

Exploring the Kano Model: A Strategic Framework for Assessing Customer Satisfaction

G. Bhuvaneshwari¹, Dr.K.Vembu², Dr.B.Kayathiri Bai³

¹Research Scholar, PG and Research Department of Commerce, Sengamala Thayaar Educational Trust Women's College(Autonomous), Mannargudi, Thiruvarur District,Tamilnadu, India.

²M.Com., M.Phil.,UGC-NET., Ph.D., Guest Lecturer and Head, Research Advisor, Department of Commerce, Govt Arts and Science College for Women, Koothanallur, Thiruvarur District,Tamilnadu, India.

³M.Com.,M.Phil.,Ph.D., Vice Principal and Co-Guide, PG and Research Department of Commerce, Sengamala Thayaar Educational Trust Women's College(Autonomous), Mannargudi, Thiruvarur District, Tamilnadu, India.

Abstract

The Kano Model plays a critical role in measuring and enhancing customer satisfaction by identifying the features and attributes of a product or service that matter most to customers and categorizing customer needs into basic, performance, and excitement categories, businesses can prioritize their efforts and resources more effectively to maximize customer satisfaction, loyalty, and retention. This strategic approach helps companies stay competitive, foster positive customer experiences, and create lasting relationships with their customer base. This paper is an attempt to highlight the significance of Kano Model and the working process involved in measuring the customer satisfaction, every model is an unique in itself in shaping the corporate success and to survive in the long run by captivating the loyalty and trust of the customers.

Keywords: Satisfaction, Attributes, Customer and Expectations

I Introduction

Customer needs and satisfaction is fundamental to the success of any business. Customers are at the heart of every organization, and their satisfaction is a key driver of growth, loyalty, and long-term profitability. To build a successful relationship with customers, companies must not only meet their needs but exceed their expectations, ensuring that their satisfaction is continuously maintained. This process involves understanding what customers truly require, addressing those needs effectively, and adapting to changing expectations.

Customer satisfaction measurement is a crucial aspect of business strategy, providing insight into how well a company's products, services, and overall customer experience meet or exceed customer expectations. In an increasingly competitive marketplace, understanding and improving customer satisfaction is key to fostering loyalty, encouraging repeat business, and enhancing brand reputation. To effectively gauge satisfaction, businesses often rely on various quantitative and qualitative methods. Common tools include customer satisfaction surveys (CSAT), Net Promoter Score (NPS), Customer Effort Score (CES), and in-depth feedback collection through interviews, reviews, and social listening.

These metrics help identify areas of strength and pinpoint gaps in the customer experience. Ultimately, the goal of measuring customer satisfaction is not only to assess current performance but also to drive continuous improvement, enabling businesses to respond proactively to customer needs and maintain a strong competitive edge. There are several models and methods available for measuring customer satisfaction. These models help businesses assess how well they are meeting customer expectations and provide actionable insights for improvement.

II Widely Used Models To Measure Customer Satisfaction:

1. The SERVQUAL Model : Measurement of customer satisfaction by using five dimensions

- **Tangibles:** The physical appearance of facilities, equipment, personnel, and communication materials.
- **Reliability:** The ability to perform the promised service dependably and accurately.
- **Responsiveness:** The willingness to help customers and provide prompt service.
- **Assurance:** The knowledge and courtesy of employees and their ability to build confidence in customers.
- **Empathy:** The provision of caring, individualized attention to customers.

2. The Kano Model: Measure customer satisfaction by using five attributes

- **Basic Needs (Must-be Quality)(M):** These are essential features that customers expect. If these needs are not met, dissatisfaction arises. However, fulfilling them does not lead to high satisfaction.
- **Performance Needs (One-dimensional Quality):** These features directly influence customer satisfaction. The more a company delivers on these features, the more satisfied customers will be.
- **Excitement Needs (Delighters):** These are unexpected features that can significantly increase customer satisfaction when present, but their absence does not cause dissatisfaction.
- **Indifferent Needs:** These are features that have little impact on customer satisfaction, whether they are present or not.
- **Reverse Needs:** These are features that, if present, cause dissatisfaction, but if absent, increase satisfaction.

3. Net Promoter Score (NPS) widely used metric that measures customer loyalty and satisfaction based on a single question "On a scale of 0 to 10,

- **Promoters** (score 9-10): Loyal customers who are likely to make repeat purchases and refer others.
- **Passives** (score 7-8): Customers who are satisfied but not enthusiastic enough to promote the brand.
- **Detractors** (score 0-6): Unhappy customers who are unlikely to return or recommend the company to others.

4. Customer Satisfaction Score (CSAT) is a straightforward and widely used metric for measuring customer satisfaction. It typically involves asking customers to rate their satisfaction with a product or service on a scale (e.g., 1 to 5 or 1 to 10).

5. Customer Effort Score (CES) measures the ease of customer interactions with a company. It is based on the premise that customers who experience less effort in solving problems, making purchases, or interacting with customer service are more likely to be satisfied and loyal. Typically, customers are asked: "How much effort did you personally have to put forth to handle your request?" The response is rated on a scale, with lower effort leading to higher satisfaction.

6. Customer Satisfaction Index (CSI) is a comprehensive metric that evaluates the overall customer satisfaction level by combining several individual satisfaction metrics. These metrics typically include product quality, service quality, customer support, and value for money.

7. The American Customer Satisfaction Index (ACSI) is a national economic indicator of customer satisfaction in the U.S., based on customer feedback across various industries. The ACSI model uses a system of weighted indexes to track customer satisfaction, considering factors like product quality, service quality, and customer expectations.

The ACSI formula calculates satisfaction by measuring:

- **Customer Satisfaction:** Degree to which customers are satisfied with a product or service.
- **Customer Expectations:** The expectations customers have before they purchase a product or service.
- **Perceived Quality:** The customer's perception of the quality of the product or service.
- **Perceived Value:** The customer's perception of the product or service's value compared to its price.

8. Voice of the Customer (VoC) is an approach that gathers both qualitative and quantitative data from customers about their needs, expectations, and experiences. This method includes multiple touch points such as surveys, feedback forms, social media, customer interviews, and complaints. By listening to the "voice" of customers, businesses can gain deep insights into satisfaction levels and areas for improvement. VoC analysis often includes sentiment analysis, which helps companies understand the emotional tone behind customer feedback (whether positive, negative, or neutral).

9. The Customer Happiness Index (CHIP) is an emerging model designed to measure customer happiness rather than just satisfaction. This model focuses on the emotional connection customers have with the brand, products, or services. It goes beyond traditional satisfaction metrics to include factors like customer delight, loyalty, and the sense of well-being or happiness derived from the brand experience.

10. Balanced Scorecard is a strategic management tool that incorporates financial and non-financial metrics to assess a company's performance, including customer satisfaction. While traditionally used for broader organizational performance, the balanced scorecard approach can be customized to measure customer satisfaction through multiple perspectives:

- **Customer Perspective:** Satisfaction, retention, and loyalty metrics.
- **Internal Process Perspective:** Efficiency and effectiveness of business processes affecting customer satisfaction.
- **Learning and Growth Perspective:** Employee satisfaction and skill development in delivering customer satisfaction.

III Importance of Kano Model in Measuring Customer Satisfaction

The Kano Model is a powerful tool for understanding and measuring customer satisfaction, specifically by categorizing customer needs and identifying which aspects of a product or service are most likely to influence satisfaction. This model provides insights into how different product features impact customer satisfaction in distinct ways. Understanding these dynamics is essential for businesses to prioritize improvements and align their offerings with customer expectations. Kano Model is particularly important in measuring customer satisfaction. This new business model will provide both products and services to customers. Kano requirement model is the user satisfaction model based on product quality feature, using a nonlinear (two dimensional) way to measure customer's perceptions, mainly to identify

customers delight and customer disgust when an attribute is present and absent respectively (Madzik 2018).

1. Differentiating Customer Needs

The Kano Model categorizes customer needs into five distinct types, helping businesses understand the various ways that product features can impact satisfaction:

- **Basic Needs (Must-be Quality):** These are fundamental expectations that customers take for granted. Their absence leads to dissatisfaction, but fulfilling them doesn't necessarily result in heightened satisfaction. For example, a car must have brakes that work reliably. If they fail, customers will be unhappy, but simply having brakes won't create excitement.
- **Performance Needs (One-dimensional Quality):** These needs are directly linked to customer satisfaction. The more a product or service fulfills these needs, the higher the satisfaction. For example, the fuel efficiency of a car is a performance feature that directly impacts customer satisfaction—the better the fuel efficiency, the happier the customer.
- **Excitement Needs (Delighters):** These are unexpected features that can significantly enhance customer satisfaction when present. However, their absence does not lead to dissatisfaction. For example, an innovative in-car entertainment system or heated seats in a car could delight customers and make their experience more enjoyable.
- **Indifferent Needs:** These features have little impact on customer satisfaction, whether they are present or not. They don't excite or dissatisfy customers. For example, a particular color of a car might be indifferent to a majority of customers.
- **Reverse Needs:** Features that, when present, cause dissatisfaction, but when absent, lead to higher satisfaction. These features might be appealing to certain customers but are disliked by others. For example, some customers may dislike overly complicated technology in a car, while others may see it as a desirable feature.

2. Prioritizing Product and Service Improvements

One of the key advantages of the Kano Model is its ability to prioritize product or service features based on their impact on customer satisfaction:

- **Focus on Basic Needs:** Failing to meet basic needs can lead to significant dissatisfaction. Therefore, businesses must ensure that fundamental features (such as reliability or basic functionality) are thoroughly met.
- **Invest in Performance Needs:** Performance features directly correlate with customer satisfaction. Companies can improve customer loyalty and retention by continually enhancing features that are highly valued by customers.
- **Introduce Excitement Needs (Delighters):** While delighters are not essential, they can be highly effective in differentiating a brand in a competitive market. Understanding and introducing these features strategically can lead to a “wow” factor and generate positive word-of-mouth marketing.

3. Reducing Customer Dissatisfaction

Kano Model helps businesses avoid customer dissatisfaction by emphasizing the importance of fulfilling **must-be** (basic) needs. These are the non-negotiable features that customers expect from a product or service. Failing to meet these basic expectations can lead to Customer frustration and negative reviews and Loss of trust and loyalty

4. Better Understanding of Customer Emotions

The Kano Model does more than just measure satisfaction—it helps businesses understand the **emotional drivers** of customer satisfaction:

- **Basic Needs** lead to dissatisfaction when unmet, but their fulfillment doesn't generate positive emotions.
- **Performance Needs** create a direct correlation between the quality of the product and customer happiness.
- **Excitement Needs** can elicit **joy** and **surprise**, which create strong emotional connections and enhance customer loyalty.

5. Facilitating Competitive Differentiation

The Kano Model can help businesses distinguish themselves from competitors by identifying features that creates unique value for customers:

Excitement Needs provide opportunities for differentiation. These are the features that competitors may not have, which can make a brand stand out.

6. Enhancing Customer Retention and Loyalty

The Kano Model helps to improve customer satisfaction in a way that directly influences loyalty:

- **Satisfying Basic Needs** ensures that customers are not dissatisfied or frustrated by fundamental shortcomings.
- **Excelling in Performance Needs** helps to keep customers engaged and satisfied, especially when these features meet or exceed their expectations.
- **Delighting with Excitement Needs** fosters positive emotions that can strengthen the emotional bond between the brand and the customer, enhancing loyalty and increasing the likelihood of repeat business.

7. Continuous Improvement and Adaptation

The Kano Model is dynamic and can be used over time to track changes in customer preferences. As customer expectations evolve, features that were once seen as “exciting” can become expected, and new features may emerge as delighters. By regularly revisiting the Kano Model, companies can continuously adapt and improve their offerings, ensuring they remain relevant and meet evolving customer expectations.

IV Review of Literature

Borgianni, Ys (2018) This paper addresses the challenge of verifying Kano's model by analyzing customer satisfaction studies across various industries. It examines shifts in the relevance of customer requirements using statistical methods. Findings partially validate Kano's dynamic trajectories, highlighting their utility in forecasting mid-term changes in customer preferences. The use of quantitative satisfaction/dissatisfaction indicators enhances prediction accuracy. These insights support firms in identifying key satisfaction drivers at market launch, even when surveys are conducted early in product development.

Peter Madzík, Pavol Budaj, Dalibor Mikulas and Dominik Zimon (2019) This study explores customer and stakeholder requirements in developing educational services, focusing on seven key areas: practice orientation, ethical orientation, research orientation, quality resources, innovation orientation, skills orientation, and quality staff. Using the Kano model on a pilot sample from a higher education institution, findings indicate that “practice orientation” and “quality resources” are the most stable, while

“quality staff” is the least stable. “Innovation orientation” shows a linear effect on satisfaction, and “research orientation” is categorized as an attractive requirement. “Ethical orientation” revealed weak correlations between satisfaction and dissatisfaction, while “skills orientation” appeared too general, suggesting the need for clearer skill definitions in future research.

Supriya Mote, Vaishali Kulkarni and Dr. B.E. Narkhede (2016) This study applies the Kano model to design and enhance an organized retail chain for proprietary items catering to medium and heavy commercial vehicles. An initial qualitative survey of 43 truck drivers identified key issues and service expectations during long-haul travel. A Kano questionnaire based on these findings was completed by 138 respondents. The model effectively classified customer needs into basic, one-dimensional, attractive, and indifferent attributes. Results highlight that truck drivers view such retail outlets as a “home away from home,” with strong preferences for restrooms, hygienic washrooms, festive celebrations, and quality food, alongside truck-related sales and services. Emphasizing attractive attributes, beyond basic needs, can serve as a powerful marketing strategy. Meeting these expectations can enhance driver satisfaction, operational efficiency, and profitability for logistics companies.

Anna Szeliga-Duchnowska and Mirosława Szewczyk (2018) The Kano method aids university authorities in identifying priority areas for improvement. Survey findings suggest that in the category of “teaching staff quality,” essential requirements include strong theoretical knowledge and clearly defined student obligations—both classified as must-be (“M”) attributes, where non-fulfillment leads to significant dissatisfaction. The Kano questionnaire proves to be a precise and insightful tool for evaluating teaching staff, offering a valuable alternative to traditional student feedback surveys in higher education.

Laura Juznik Rotar and Mitja Kozar (2017) Measuring customer satisfaction is vital for fostering loyalty, positive word of mouth, repeat purchases, and improved market performance. This study applies the Kano model to enhance customer satisfaction in the Slovenian home appliance sector—a relatively underexplored area. Key delight attributes identified include salesperson knowledge and professionalism, appliance design, and brand. Additionally, ‘user features’ strongly influence repeat purchases. The paper demonstrates how the Kano model can support marketing strategy and product development, offering valuable insights for business decision-making and future research.

Amalia Suzianti, Nurza Dwi Prisca Faradilla and Shabila Anjani (2015) E-Commerce is rapidly growing in Indonesia, yet only 57% of Indonesians engage in online shopping. To boost online purchases, this study explores customer satisfaction in fashion e-commerce. Using the Kano model, key service attributes were classified to guide quality improvement. Conjoint analysis was applied to statistically assess customer preferences. Findings indicate that offering cash-on-delivery is the most preferred payment method, highlighting its role in enhancing customer satisfaction and optimizing service design for fashion online shops.

Manuela Ingaldi and Robert Ulewicz (2019) This paper presents a methodology combining the Kano model and customer satisfaction to identify and categorize both stated needs and unstated desires. A case study was conducted on a new e-shop offering organic products in Central Europe, incorporating sustainable development principles. Using a custom-designed universal survey, 1,069 valid responses were analyzed. Respondents identified 16 must-have and 11 one-dimensional features influencing satisfaction. Notably, many essential features reflected environmental awareness. The findings were shared with the e-shop’s management and integrated into its design, with results to be reassessed after one to two years of operation.

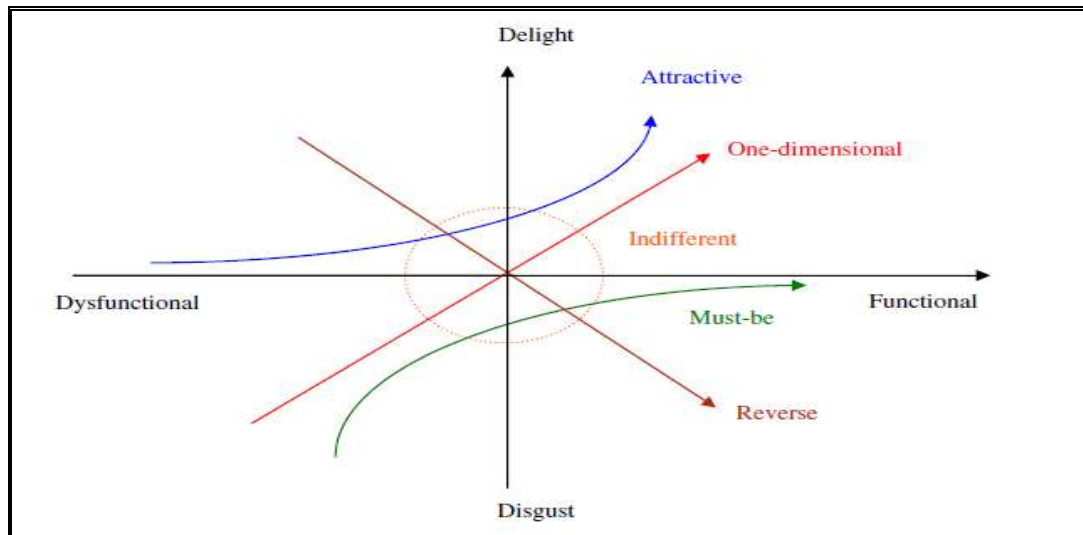
M.B Shravan, S.Manjunath and M.Abhiram (2024) This study applies the Kano model to enhance business strategies for mineral water bottles beyond product development. Key customer preferences—availability, reliability, and affordability—were identified as high-impact attributes. A sequential strategy is proposed, classifying attributes into high-, moderate-, and low-impact groups. New entrants should prioritize high-impact factors, while established brands may focus on moderate-impact attributes like taste, mineral content, and advertising. Low-impact features such as bundling, staff interaction, and branding can support market penetration.

V Kano Model Attributes and Development

In the 1980s, a group of Japanese researchers led by Professor Noriaki Kano observed that fulfilling certain customer requirements influenced only satisfaction, while others affected only dissatisfaction. This insight led to the development of a systematic method for categorizing "attractive" and "must-be" qualities (Kano et al., 1984). The model was proposed by Professor Noriaki Kano (Chen, C. C. and M.C. Chuang 2008). Initially, the Kano model identified two non-linear requirement types—attractive and must-be—along with a third, linear type called one-dimensional requirements, where satisfaction and dissatisfaction change proportionally with fulfillment. Later, two more categories were added: reverse requirements (where fulfillment leads to dissatisfaction) and indifferent requirements (where fulfillment or lack thereof has no effect on satisfaction). A sixth category, questionable requirements, was introduced for inconsistent or illogical responses, which are generally excluded from analysis unless further investigation is warranted. Today, the Kano model comprises six categories and uses an orthogonal axis system to describe the relationship between customer satisfaction (delight) and product features. categories (Madzik 2018):

- **Must-be or Basic (M):** Requirements not expressed by the customer. Should be met automatically but meeting only these requirements does not lead to satisfaction of the customer. This type of requirements presents a certain minimal level of a product or service that must be reached by the organization. Shahin et al. (2013), for example, says that “if you don’t get the basis, all else is useless”.
- **Performance or One-dimensional(O):** One-dimensional requirements increase satisfaction in a linear way and are usually explicitly expressed by the customer. These requirements are of the “standard type”—the customer is able to define them even before using the product or service.
- **Attractive or Excitement(A):** because they are latent—they tend to fill the customer with enthusiasm and exponentially increase his/her satisfaction. They usually amount to a small fraction of the price of a product and their function is to amaze the customer. Steve Jobs, for instance, used to advance precisely those elements/attributes of a product which amazed customers. He was famous for his negative attitude towards surveys of customer needs. know “what fantastic things we have in store for them” (Hrnciar 2014).
- **Indifferent (I):** one is not able to state whether these requirements decrease perceived quality. of identification, several empirical studies (Lee et al. 2011).
- **Reverse (R):** requirements the customer does not want, and if the product meets them, customer satisfaction decreases. It may be that some functions/attributes of the product or service go against what the customer wants and expects.

- Questionable (Q): requirements that the customer probably does not understand (he/she states that he/she would be very satisfied if the requirement is met, but also if it is not met). Most studies do not list this category of requirements, since it is not used in subsequent reasoning.



Functioning of Kano Model Questionnaire:

The questionnaire is constructed through pairs of customer requirement questions for the above attributes. Each question has two parts: How do you feel if that attribute is present in product or service (This is a functional form of question) and how do you feel if that attribute is absent in the product or service, This is dysfunctional form of question, Adila Md Hashim, Siti Zawiah Md Dawal (2015). Five alternatives are provided out of which one alternative has to be selected by customer.

- Functional Question (Features to include)** – How do you feel if the feature is present?
- Dysfunctional Question(Features to avoid)** – How do you feel if the feature is absent?

Answer choices for each question:

- I like it
- I expect it
- I am neutral
- I can tolerate it
- I dislike it

In the questionnaire, the respondent is asked to answer the questions in two dimensions: the positive one – when a given quality is present and fulfills its task correctly and the negative dimension – when a specific feature does not exist or if it does, it is not in a satisfactory way. Kano questionnaire tends to be created based on the questions which are developed according to the model indicated in Table -1.

Table -1. The Structure of questions and answers in Kano questionnaire

	Positive dimension	Negative dimension
Questions	How do you feel when a specific quality is present	? How do you feel when a specific quality is not present (or it is defective)?
Answers	A. I like it B. It must be that way	A. I like it B. It must be that way

	C. I am neutral D. I can live with that E. I dislike it	C. I am neutral D. I can live with that E. I dislike it
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Source: Wolniak, Skotnicka (2008)

Placing the questions in the structure indicated above has the effect that every quality of a product/service is attributed with two answers, which in turn gives as many as 25 correlation variants, since there are five possible answers for each question. The results collected through the application of the Kano questionnaire are presented in the table specifying the quality type in certain determinants Wolniak, Skotnicka (2008) (see Table 2).

Table 2. The Quality type in Kano Method

Quality	Negative(Dysfunctional)					
Positive(Functional)	Satisfaction	Like	Expect	Neutral	Accept	Dislike
	Like	Q	A	A	A	O
	Expect	R	I	I	I	M
	Neutral	R	I	I	I	M
	Accept	R	I	I	I	M
	Dislike	R	R	R	R	Q

Source: Wolniak, Skotnicka 2008

One category (A, M, O, R, Q, I) is defined based on the highest number of indications within one quality. In order to avoid irregularity/distortions which may arise on account of questions posed in the wrong way and their negative reception by respondent, the following rule should be applied:

Customer's Satisfaction Coefficient (CS) = $\frac{A+O}{A+O+M+I}$

Customer's Dissatisfaction Coefficient (CD) = $\frac{O+M}{(-1) A+O+M+I}$

Total Customer Satisfaction = (CS) – (CD)

A positive CS ranges in value from zero to one; Closer to value one, higher the influence on customer satisfaction. The negative customer satisfaction operates in similar pattern. A value of zero shows that this feature does not cause dissatisfaction if it is not met. In this way, all the evaluated attributes can be represented in a diagram. It is helpful to know their influence on customer satisfaction and dissatisfaction and planning the design for products and service according.

VI Conclusion

In conclusion, the pursuit of customer satisfaction is a continuous journey that requires understanding, adaptation, and proactive engagement with customers' ever-evolving needs. Customer needs and satisfaction are dynamic and interdependent. Businesses must constantly strive to understand and address customer needs to ensure satisfaction. By doing so, they build strong, lasting relationships that drive business success. Satisfied customers are not just repeat buyers; they become loyal advocates who contribute to the growth and success of the brand. Therefore, customer needs and satisfaction must be prioritized and continuously nurtured for sustained business performance. By adopting some strategy or model to monitor customer continuously, These models provides valuable insights into customer satisfaction, but their effectiveness often depends on the specific industry, company goals, and available

resources. For businesses seeking to improve customer experience, it's beneficial to use a combination of these models to gain a comprehensive understanding of customer satisfaction across different touch points and stages of the customer journey.

In today's customer-centric business environment, understanding and fulfilling customer needs is paramount to maintaining competitiveness and fostering long-term loyalty. Among the various models available for measuring customer satisfaction, the Kano Model stands out due to its unique ability to classify customer needs into distinct categories—basic, performance, excitement, indifferent, and reverse. This classification provides a nuanced understanding of how different features influence customer satisfaction and dissatisfaction. Unlike linear models, the Kano Model captures the nonlinear relationship between product attributes and customer perceptions, enabling businesses to identify not only what satisfies customers but also what truly delights them. By differentiating features that are essential, performance-based, or unexpected delighters, companies can better prioritize innovations, allocate resources efficiently, and deliver superior value to customers. Moreover, the model supports strategic decision-making by highlighting opportunities for product differentiation, minimizing customer dissatisfaction, and enhancing emotional engagement. As customer expectations evolve over time, the Kano Model also serves as a dynamic tool that can be continuously updated to align with shifting preferences. This capacity for continuous improvement and adaptability makes it especially valuable in fast-changing industries and service-oriented sectors like AI-driven platforms.

Ultimately, the Kano Model not only enriches the understanding of customer satisfaction but also serves as a strategic framework for designing, managing, and enhancing products and services in a way that builds enduring customer relationships. For researchers and practitioners alike, it offers both theoretical rigor and practical utility in the pursuit of excellence in customer experience.

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