensions of customer engagement is supported by empirical evidence. According to research conducted in the tourism sector, satisfying psychological needs, including competence, increases user engagement and prosocial behavior toward a brand. Satisfaction of psychological needs, including competence, also predicts behavioral intentions such as repeat purchases and positive feedback (Li et al., 2024).

H5a: Competence is positively linked with customer engagement in terms of customer purchase

H5b: Competence is positively linked with customer engagement in terms of referrals

H5c: Competence is positively linked with customer engagement in terms of influence

H5d: competence is positively linked with customer engagement in terms of knowledge.

2.4.6 Influence of Self-Determined Needs Satisfaction Relatedness Aspect on Customer Engagement.

Customers who have an emotional connection with a brand are more likely to make repeat purchases and become more loyal. Emotional connections that increase trust in a brand impact purchasing behavior, according to Gilal et al. (2018). Feelings of connection within the

referral dimension encourage consumers to recommend products to others, which helps maintain social relationships and benefits their network (Giang et al., 2024b).

Within the influence dimension, emotional attachment to a brand encourages customers to participate in advocacy and influence the opinions of others through reviews, content, and discussions on social media (Giang et al., 2024b). In the knowledge dimension, emotional attachment to a brand increases customers' willingness to share experiences, input, and ideas that benefit the community and the company (Y. Li et al., 2022b). These findings suggest that this correlation influences purchasing behavior as well as other voluntary engagement behaviors.

Therefore, the hypothesis proposed based on the theoretical foundation and empirical evidence is:

H6a: Relatedness is positively linked with customer engagement in terms of customer purchase

H6b: Relatedness is positively linked with customer engagement in terms of referrals

H6c: Relatedness is positively linked with customer engagement in terms of influence

H6d: Relatedness is positively linked with customer engagement in terms of knowledge.