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**THE INFLUENCE OF PRODUCT DESIGN ON CONSUMER JUDGEMENT
IN GEN-Z AND MILLENNIAL GENERATION: PREFERENCES AS
MODERATION**

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Abstract. *The objective of this study is to investigate how product design impacts consumer judgment within both the Generation Z and Millennial demographics. Additionally, the research assesses the moderating influence of preferences on the connection between product design and consumer judgment. Furthermore, this study incorporates gender as a control variable. The study's target population comprises individuals from Generation Z and the Millennial generation who possess knowledge about written batik products manufactured by UMKM Batik Banyuripan in Klaten, Central Java. A total of 220 respondents participated in this research, selected through purposive sampling, a technique used to select samples based on specific criteria and considerations.*

The collected data was processed using SEM-PLS. The research results show that product design has a significant effect on consumer judgment. These results also find that preferences have an insignificant influence in strengthening the influence of product design on consumer judgment. This research also finds that gender does not have a different effect on the influence of product design on consumer judgment.

Keywords: *Consumer Sentiment, Taste, Wants, Preference, Individual.*

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Introduction

MSMEs that develop new products (innovations) for new markets need to involve Incorporating customers into the process of new product development (NPD) has a favorable

influence on the success of newly introduced products. (Gruner and Homburg, 2000). Understanding how consumers operate makes it easier for MSMEs to predict which products will sell more, thereby making it easier to produce how much. During the initial phases of new product development (NPD), when the product itself is not yet accessible, and customers cannot take practical actions, it is possible to assess the concept model by conducting a Concept Test with a representative sample of the intended target customers (Ulrich and Eppinger, 2004). Therefore, MSMEs evaluate new products by knowing consumer responses to the products offered.

Consumers frequently rely on their emotional reactions to a stimulus as a source of information to gauge their level of liking or preference for it (Schwarz and Clore 1996; Wyer, Clore, and Isbell 1999). Consumer assessments are simply a series of inputs to the selection process (Johnson and Puto 1987). The significance of product design is on the rise and has become increasingly crucial for a company's overall success (Uwera, 2022). Product design holds significance in research because the shape of a product generates an initial impression and leads to conclusions about other attributes of the product (Uwera, 2022).

In today's business landscape, companies must not only focus on the functional quality of their products but also on designs that evoke emotions in their customers. It's important to note that different consumers may respond differently to specific product designs, as individual preferences and perceptions can vary widely (MacDonald, Gonzalez, and Papalambros, 2009). Therefore, creating appropriate product designs that can trigger emotions Striving to attain design objectives can be a formidable challenge (Ishihara, Nagamachi, Schutte and Eklund, 2008; Kobayashi, Kinumura, and Higashi, 2016); Zhou, Ji, and Jiao, 2020; Chen, 2019). This challenge arises because it necessitates a profound comprehension of the target customer and the potential for a range of diverse emotions to come into play (Homburg, Schwemmler and Kuehnl, 2015).

One of the challenges in studying customer judgments is that people cannot explain exactly why or how they make decisions (Bloch, 1995). Therefore, this research seeks further information that influences customer assessment, namely product design. The research that will be carried out has similarities to research conducted by Horvath (2001), namely examining the influence of product design on consumer judgment. The difference is the moderating variables, namely consumer preferences and age. The use of consumer preference moderating variables, adopting Bloch's (1995) model. Consumer judgment of product design (shape) is controlled by consumer differences such as gender. Research on customer judgment is important because Research in judgment and decision making (JDM) holds significant potential to shape both marketing theory and practice. Moreover, the mutual relationship between these two domains is garnering increased attention and interest (Bown, 2007).

Research on product design and consumer judgment was carried out by Bloch (1995), which produced a model of consumer responses to product form. Research findings indicate that design serves a dual purpose, not only facilitating functionality but also establishing it in a distinctive manner. Consequently, design exerts an influence on choices, communication, and positioning, enabling the attraction of consumers and effective communication with them (Bloch, 1995). The research carried out adopted the Bloch (1995) model by adding the age variable as a control variable and this is novel in this research.

Apart from that, based on the analysis of empirical studies, research that raised product design variables with consumer judgment was only carried out by Horvath (2001). Additionally, research in this area is still incomplete. Indeed, there isn't a universally agreed-upon definition of the term 'product design' It can be a subjective and multifaceted concept that varies depending on context, industry, and perspective (Homburg et al., 2015; Luchs and Swan, 2011). Therefore, the researcher took the topic of product design and consumer judgment with a mediator variable (product design) and a control variable (gender). Recognizing these opportunities requires consumer researchers to develop and use new methodologies to study aspects of judgment and choice that are a unique part of consumer behavior. The difference with previous research is that this research uses decision making theory and examines consumer attitudes towards the products offered so it uses a Likert scale.

Specifically, the problem formulation and aim of this research is to analyze and prove: (1) the significant influence of product design on consumer judgment. (2) Preference moderates the influence of Product Design on consumer judgment, (3) gender controls the influence of Product Design on consumer judgment. This study contributes to the consumer behavior literature, especially the development of decision making theory so that a better understanding of the consumer assessment process and product design variables become more recognized in the marketing literature as forming consumer behavior, namely the part that is considered in consumer assessment. The study of consumer appraisals will significantly increase knowledge about the appraisal process. The focus of our research is on the consumer side, not on the designer/company side and studying product design from the perspective of consumer choice, consumer decision making.

Literature Review

Design product

The definition of product design emphasizes the role of a product's shape in conveying a specific sensory impact Bloch (1995). According to this perspective, product design involves the careful selection and integration of various elements by a design team to create a unified whole that elicits particular sensory responses. In essence, product design is a fusion of attributes that shape a product, encompassing its visual and tactile characteristics as well as the features that govern its functional capabilities. Additionally, product design encompasses a collection of fundamental elements within a product that consumers perceive and mentally organize. These elements collectively form a multidimensional construct consisting of aesthetics, function, and symbolism, reflecting the intricate nature of how consumers perceive and interact with products (Homburg, Schwemmler and Kuehnl, 2013). Design indeed forms the core of innovation. Product design goes beyond merely enhancing aesthetics or creating software; it encompasses all design-related processes throughout physical production. A product can be deemed well designed only when it aligns with the needs and preferences of its target market, effectively fulfilling its intended purpose (Patil, Sirsikar and Gholap, 2017). Contemporary product design is a deliberate, systematic, and purpose-driven creative process that unfolds in a structured manner (Cheng, 2018).

The product design and development process represents a continuous improvement cycle that evolves over time, characterized by iterative feedback and contributions from various stakeholders such as development team members, executives, sales and marketing departments, and production teams. Contemporary trends in product design and development include shorter innovation timelines, greater integration of customer input into the development process, and a growing emphasis on multidisciplinary collaboration in the creation of new products. Nonetheless, it's worth noting that different companies may employ distinct strategies to translate market demands into marketable products (Patil et al, 2017). In broad terms, product design typically encompasses four phases, which are the research phase, analysis and positioning phase, conceptual design phase, detailed design phase, and output design phase. However, the details of each stage can vary and become more complex depending on the specific design objectives and the nature of the project at hand (Cheng, 2018).

Product design involves the adoption of completely new products or may require refining or improving existing designs, to increase functionality, performance or appeal. However, product design does not always tend to adopt the use of new technology to create new products. Design is primarily concerned with introducing changes in function and concept. (Patil et al., 2017).

Customer Judgement

To make a judgment means to form an opinion or estimate. Judgments can be general such as estimating the overall similarity between objects or specific such as expressing a rank order preference, but this is not optional. Consumer assessments are simply a series of inputs to the selection process (Johson and Puto, 1987). According to Einhorn and Hogarth's (1985) model, people base their judgments on some initial judgments of probability and adjust these estimates by taking into account the likely distribution of these values, or the uncertainty associated with those

values. Personal experiences, or experiences passed on by word of mouth from friends or relatives, disproportionately influence consumers' assessments of product or service performance (Hoch, 1984 and Alba and Marmorstein, 1986).

Design Product and Consumer Judgement

Preference theory, rooted in psychology, has demonstrated that the context surrounding a decision significantly impacts the decision's outcome. This is because preferences and judgments are not pre-existing in the brain but are formed in response to the stimuli presented during the decision-making process. Functional and hedonic evaluations play a crucial role in shaping the overall assessment of a product, both through direct and indirect evaluations (Kempfand Smith, 1998). In a direct manner, the overall evaluation of a product stems from the assessment of two distinct types of benefits. The functional aspect pertains to the utilitarian and practical attributes of the product, while the hedonic aspect pertains to the aesthetic, sensory, and symbolic characteristics (Mahlke and Thüring, 2007).

Consumers tend to prioritize the functional benefits of a product over its hedonic benefits until their basic expectations for meeting utilitarian needs are satisfied (Chitturiet al., 2007). In addition to their direct impact, functional and hedonic evaluations also exert influence on the overall product assessment through indirect pathways, involving emotions (Mahlke and Thüring, 2007). The physical appearance of the product will likely stimulate them to evaluate the product and, as a result, form an initial impression of the product. Then they may use this impression as a basis (Yeung and Wyer, 2004). The design process is oriented towards eliciting emotional responses (Kreutzbauer and Malter, 2005). Product designs tend to evoke positive emotional reactions when they surpass expectations in delivering relevant benefits. The shape of the product influences the customer's assessment of purchasing and using the product (Reid, MacDonald and Du, 2014). The research results of Red et al., (2013) show that people are inconsistent in assessing the preferences and style of coffee pots displayed in realistic shapes and cars displayed in FSV silhouettes.

Based on the description above, the hypotheses that can be prepared are:

H1= Product Design has a significant effect on consumer judgment.

The previous process, consumers responded to the products offered, such as product design. Responses to product design are not solely a reflection of the product's inherent qualities; they are also influenced by the characteristics of the evaluators and their unique experiences (Kumar M, and Noble CH, 2016; Kang and Park, 2016). In this research, consumer preferences are included as a moderating variable. Using consumer preferences as moderating, adopting the Bloch (1995) model, namely the model of consumer responses to product form. Based on the description above, the hypotheses that can be prepared are:

H2: Consumer preferences moderate the influence of Product Design on consumer judgment.

Social role theory proposes that disparities in social behavior between genders arise from commonly held expectations regarding what behaviors are deemed suitable for men and women (Karakowsky & Elangovan, 2001). The results of research conducted by Abubakar et.al (2017) show that men trust more than women; The results show significant differences between men and women. If based on segmentation and targeting, one of the components is grouping based on gender (Kotler and Keller, 2016). Consumer behavior is determined by consumer characteristics, namely demographic, psychological and social characteristics (Kotler, 2016). Demographic characteristics include age, education, gender, employment income. Research findings indicate that gender has an impact on respondents' preferences for information processing (Hovard, 2001). Gender differences exist in how respondents prefer to process information. Female respondents tend to place importance on processing both visual and verbal information, displaying a higher level of sensitivity in information processing.

Companies when making product designs must know the detailed needs and desires of female and male consumers. This is done so that the product design is right on target. After product

design and before the product is mass produced, one stage needs to be carried out, namely market testing. Companies must ensure consumer response (judgment) regarding the design of the products offered. To be more precise, it is necessary to know the judgment of male and female consumers so that we can be more certain about the product that will be produced. Based on the description above, the hypothesis that can be prepared is

H3: gender controls the influence of Product Design on consumer judgment.

Methods

The type of research is explanatory research, the relationship between variables and the object studied is more of a cause and effect nature, from these variables we then look for how much influence the independent variable has on the dependent variable (Sugiyono, 2019). This type of research is used because the researcher wants to explain the relationship between variables, namely product design as an independent variable which influences consumer judgment, namely the dependent variable. The research was conducted to respond to written batik products produced by UMKM Batik Banyuripan, Klaten, Central Java.

The research population is generation Z and the millennial generation who have knowledge of written batik products produced by UMKM Batik Banyuripan, Klaten, Central Java. Determining the sample size using the Matchin, Campbell, Tan, and Tan (2009) formula. The results of calculating the number of samples obtained a sample size of 220 respondents. The choice of purposive sampling as the sampling technique in this research is well-suited. Purposive sampling involves selecting specific samples based on predefined criteria or considerations, aligning with the research objectives and requirements. This approach allows for a targeted and deliberate selection of participants that meet the specific criteria relevant to the study (Sugiyono, 2019).

Researchers distributed questionnaires in the form of a Google form to generation Z and millennial generations who had knowledge of written products produced by UMKM Batik Banyuripan, Klaten, Central Java. The distribution of questionnaires via Google Form is carried out by sharing the Google Form questionnaire link on social media such as WhatsApp stories, Instagram stories and Instagram bios with notes from generation Z and the millennial generation who have knowledge of written products produced by UMKM Batik Banyuripan, Klaten, Java Middle.

The use of a Likert scale in this research is appropriate because it is a commonly employed tool to gauge the attitudes, opinions, and perceptions of individuals or groups regarding various social phenomena. It provides a structured method for collecting and quantifying responses on a range of issues or topics (Sugiyono, 2019).

This research uses inferential statistical analysis. Inferential statistical analysis using SEM PLS. The significance level used is 5%.

Results

Table 1
Factor Loading

Variable	Indicator	Consumer Judgement	Preferences	Product Design	Moderating effect	Factor Loading	
Product Design	PD1	.501	.384	.728	-.094	.766	
	PD2	.513	.382	.766	-.100		
	PD5	.512	.289	.742	.011		.742
	PD6	.527	.253	.772	.078		.772
	PD7	.526	.293	.746	-.115		.746
	PD8	.457	.365	.717	-.143		.717
	PD10	.578	.310	.810	.102		.810
Preferences	P6	.388	.748	.341	-.177	.748	
	P7	.454	.827	.356	-.299	.827	
	P8	.394	.801	.325	-.265	.801	
	P9	.366	.720	.254	-.112	.720	
	P10	.519	.840	.321	-.228	.840	
	P11	.488	.753	.393	-.156	.753	

Consumer Judgement	CJ2	.799	.441	.522	-.096	.799
	CJ3	.866	.557	.555	-.213	.866
	CJ4	.819	.394	.633	-.031	.819
	CJ6	.735	.419	.493	-.109	.735
Moderating Effect		-.140	-.266	-.043	1.000	1.151

Each indicator of the Product Design, Preferences, and Consumer Judgment variables has an outer loading value of more than 0.700, so it can be said that each indicator is valid.

Table 2
Model Fit

Variables	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Consumer Judgement	.819	.881	.650
Preferences	.873	.904	.612
Product Design	.874	.903	.570
Moderating Effect	1.000	1.000	1.000

The results show that this research model meets the elements of model fit so that it can be continued with hypothesis testing.

Table 3
Hypothesis Test

Hypothesis		Original Sample	t-value	p-value	Results
PD → CJ	H1	.547	9.039	.000	Support
Male		.434	3.384	.001	Support
Female		.591	8.819	.000	Support
Moderating effect CJ	H2	-.027	0.637	.524	Unsupport
Male		-.109	1.155	.248	Unsupport
Female		-.015	.252	.801	Unsupport

Based on Table 3, the results of the hypothesis test can be seen as follows:

The results of the PLS analysis show a probability value of 0.000. The probability value of 0.000 which is smaller than the significance value of 0.05 (Alpha 5%), or $0.000 < 0.05$ and $t\text{-count } 9.039 > t\text{-table } 1.96$. The results of this test show that H1 is accepted, meaning that product design has a significant effect on customer judgment. The original sample value is 0.547, which means that the direction of the relationship between product design and customer judgment is positive. The existence of positive results between product design and customer judgment shows that the higher and better the product design will increase customer judgment.

The results of the PLS analysis show a probability value of 0.524. The probability value of 0.524 is greater than the significance value of 0.05 (Alpha 5%), or $0.524 > 0.05$ and $t\text{-count } 0.637 < t\text{-table } 1.96$. The results of this test show that H2 is rejected, meaning that consumer preferences do not moderate the influence of Product Design on consumer judgment. The original sample value is -0.027, which means that the direction of the relationship between product design and customer judgment is negative.

The results of the PLS analysis for influence show that the probability value for men is 0.001, while the probability value for women is 0.000. Thus, product design has a significant influence on customer judgment. There are no differences between the results between the male and female groups so that gender is not a control variable. The influence of ct design has a significant

effect on customer judgment. Gender is also not a control variable for the influence of preference as a moderator.

Discussion

The findings show that product design has a significant effect on consumer judgment. While product design has a determining role in shaping consumer responses. If we pay attention to the decision-making process, when a company first introduces a product and when consumers look for information about a product, consumers make an assessment. The findings indicate that product design indeed functions as a "distinctive marketing tool" that influences the attractiveness and captures attention when consumers first engage with the product, prior to the selection stage. Consumers, particularly from Generation Z and the Millennial generation, have access to a wide array of products across nearly every market segment. According to Benaissa and Kobayashi (2022) design is the main added value. This is proven in this research from a consumer's perspective, product design can influence consumer judgment. We know that judgment from consumers can be positive or negative. The results of the assessment can be different because it's important to note that not all consumers react in the same way to specific product designs. Individual preferences and responses can vary significantly (Palmer, Schloss and Sammartino, 2013). Product design significantly influences consumer evaluation of a product (Bloch, 1995). Product design has a determining role in shaping consumer choices and at the same time determining consumer use experiences.

The outcomes of this research diverge from Hovard's research, indicating that product design serves as a "distinctive marketing tool" influencing attractiveness and capturing attention during the selection process. This influence is attributed to external factors, product appearance attributes, and product aesthetics. The difference is in the role of consumers in evaluating product design. This research is at the product design assessment stage as a form of response, this is the stage before selection. The results of this study prove the importance of the "first impression" when it comes to marketable products with respect to their design. Meanwhile, in Hovard's (2001) research, the role of consumers is when paying attention to product design when making a selection. The structure of consumer judgments regarding products is similar in two contexts: choice and use (Hovard, 2001). Therefore, assessments of different product designs are not only made in the context of choice and context of use, but are also made in the context of consumer responses when the company introduces the product (during the awareness stage) and in the context of the alternative evaluation process.

The product choices made by consumers are the result of consumer assessment. Consumer evaluations are simply a series of inputs to the selection process (Johnson and Puto, 1987). It is the interaction between the product and its users that creates the final evaluation of the goodness of the product design (Hovart, 2001). The success of product design must come from the interaction between the maker (designer) and the user (consumer) (Hovart, 2001).

The research results show that consumer preferences do not significantly strengthen the influence of Product Design on consumer judgment. Product design responses do not only reflect the nature of the product, but also the characteristics of the assessors and their experiences (Kumar M, and Noble CH, 2016), Kang and Park, 2016). However, this research shows that consumer responses in assessing product design are not strengthened by consumer preferences. The results of this research are different from the Bloch (1995) model which shows that preference is a moderating variable between product design and consumer judgment. The differences in research results can be explained if we look at the research results which are in accordance with Hovard's (2001) research results showing that product design determines consumer responses regarding the product (assessment of usefulness, aesthetic and hedonic value). If seen from the point of view of consumers who play the role of potential buyers, then in responding to product design they are still purely looking at the product. However, if it has changed to the evaluation stage of the product design to become an option for purchase, then preferences will play a role in the evaluation process, which will strengthen the decision to choose that product design. When related to this research

sample, the millennial generation and generation Z do not consider consumer preferences in the consumer judgment process regarding product design. Current research reflects the perspective of generation Z and millennial consumers who are more external and foreign in judgment. If research is about consumer judgment in the context of selection or use, consumer preferences will strengthen judgments about product design. Consumer preferences do not strengthen this relationship because the consumption behavior of students (millennials) is currently influenced by a lifestyle that tends to follow trends (Amanda and Riyanto) so they ignore preferences.

This research can be concluded that for the millennial generation and generation Z, product assessment is only influenced by product design, without any other influence in the process such as consumer preferences. Each target market group is different, so the emphasis in assessing is also different. Additionally, millennials desire ultimate consumer control: what they want, how and when they want it (Sweeney, 2006). The millennial generation has high control as product design influences consumer judgment without being influenced by consumer preferences. The evaluation process will continue if consumers want it. The reason consumer preferences do not significantly strengthen the influence of product design on consumer judgment is also because the Millennial The current generation expects the products and services they choose to offer a high degree of personalization and customization options to accommodate their evolving needs, interests, and preferences (Sweeney, 2006). The millennial generation likes what can provide the results they want at a certain time (Sollohub and Sweeney, Millennial generation feels comfortable expressing themselves (Tapscott, 1998), such as batik which can show self-expression.

Conclusion

The research results show that product design has a significant effect on consumer judgment. These results are important findings in consumer behavior, especially related to the assessment of batik products. Consumer preferences do not significantly strengthen the influence of product design on consumer judgment. Gender is not a control variable in this research model so that gender does not have different results in the context of consumer judgment. For further research, researchers can use consumer preferences as an intervening variable between product design variables and consumer judgment variables.

Regarding gender, men are more rational than women, so men and women will have different views in evaluating/evaluating (Kotler and Keller, 2016) such as product design evaluation. Product design responses reflect not only the nature of the product, but also the rater's characteristics such as gender. However, the results of this study show that gender does not control the product design variable on consumer judgment. This shows that gender is not a differentiator for consumers in evaluating batik products.

An important practical implication is that the research results show that product design influences consumer judgments regarding products. It is also clear that certain design characteristics produce definite directions of consumer evaluation. With the target market being the millennial generation and generation Z, showing product design is important in consumer judgment. Therefore, companies create product designs according to their target market. Products with the same technical value can be positioned differently to different consumer groups based on their design. A limitation in the research, this research is not firm in that consumer judgments regarding products are investigated in context, such as in the context when a new product is offered, in the evaluation process, selection stage or use stage.

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