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Determinants of Customer Satisfaction That Impact Electricity Repurchase Decisions: Evidence From Electricity Companies in Indonesia

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Abstract: The purpose of this study is to determine the effect of marketing mix and service quality on customer satisfaction and its impact on electricity repurchase decisions, a case study on electricity companies in Indonesia. This research uses power electricity product categories and customer service provided by electricity companies. The population of this study is electricity customers spread throughout the territory of Indonesia using questionnaires of 250 respondents. This study used a multiplier regression analysis technique with SPSS Statistical Version 25 statistical processing. Research results, *First*, electricity customer satisfaction is significantly influenced by price, distribution channels, promotions, and service quality; *Second*, customer satisfaction has a positive and significant effect on the decision to repurchase electricity, *Third*, simultaneously product, price, distribution channel, promotion, and service quality have a significant effect on customer satisfaction and repurchase decisions, *Fourth*, customer satisfaction can mediate the influence of price, distribution channels, promotions, and service quality on repurchase decisions, But it is unable to mediate the influence of the product. The results of this study enrich the empirical literature on Marketing Mix theory, Service Quality, Customer Satisfaction, and Purchasing Decisions. Electricity companies can implement a marketing mix and service quality to improve customer satisfaction and electricity repurchase decisions. The originality of this study on mediating customer satisfaction on the

effect of marketing mix and service quality on electricity repurchase decisions, no previous study has examined its effect on electricity companies in Indonesia.

Keyword: Marketing Mix, Customer Satisfaction, Electricity Repurchase Decision, Electricity Company

INTRODUCTION

Electric power is one type of product and basic infrastructure whose availability is needed by the community in carrying out their daily activities. Along with the increasing population and technological developments and increasing awareness about the environment, the need for electrical energy is increasing, so people as consumers tend to look for electric power products that are considered better, environmentally friendly, quality, reasonable prices, and good delivery. and service and they will choose providers and electric power products that match their criteria.

Electricity customer complaints in the period 2019 to 2020 increased by 50 percent from the number of complaints of around 20,000 to 32,000 complaints and until semester 1 of 2021 rose by more than 200 percent, the highest increase in complaints on meter recording or kWh usage directly related to account bills (source: bit.ly/3vvHesR). The Indonesian Consumer Foundation - YLKI recorded 17 complaints about electricity problems throughout 2023 and the most complaints were on customers who were fined for Regulating Electricity Usage or P2TL (source: https://bit.ly/3vscNUd). Kotler &; Keller, (2008: 253) say that the lower the level of customer complaints, the better the company's performance in satisfying customers. The larger the gap between expectations and performance, the greater the dissatisfaction

Environmental problems are currently a concern throughout the world, namely, carbon dioxide emissions have a global warming impact that brings serious consequences in various sectors of life, including environmental, social, and economic. The electricity and transportation sectors contribute 89% of total fossil fuel use emissions which are predicted to peak in Indonesia by mid-2030.

Public awareness of a clean environment is the key to reducing the impact of global warming which is urged to reduce the use of fossil fuels, adopt a more environmentally friendly lifestyle, and support environmental programs that have been launched by the Government of Indonesia through the energy transition program to change the use of fossil energy into environmentally friendly renewable energy to reduce dependence on fossil energy. The realization of NRE utilization until 2020 has only reached 11.2% of the 2025 target of 23% and the 2050 target of 31% by the Government Regulation (PP) of the Republic of Indonesia No. 79/2014 concerning National Energy Policy and Presidential Regulation of the Republic of Indonesia No. 22/2017 concerning the General Plan of National Energy, although the reality is still far from being roasted from the fire. Unfortunately, the current NRE realization (in 2020) is still at 11.2%, is it able to pursue the NRE target in 2025 and 2050? (Bisnis.com https://bit.ly/3qeKjL3).

Indonesia is currently experiencing an oversupply of electricity, namely the electricity reserve of power plants against peak loads or reserve margins in Java Island reaches 60% even though outside Java Island several regions still lack electrical power (National Energy Council Secretary General Team, (2019: 5-6)

One of the causes of excess electricity supply is due to low electricity consumption growth which is still below the production of power plants. The electricity produced cannot be stored efficiently so it will have a loss if it is not distributed. Indonesia is an equator country that is very rich in renewable energy potential, which is more than 400 gigawatts (GW), 50% of them, or 200 GW of newly utilized solar energy potential of 0.08% or 0.15 GW. Indonesia

has abundant sources of solar energy so Indonesia should be a leader in the development of solar energy and one of the energy independent countries. Indonesia is still an attractive market share in the energy sector.

Table 1. Electricity Production and Sales 2018 – 2022

No	Uraian	Satuan	2018	2019	2020	2021	2022
1	Produksi	GWh	267.085,38	270.975,97	274.851,18	289.470,57	308.002,30
2	Penjualan	GWh	234.617,88	245.518,17	243.582,75	257.634,25	273.761,48
	Selisih	GWh	32.467,50	25.457,80	31.268,43	31.836,32	34.240,82
	Produksi vs penjualan	*%*	*113,84*	*110,37*	*112,84*	*112,36*	*112,51*
	Produksi (Growth)	*%*	*119,70*	*101,46*	*101,43*	*105,32*	*106,40*
	Penjualan (Growth)	*%*	*92,13*	*104,65*	*99,21*	*105,77*	*106,26*
3	Harga Jual Rata rata	Rp/kWh	1.123,01	1.129,59	1.071,36	1.083,30	1.137,26
4	HPP Rata rata *)	Rp/kWh	1.160,89	2.999,73	3.097,30	1.391,08	1.460,59
	Selisih	Rp/kWh	- 37,88	- 1.870,14	- 2.025,94	- 307,78	- 323,33
	Harga jual vs HPP	*%*	96,74	37,66	34,59	77,87	77,86

Electricity management in Indonesia is carried out by PT PLN (Persero) abbreviated as PLN which is tasked by the government to maintain the availability and sale of electricity. PLN as a state instrument is also a corporation that carries out electricity business activities, so it is necessary to maintain a balance of life between community service duties as a state instrument and corporate initiatives as a business unit that manages electricity (Gatrik, 2020)

The fundamental priority of electricity companies in this competitive era is to increase customer satisfaction which has an impact on repurchase decisions. The success of electricity companies in utilizing the marketing mix and improving service quality is important for companies to survive and excel in competition. Competition in the electricity sector in the future will be tighter, with the entry of new renewable energy such as solar cells, wind power and others that have been used by the community.

This study discusses research gaps, namely: 1) increasing electricity customer complaints, 2) low electricity consumption and competition, 3) the role of marketing mix and service quality as drivers of increasing electricity consumption. The purpose of this study is to determine the effect of marketing mix and service quality on customer satisfaction and its impact on electricity repurchase decisions, a case study on electricity companies in Indonesia. This research uses electric power product categories with several tariff categories including customer service provided by electricity companies.

The originality of this study on mediating customer satisfaction on the effect of marketing mix and service quality on electricity repurchase decisions, no previous study has examined its effect on electricity companies in Indonesia.

METHOD

This research was conducted in Jakarta by taking PLN customer research sample objects from household (R), industrial (I), business / business (B), social (S) and government office (P) customers spread throughout the territory of the Republic of Indonesia, with a sample using questionnaires totaling 250 respondents. The analysis tool used is a regression multiflier using the SPSS version 25 statistical data processing tool.

Some aspects of variables are explained by several indicators: 1) Products: understanding, quality, availability, security and information; 2) Price: affordable, appropriate, competitiveness and discounted; 3) Distribution channels: factory location, continuity, service location and product readiness; 4) Promotions: savings, social media, direct promotion and service products (advertising); 5) Quality of service: reability, responsiveness, assurance, emphaty, tangible; 6) Customer satisfaction: repurchase, product performance, as per needs and expectations; and 7) Repurchase decision: the reason for purchasing officers is fast-responsive, cheap quality, payment system, environmentally friendly and affordable price.

RESULTS AND DISCUSSION

Marketing Mix Theory

The marketing mix is a set of tactical marketing tools of products, prices, distribution channels, and promotions, that a company blends to produce the response it wants in the target market (Kotler & Amstrong, 2015: 53-54). The marketing mix can be seen as the right combination, and intensity, of factors can influence buyers to buy (Drummond & Ensor, 2005: 11).

Product

Products are everything or all forms of business results offered to the market for use or consumption so that they can meet the needs and desires of the community (Firmansyah, 2018: 152). A product is self-relevant to the extent that customers see it as an instrument in achieving important consequences or values (Kotler &; Keller, 2008: 257).

Price

Price is the most flexible element, which can be changed instantly, however, the consequences of price changes can be widespread, affecting organizations and competitors. Pricing involves more than just a simple financial transaction in returns for a product, it greatly influences buyer behavior (Drummond &; Ensor, 2005: 134). Price is the only element of the marketing mix that generates revenue; All other elements represent costs. Some managers view pricing as a headache and prefer to focus on other elements of the marketing mix (Kotler & Amstrong, 2015: 324).

Raising the price of an item even in small quantities will reduce demand. The demand for a good is said to be elastic if there is a change in price by a certain percentage resulting in a greater percentage change in demand. On the other hand, if the relative change in demand is smaller than the relative change in price, demand is said to be inelastic. Price indicators are as follows: a) Prices are affordable by the purchasing electricity capabilities of customers. b) Compatibility between price and quality. c) Price has competitiveness with other similar products (Kotler &; Amstrong, 2008).

Place (Distribution Channel)

A distribution channel (Place) is the channel through which a customer makes a purchase and includes each distribution channel. This place can be a physical store, online store, app, social media, or website (Drummond &; Ensor, 2005: 9). Distribution channels are related to the context of supply chain management that requires the use of information technology to improve supply chain performance because the flow of information, money, and materials as well as the performance of product delivery from the company to customers can be carried out quickly and on time. (Riyadi et al., 2021).

Dimensions or indicators of distribution channels, namely: (1) Selection of distribution channels, support provided by channel members and market coverage or customers (Drummond & Ensor, 2005: 9), (2) Global distribution channels, Area coverage, diversity, Location, Inventory, transportation. (Kotler, Keller 2008: 374)

Promotion

Promotion is the "strategic and tactical" planning and execution of marketing for a brand using a full blend of business and customer communication designed to work together to influence behavior in a way that builds sales and strengthens brand image (Anthony G. Bennett, 2010: 234). Other income stated by (Solomon, 2011: 361), Promotion is a marketing strategy *focusing* on business promotion issues, such as how to market products, what media to use, and so on.

Effective promotion will ensure good sales and marketers should strive to create a conducive environment. (Kotler & Keller, 2008: 827). The dimensions or indicators of promotion are: (1) Advertising, sales force, direct marketing (online), public relations / public relations. (Drummond & Ensor, 2005: 160), (2) Sales promotion, advertising, sales force, public relations, direct marketing, internet/social media. (Kotler, Keller 2008: 735).

Quality of Service

Quality of service is the totality of features and characteristics of a product or service that depend on its ability to satisfy expressed or implied needs (American Society for Quality). Companies that most often meet most of the needs of their customers are called high-quality companies, but we need to distinguish between quality conformity and quality performance (Kotler &; Keller, 2016:421).

Kotler & Keller, (2016: 148) identified five determinants of service quality, in decreasing order of importance: 1) Reliability: The ability to perform promised services reliably and accurately; 2) Responsive: Willingness to help customers and provide prompt service; 3) Assurance: Employees' knowledge and courtesy and ability to convey trust and confidence; 4) Empathy: The provision of caring and individual attention to customers; 5) Intangible: The emergence of physical facilities, equipment, staff, and communication materials.

Customer Satisfaction

Customer satisfaction is the result that buyers feel on product performance against buyer expectations. If the performance of the product does not match expectations, customers are not satisfied. If the performance matches the expected, the customer is satisfied. If performance exceeds estimates, customers are very satisfied or happy (Kotler &; Armstrong, 2015: 185).

This feeling makes a difference whether the customer buys the product again and talks about it positively or unpleasantly to others. The larger the gap between expectations and performance, the greater the satisfaction or dissatisfaction (Kotler &; Keller, 2008: 253). In principle, different ways of behaving dissatisfied customers, they may: a) switch in the sense of rebranding or exit the market, b) engage in negative word-of-mouth communication, c) remain inactive despite dissatisfaction or, d) complain to third-party companies or institutions (Stauss &; Seidel, 2019: 35).

The relationship between service, product quality and customer satisfaction explains the importance of customer satisfaction in business operations and explains systematic evidence showing that companies with higher customer satisfaction ratings tend to be more successful (Allen, 2011). The philosophy of customer orientation of modern business organizations and the application of principles justify the importance of evaluating and analyzing customer satisfaction. In fact, customer satisfaction today is considered a basic performance standard and likely a standard of excellence for any business organization (Grigoroudis &; Siskos, 2010: 91).

According to Indrasari (2019: 87-88) there are five main factors in determining the level of satisfaction, namely: 1. Product quality, 2. Quality of service, 3. Customer emotionality, 4. Price, 5. Cost. Customer satisfaction indicators according to Kotler et al., (2022: 444), namely: repurchase, product performance, meeting buyer needs and expectations.

Purchase Decision

Purchasing decision is a final decision that a customer has to buy a good or service with certain considerations (Kotler &; Armstrong, 2015: 231), Kumar & Ghodeswar, (2015: 331); citing some of the author's opinions, that purchasing decisions are explained in the form of supporting green companies, buying green products (Albayrak et al., 2013; Schlegelmilch et

al., 1996), adopt sustainable consumption practices (Gadenne et al., 2011) and tend to spend more on green products (Essoussi and Linton, 2010).

According to Kotler &; Keller, (2016: 201); Satisfied consumers are more likely to buy the product again and will also be more likely to say nice things about the brand to others. Dissatisfied consumers can abandon or return the product. They may be looking for information that confirms its high value. They can take public action by complaining to companies, going to lawyers, or complaining directly to other groups (such as businesses, private, or government agencies) or to many others online, including deciding to stop buying products and alerting friends.

The dimensions or indicators of purchasing decisions are as follows: a) Steadiness of buying after knowing product information, b) Deciding to buy because of the most preferred brand, c) Buying because it suits your wants and needs, d) Buying because you get recommendations from others (Kotler &; Armstrong, 2008: 181).

Electricity System

The electricity system consists of generation sub-systems, transmission sub-systems, distribution sub-systems, and sales of electric power to customers (end users), or often divided into generation, distribution and load.

Electric power is sent from the generation through safety units and transformers to raise the voltage which then passes through a high-voltage transmission line and medium- and low-voltage distribution lines to the customer or load. Transmission and distribution lines are a vital part in providing good and efficient power quality.

Ahsan et al., (2022: 64), describe the electricity system picture as follows:

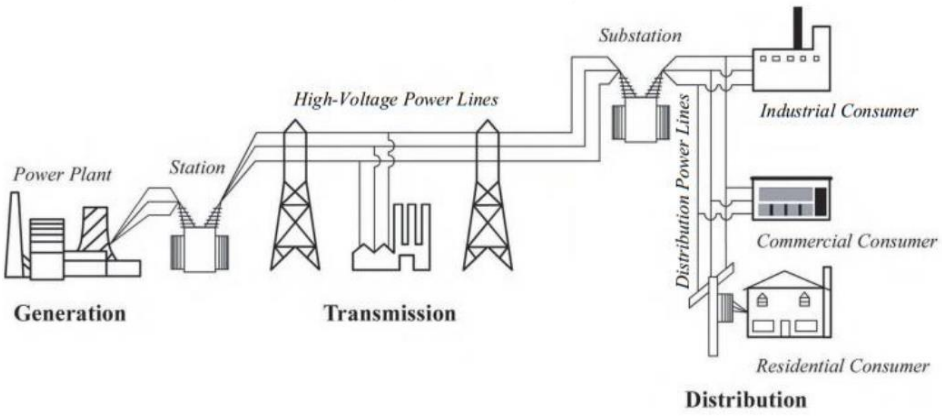

Figure 1. Electricity System: Generation, Transmission and Distribution
Source: Ahsan et al., (2022: 64)

Disruption of electric power distribution in the electricity system can be caused by many things ranging from generation, distribution or distribution. Electrical energy includes energy that has many sources or is produced from various sources such as: water, oil, coal, wind, geothermal, nuclear, solar _, and others. The main unit of electrical energy is the Joule, another unit is KWh (Kilowatt Hours). Electricity for industry and housing is generated from fossil energy and renewable power plants, including: PLTA, PLTB, PLTD (diesel), PLTM, PLTS (solar), PLTU, and others.

Some energy sources that can be used properly to create electrical energy consist of fossil energy sources such as coal, gas, fuel, and renewable energy such as solar power, wind, ocean waves, geothermal, biomass.

Previous Research

Several previous studies related to this research variable, for example, Ramli et al., (2021: 393), found that the marketing mix had a significant positive effect on purchasing decisions, but not significantly on customer satisfaction. Ahsan, (2021: 81), found the availability of new renewable energy electricity products to support purchasing decisions. Budiastari, (2018: 17), found that product quality, price perception have a positive and significant effect on customer satisfaction. Ikmala et al., (2020: 37), found that products, prices, missions have a significant effect on customer satisfaction, but distribution channels do not have a significant effect.

Mutia Rosadi, (2019: 273), found that electricity prices have a negative and insignificant effect on purchasing decisions. Jainuddin &; Sri, (2020: 13), distribution channels influence purchasing decisions. Mahmoud, (2018: 127), found that the green marketing mix has a positive and significant effect on purchasing decisions. Irine & Utami, (2018: 38), found that product quality, product packaging design, advertising, influence purchasing decisions. Gajali et al., (2020: 50), found products, prices, distribution channels and promotions have a positive and significant effect on purchasing decisions,

Sukesi &; Yunaidah, (2020: 347), found that there is a direct or indirect influence on the effectiveness of product socialization, superior service products, and service quality on customer satisfaction. Arianto &; Difa, (2020: 117), found that service quality, product quality have a positive and significant effect on purchasing decisions. Alabbodi, (2019: 146), found that service quality, namely assurance, reliability, tangibility, and empathy had a positive and significant effect on customer satisfaction. Raditya et al., (2019: 2), found that service quality and product quality have a positive and significant effect on customer satisfaction and purchasing decisions.

Podbregar et al., (2021: 1), found that in situations where electricity prices are very low, energy saving information does not have a significant impact on efficient behavior change. Badarou, (2021: 7), found that the more satisfied customers are, the more likely they are to repurchase. Some previous research has shown that customer satisfaction is important because it can influence repurchase decisions. This study uses several variables that are considered to influence repurchase decisions, namely marketing mix, service quality and customer satisfaction.

Conceptual Framework

In this study there are 9 (nine) variables, namely product, price, distribution channel, promotion, service quality, customer satisfaction as intervenning variables and repurchase decisions as dependent variables. The study formulated the following conceptual framework:

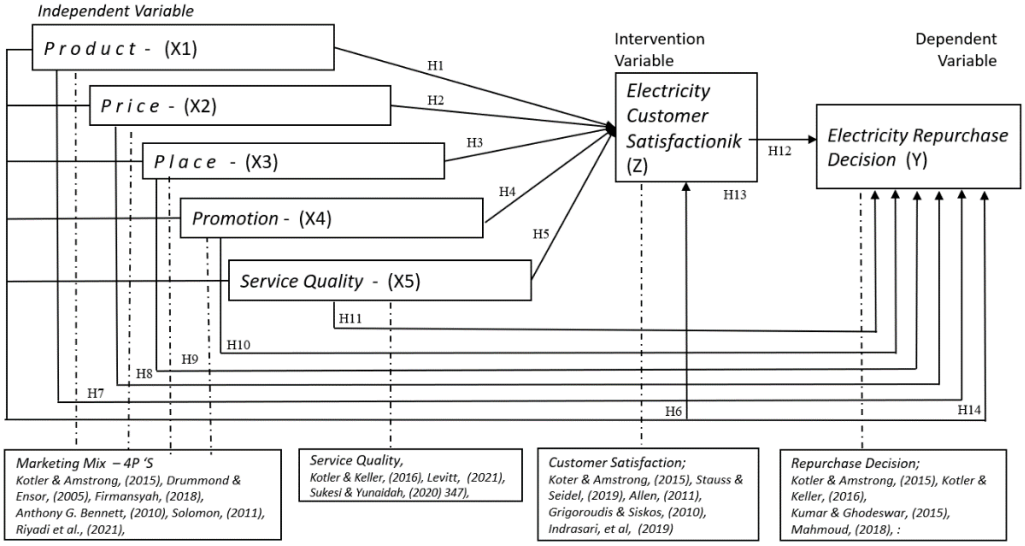

Figure 2. Conceptual Framework

2.1. Hypothesis Development

Based on previous research and conceptual framework, the hypothesis submission in this study is formulated as follows:

1) **H1:** Product has a positive and significant effect on customer satisfaction
2) **H2:** Price has a positive and significant effect on customer satisfaction
3) **H3:** Distribution channels have a positive and significant effect on customer satisfaction
4) **H4:** Promotion has a positive and significant effect on customer satisfaction
5) **H5:** Service quality has a positive and significant effect on customer satisfaction
6) **H6:** Products, prices, distribution channels, promotions and service quality simultaneously have a positive and significant effect on customer satisfaction
7) **H7:** The product has a positive and significant effect on the decision to repurchase
8) **H8:** Price has a positive and significant effect on repurchase decisions
9) **H9:** Distribution channels have a positive and significant influence on repurchase decisions
10) **H10:** Promotions have a positive and significant effect on repurchase decisions
11) **H11:** Service quality has a positive and significant effect on repurchase decisions
12) **H12:** Customer satisfaction has a positive and significant effect on repurchase decisions
13) **H13:** Customer satisfaction is able to mediate products, prices, distribution channels, promotions and service quality on repurchase decisions.
14) **H14:** Products, prices, distribution channels, promotions, service quality and customer satisfaction simultaneously have a positive and significant influence on repurchase decisions.

Analysis of Research Results

Analysis of research results on 7 variables, namely product, price, distribution channel, promotion, service quality, customer satisfaction and repurchase decisions, shows the results of questionnaire tests, descriptive statistics, correlation analysis, classical assumption tests, regression equations, hypothesis tests, model tests and sobel tests.

a) Questionnaire Test. The results of the validity test using the pearson product moment method show a significant correlation declared valid, because each item has a Sig (2-tailed) level of 0.000 < r table 0.505 (1% or 0.01 and n = 250). The results of the reliability test using Cronbach's alpha limit of 0.7 and above, obtained Cronbach's alpha values from each variable X, Z, and Y as follows; variables X1 = 0.890, X2 = 0.893, X3 = 0.889, X4 = 0.884, X5 = 0.879, Z = 0.878, Y = 0.877. Because Cronbach's Alpha of each variable X, Z, and Y is above > 0.7, it is stated that the measurement instrument of variables X, Z, and Y is declared reliable.
b) Descriptive Statistics. The mean value of 46 questions asked to 250 respondents showed a value of 3.77 to 4.14 where the average respondent answered above the answer less agree, namely agree and strongly agree. The highest mean (4.14) on the distribution channel variable and the lowest mean (3.77) on price.
c) Correlation Analysis. Based on the product correlation analysis of the moment several dependent variables have a strong correlation to the independent variable of the repurchase decision,: a) X2 Price; has a strong correlation to repurchase decisions, b) X4 Promotions; has a strong correlation to customer satisfaction and repurchase decisions, c) X5 Quality of Service (X6); has a strong correlation to customer satisfaction and repurchase decisions, and has a moderate correlation to government regulation. Service quality d) Z Customer Satisfaction (Z); has a strong correlation to repurchase decisions.
d) Classical Assumption Test
    a. Multicollinearity Test Results: 1) Product X1, VIF value 1.913 < 10 and TOL 0.523 > 0.10. 2) X2 Harg, VIF value 1.704 < 10 and TOL 0.587 > 0.10. 3) X3 Distribution

channel, VIF value 1.999 < 10 and TOL 0.500 > 0.10. 4) X4 Promotion, VIF value 2.015 < 10 and TOL 0.496 > 0.10. 5) X5 Quality of service, VIF value 2.147 < 10 and TOL 0.466 > 0.10. 6) Z Customer Satisfaction, VIF value 2.203 < 10 and TOL 0.454 > 0.10. VIF < 10 and TOL > 0.10 so it is stated that in the regression model there are no symptoms of multicollinearity.

b. Heteroscedasticity Test Results: using the glacier test shows that the absolute residual value of Sig. each variable X and Z consisting of X1 Product (0.472), X2 price (0.708), X3 distribution channel (0.435), X4 promotion (0.134), X5 quality of service (0.652) > 0.05 (alpha) means that there are no symptoms of heteroscedasticity.
c. Normality Test Results: using the Kolmogorov smirnov method, showed that the Absolute Value was 0.122 with the significance value of Asymp. Sig of 0.122. Asymp value. Sig of 0.122 > significance level (α) 0.05. With Asymp. Sig each variable, X1 product 0.488, X2 price 0.132, X3 distribution channel 0.184, X4 promotion 0.614, X5 service quality 0.330, Z customer satisfaction 0.440 and Y repurchase decision 0.130 > significance level (α) 0.05 which means that the analyzed data is normally distributed.
d. Linearity Test Results: using the Ramsey method, the results of F count are compared with F table, and the result: F count (1,517.27) > F table (2.05), where F table 2.05 is obtained from alpha 5%, m = 1 and (n-k) = 250-7 = 243 or F5%(243; 7)=2.05. It is then stated that the regression model for variables X, Z, with Y repurchase decisions is linear.

Regression equation

After testing the classical assumptions, the results of the SPSS calculation were obtained to answer the regression equation model 1 and 2. Regression Equation Model 1: Regression equation model 1 for testing the effect of variable X on Z customer satisfaction, for proving hypotheses 1 to 6:

Table 2. Anova Effect of X on Z

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	59,761	5	11,952	65,162	.000[b]
	Residual	44,755	244	,183		
	Total	104,516	249			

a. Dependent Variable: Customer Satisfaction

b. Predictors: (Constant), Service Quality, Product, Price, Place, Promotion

Sumber : Hasil perhitungan SPSS

Based on the ANOVA table to test the effect of variable X on Z shows the following results:

a) The value of Sig. variable X 0.000 < 0.05 means that there is a simultaneous influence of variable X on Z.
b) The value of F is calculated 65.162 > F table 2.05 means that there is a simultaneous influence of variable X on Z
c) F table is calculated by the formula :
F tabel = F (k; n–k) = F (7; 250 – 6) = F (6; 244)

The result of table F (6; 244) shows the number = 2.14

Table 3. Observation of Regression Model 1 Effect of X on Z

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,201	,228		,885	,377
	Product	,085	,063	,077	1,345	,180
	Price	,170	,050	,181	3,371	,001
	Place	,184	,064	,165	2,859	,005
	Promotion	,269	,053	,294	5,060	,000
	Service Quality	,248	,065	,225	3,830	,000

a. Dependent Variable: Customer Satisfaction

Sumber : Hasil perhitungan SPSS

Based on the table above, the regression equation model 1: the effect of variable X on Z, as follows: Z= 0,201 + 0,085X1+0,170X2 + 0,184X3 + 0,289X4 +0,248X5..... [1]. Regression Equation Model 2: Regression equation model 2 for testing the effect of variables X, Z on Y repurchase decisions, for proof of hypothesis 7 to 14:

Table 4. Anova Effect of X, Z on Y

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	59,849	6	9,975	92,335	,000[b]
	Residual	26,251	243	,108		
	Total	86,100	249			

a. Dependent Variable: Repurchase Decison

b. Predictors: (Constant), Customer Satisfaction, Price, Service Quality, Place, Promotion, Product

Sumber : Hasil perhitungan SPSS

Based on the ANOVA table to test the effect of variable X, Z on Y shows the following results:

a) The value of Sig. variable X 0.000 < 0.05 means that there is a simultaneous influence of variable X on Z.
b) The value of F is calculated 92.335 > F table 1.98 means that there is a simultaneous influence of variable X on Z
c) F table is calculated by the formula :
F tabel = F (k; n–k) = F (8; 250 – 7) = F (7; 243).

The result of table F (7; 243) shows the number = 2.05

Table 5. Observation of Regression Model 2 Effect of X, Z on Y

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,563	,165		3,415	,001
	Product	-,038	,046	-,040	-,836	,404
	Price	,130	,037	,159	3,472	,001
	Place	,052	,047	,055	1,110	,268
	Promotion	,067	,040	,084	1,653	,100
	Service Quality	,367	,048	,383	7,595	,000
	Customer Satisfaction	,299	,046	,346	6,467	,000

a. Dependent Variable: Repuchase Decision

Sumber : Hasil perhitungan SPSS

Based on the table above, the regression equation model 2: the influence of variables X, Z on Y, as follows: Y= 0,563 - 0,038X1 +0,130X2 +0,052X3+0,067X4 +0,367X5 +0,299Z ..... [2].

Intervenning Test (SOBEL TEST):

Test t – effect of variables X on Y through Z as intervening variables. This test is to prove whether variable Z is able to didiasi the influence of variable X on Y?.

Table 6. Effect of Variable X on Purchasing Decision Through Customer Satisfaction

	Pengaruh langsung X thdp Y*)		Pengaruh tidak langsung langsung X thdp Z**)				Pengaruh Total X->	Ket
1	2 (Beta)	3 (Sig)	4 (A)	5 (Sig)	6(B)	7=4x6	8=2+7	9
(Constant)		,001		,377				
X1 Product	-,040	,404	,077	,180	,299	,023	-,017	
X2 Price	,159	,001	,181	,001	,299	,054	,213	ok
X3 Place	,055	,268	,165	,005	,299	,050	,104	
X4 Promotion	,084	,100	,294	,000	,299	,088	,172	
X5 Service Quality	,383	,000	,225	,000	,299	,067	,450	ok

The calculation results in the table above show that the total influence of variable X on Y is greater than the direct influence or indirect influence of variable X on Y, namely: a) X2 price, total influence 0.213 > direct/indirect influence (0.159 and 0.181), b) X5 service quality, total influence 0.450 > direct/indirect influence (0.363 and 0.225), while total influence < direct/indirect influence on X1 products, X3 distribution channels andx4 promotions. In conclusion: customer satisfaction is able to mediate the effect of price and service quality on repurchase decisions, but is not able to mediate the influence of products, distribution channels and promotions.

Model Test (Determinant Coefficient / R2) :

The coefficient of determination (R2) aims to measure how far capital is able to explain the variation of the dependent variable. The value of the coefficient of determination is between zero and one. A value close to one means the independent variable (X) provides almost all the information needed to predict the variation of the dependent variable (Y). The coefficient of determination for the variation of the dependent variable can be seen in the Model Summary table generated by the SPSS calculation, in Table.

A. The effect of independent variation x on the dependent variable z.

Table 7. Effect of variable X on Z

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.721[a]	,520	,510	,449

a. Predictors: (Constant), Service Quality, Product, Place, Promotion, Price

From the output above, an Adjusted R Square value (coefficient of determination) of 0.510 is obtained which means the influence of variable X consisting of X1 product, X2 price, X3 distribution channel, X4 promotion, X5 service quality, on the dependent variable Z customer satisfaction by 51%. And the remaining 49% was influenced by other factors outside this study.

B. The effect of independent variation X, Z on the dependent variable Y.

Table 8. Effect of variables X, Z on Y

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.834[a]	,695	,688	,329

a. Predictors: (Constant), Customer Satisfaction, Price, Service Quality, Place, Promotion, Product

From the output above, the Adjusted R Square value (coefficient of determination) is 0.688 which means the influence of variable X consisting of X1 product, X2 price, X3 distribution channel, X4 promotion, X5 service quality, Z customer satisfaction on the dependent variable Y electricity repurchase decision of 68.8%. And the remaining 31.2% was influenced by other factors outside this study.

Hypothesis Test Results

Based on the empirical testing proposed in this study, hypothesis testing was carried out using linear regression in structural equation models 1 and 2 above. Table 9 presents the results of hypothesis testing, where if the p value is less than 0.05 then the relationship between variables is significant. The test results are presented as follows:

Table 9. Hypothesis Test Results

Hipotesis	Variable		Influence of Variable			Table	Information
	Eksogen	Endogen	Unstandardized Coef. B	t	Sig,		
H1	X1 - Product	Z - Customer Satisfaction	0,850	1,345	0,180	3	rejected
H2	X2 - Price	Z - Customer Satisfaction	0,170	3,371	0,001	3	accepted
H3	X3 - Place	Z - Customer Satisfaction	0,184	2,859	0,005	3	accepted
H4	X4 - Promotion	Z - Customer Satisfaction	0,269	5,060	0,000	3	accepted
H5	X5 - Service Quality	Z - Customer Satisfaction	0,248	3,830	0,000	3	accepted
H6	X1 Product, X2 Price, X3 Place, X4 Promotion, X5 Service Quality	Z - Customer Satisfaction	Adjusted R^2 = 0,510	F = 65,162	0,000	2	accepted
H7	X1 - Product	Y - Repurchase Decision	-0,038	-0,836	0,404	5	rejected
H8	X2 - Price	Y - Repurchase Decision	0,130	3,472	0,001	5	accepted
H9	X3 - Place	Y - Repurchase Decision	0,052	1,110	0,268	5	rejected
H10	X4 - Promotion	Y - Repurchase Decision	0,067	1,653	0,100	5	rejected
H11	X5 - Service Quality	Y - Repurchase Decision	0,367	7,595	0,000	5	accepted
H12	Z - Customer Satisfaction	Y - Repurchase Decision	0,299	6,467	0,000	5	accepted
H13	Z - Customer Satisfaction (Intervenning) :		*Direct Inf,*	*Indirect Inf.*	*Total Inf*	6	
	X1 - Product	Y - Repurchase Decision	-0,040	0,077	-0,017		rejected
	X2 - Price		0,159	0,181	0,213	ok	accepted
	X3 - Place		0,055	0,165	0,104		rejected
	X4 - Promotion		0,084	0,294	0,172		rejected
	X5 - Service Quality		0,383	0,225	0,450	ok	accepted
H13	X1 Product, X2 Price, X3 Place, X4 Promotion, X5 Service Quality Z Customer Satisfaction	Y - Repurchase Decision	Adjusted R^2 = 0,688	F = 92,335	0,000	4	accepted

Sumber : Perhitungan SPSS, data diolah

Discussion

Research findings show that marketing mix, service quality have an influence on customer satisfaction which has an impact on electricity repurchase decisions. Electric power products have a positive but not significant effect on customer satisfaction, but have a negative and insignificant effect on electricity repurchase decisions, indicating that electricity is still needed but its existence is not felt by customers, except during power outages. According to Kotler & Amstrong, (1999); Customers usually choose products and services that give them the greatest value. For the case of electrical products is not too significant. The results of this study refute previous research proposed by Ikmala et al., (2020), Sukesi & Yunaidah, (2020).

The price of electricity has a positive and significant effect on customer satisfaction and electricity purchase decisions, showing that people really want electricity prices in accordance with their economy, meaning that the electricity products they buy must be in accordance with the quality of electricity and the quality of service provided by electricity companies. The findings of this study are in accordance with previous research proposed by

Mutia Rosadi, (2019), Ali Qalati et al., (2019: 152), and Prasilowati et al., (2021: 454), This finding is also supported by Daniel Sadi Kirschen, (2019: 18) who states that if two goods complement, a change in one's demand will be accompanied by a change in demand that equals the other, likewise electricity and electric heating obviously complement. Positive influence means that increasing the price of a product will still increase satisfaction, this case usually occurs for certain products that are considered prices are still within reasonable limits or there is an element of prestige. In addition, electricity prices are still considered reasonable compared to electricity tariffs in several countries, for example the average tariff for non-subsidized household customers in Indonesia is Rp1,445 per kWh, Thailand Rp1,597 per kWh, Vietnam Rp1,532 per kWh, Singapore Rp2,863 per kWh, Philippines Rp2,421 per kWh. Malaysia Rp1,735/kWh, (Link *https://bit.ly/44WhqCj*).

Distribution channels have a positive and significant effect on customer satisfaction, but not significantly on electricity repurchase decisions. The findings of this study are in accordance with previous research put forward by (Situmeang et al., 2020: 48); supporting the statement of Riyadi et al., (2021: 819); that information technology can increase the competitiveness of companies directly and indirectly by improving supply chain performance. The electricity system has adopted a distribution channel strategy as proposed by Russell (2020; 47) that distribution strategies are basic, ubiquitous, selective distribution, and exclusive distribution. Promotions have a positive and significant effect on customer satisfaction but not significantly on electricity repurchase decisions. Promotion in general generally has the aim of increasing sales, but in empirical results the growth of electricity sales has not been maximized and is still below the number of electricity production in the last 5 years. The findings of this study are in accordance with previous research proposed by Erwin1, et al (2021), Lestari et al., (2021). The results of this study are also supported by the opinion expressed by Solomon, (2011: 361); Promotion is a marketing strategy focusing on how to market products, what media to use, and so on.

Service quality has a positive and significant effect on customer satisfaction and electricity repurchase decisions. The results of this study are in accordance with previous research submitted by Raditya et al., (2019), Sukesi &; Yunaidah, (2020), Alabbodi, (2019), Mohd Paiz et al., (2020) and Shokouhyar et al., (2020). The impact of service quality on customer satisfaction is in accordance with the American Society for Quality statemnt that quality is the totality of features and characteristics of a product or service that depend on its ability to satisfy needs. According to Kotler & Keller, (2016), that company that most often meets most of the needs of its customers is called a high-quality company. So it can be said that quality products or services will have an impact on customer satisfaction. In the electricity system, one of PLN's commitments to maintain the quality of service and distribution of electricity in accordance with the mandate of article 29 of Law No. 30 of 2009 concerning Electricity, is to compensate customers or the public in the event of an outage caused by errors and/or negligence in operation by the holder of the electricity supply business license in accordance with the conditions stipulated in the electricity purchase agreement.

Customer satisfaction has a positive and significant effect on electricity repurchase decisions. The results of this study support previous research put forward by Badarou, (2021) that customer satisfaction has a positive and significant effect on repurchase decisions, the more satisfied customers are, the more they tend to buy. In the case of electricity repurchases, the influence of customer satisfaction remains important to improve electricity repurchase decisions, because in the future electricity providers will be more and more with the entry of clean energy technologies such as solar, wind and others whose prices will be cheaper as in some other countries.

CONCLUSION

Based on research findings and discussion of hypothesis testing, it can be concluded as follows:

a) Electric power is one type of product and basic infrastructure whose availability is needed by the community in carrying out their daily activities. Increasing customer complaints about electricity use and service are obstacles in creating customer satisfaction. Customers are increasingly aware of the need for the environment and clean energy, while the electricity sector is the largest contributor to carbon gas because electricity production and vehicles still use fossil fuels which impact the environmental problem of global warming.
b) Factors that have a positive and significant effect on customer satisfaction have a positive and significant effect on electricity customer satisfaction, namely; (1) price, (2) distribution channels, (3) promotion, and (4) quality of service. While other factors that do not have a significant effect on electricity customer satisfaction are products.
c) Together, customer characteristics, products, prices, distribution channels, promotions, service quality, have a significant effect on customer satisfaction, affect 0.51 which means the influence of customer characteristics, products, prices, distribution channels, promotions, service quality, on customer satisfaction by 51%, and the remaining 49% is influenced by other factors outside this study.
d) Factors that have a positive and significant influence on the decision to repurchase electricity of PT PLN (Persero) are; (1) price, (2) quality of service and (2) quality of service. Meanwhile, factors that do not have a significant effect on electricity purchasing decisions are (1) products, (2) distribution channels, and (3) promotions.
e) Customer satisfaction as an intervening variable is able to mediate the increase in the influence of price, distribution channels, promotions and service quality on electricity repurchase decisions. As for other variables, customer satisfaction is not able to mediate the influence of customer and product characteristics on electricity purchase decisions.
f) Together, products, prices, distribution channels, promotions, service quality, customer satisfaction have a significant effect on electricity repurchase decisions, with a coefficient of influence of 0.677, meaning the influence of customer characteristics, products, prices, distribution channels, promotions, service quality, customer satisfaction, government regulations, customer satisfaction along with government regulations on electricity repurchase decisions by 67.7%. And the remaining 22.3% was influenced by other factors outside this study.

REFERENCES

Ahsan, M. (2021). Tantangan dan Peluang Pembangunan Proyek Pembangkit Listrik Energi Baru Terbarukan (EBT) di Indonesia. *Jurnal Ilmiah Sutet*, *11*(2), 81–93. https://stt-pln.e-journal.id/sutet/article/view/1575

Ahsan, M., Zulfadli, Y., Diksi, ;, & Umar, E. (2022). Pemanfaatan Simulasi Monte Carlo Untuk Perhitungan Kinerja Gangguan Tenaga Listrik Pada PT PLN (Persero) UIW Suluttenggo. *Ilmiah Sutet*, *12*(2), 62–74. https://jurnal.itpln.ac.id/sutet/article/view/1869

Alabbodi, A. S. (2019). The effect of customer satisfaction on service quality: The case of Iraqi banks. *International Journal of Appl Ied Research*, *5*(1), 146–152. https://www.researchgate.net/publication/330385389

Allen, D. R. (2011). Customer Satisfaction Research Management. In *The Handbook of Marketing Research* (Second Edi). ASQ Quality Press Milwaukee, Wisconsin. https://doi.org/10.4135/9781412973380.n27

Anthony G. Bennett. (2010). The Big Book of Marketing. In *MC Graw Hill* (Vol. 11, Issue 3). https://www.m-culture.go.th/mculture_th/download/king9/Glossary_about_HM_King_Bhumibol_Adulyadej's_Funeral.pdf

Arianto, N., & Difa, S. A. (2020). Pengaruh Kualitas Pelayanan Dan Kualitas Produk Terhadap Minat Beli Konsumen Pada PT Nirwana Gemilang Property. *Jurnal Disrupsi Bisnis: Jurnal Ilmiah Prodi Manajemen, Fakultas Ekonomi, Universitas Pamulang*, *3*(2), 108–119. https://doi.org/10.32493/drb.v3i2.6299

Badarou, N. S. (2021). Impact of Customer Satisfaction on Purchasing Decision. *The International Journal of Business & Management*, *9*(6), 9–12. https://doi.org/10.24940/theijbm/2021/v9/i6/bm2106-004

Budiastari, S. (2018). Pengaruh kualitas Produk, Persepsi Harga dan Citra Merek Terhadap, Merek dan Kepuasan Pelanggan, Loyalitas Pakai, Siap Di, Holcim. *Jurnal Dinamika Manajemen Dan Bisnis*, *1*(1), 87–106. http://journal.unj.ac.id/unj/index.php/jdmb/article/view/3926

Drummond, G., & Ensor, J. (2005). Introduction to Marketing Concepts. In *Elsevier Butterworth-Heinemann* (First Edit, Vol. 59). First published 2005.

Firmansyah, A. (2018). *Perilaku Konsumen (Sikap dan Pemasaran)* (1st Editio, Issue September). DEEPUBLISH. https://doi.org/10.31227/osf.io/pfjhz

Gajali, J. AL, Hufron, M., & Rahman, F. (2020). Analisis Pengaruh Bauran Pemasaran (7P) Terhadap Keputusan Pembelian Pada Rumah Makan Nasi Bakar Bilmar Adam (Studi Pada Konsumen Nasi Bakar Bilmar Adam di Kecamatan Kumai Provinsi Kalimantan Tengah). *Laboratorium Penelitian Dan Pengembangan FARMAKA TROPIS Fakultas Farmasi Universitas Mualawarman, Samarinda, Kalimantan Timur*, *April*, 5–24.

Gatrik, D. (2020). Kebijakan penyediaan tenaga listrik nasional. *Direktorat Jenderal Ketenagalistrikan Kementerian Energi Dan Sumber Daya Mineral Republik Indonesia*, *September*, 1–27. www.gatrik.esdm.go.id

Grigoroudis, E., & Siskos, Y. (2010). *Customer Satisfaction Evaluation: Methods for Customer Satisfaction Evaluation* (F. S. Hillier (ed.)). © Springer Science+Business Media, LLC 2010. www.springer.com/series/6161

Irine, R., & Utami, S. (2018). Kualitas Produk Sebagai Variabel Pemicu Utama Keputusan Pembelian Susu Formula SGM Eksplore di Kota Surabaya. *Jurnal Bisnis Dan Manajemen*, *29*(1). doi: http://dx.doi.org/10.25139/ekt.v2i1.722

Jainuddin, & Sri, E. (2020). Pengaruh Promosi dan Saluran Distribusi Terhadap Volume Penjualan Sosis BE MART Cabang Bima. *Pamator Journal*, *13*(1), 13–17. https://doi.org/10.21107/pamator.v13i1.6917

Kotler, & Armstrong, P., and G. (2008). Prinsip-Prinsip Pemasaran. In *Erlangga*.

Kotler, P., & Keller, K. (2016). Marketing Management, Global Edition. In S. U. Program (Ed.), *Pearson Education* (15 th). Pearson Education Limited 2016. http://www.pearsonmylabandmastering.com

Kotler, P., & Keller, K. L. (2008). *Marketing management* (13 th). Upper Saddle River, New Jersey: Prentice Hall.

Kotler, P., Lane, Keller Kevin, & Chernev, A. (2022). Marketing Management. In *Pearson* (Sixteenth). Pearson. https://support.pearson.com/getsupport/s/

Kumar, P., & Ghodeswar, B. M. (2015). Factors affecting consumers' green product purchase decisions. *Marketing Intelligence and Planning*, *33*(3), 330–347. https://doi.org/10.1108/MIP-03-2014-0068

Lestari, S., Suyanto, SyafitroRI, J., & Wadana, M. K. (2021). The Impact of Service Quality on Customer Satisfaction: The Role of Price. *Journal of Asian Finance, Economics and Business*, *8*(1). https://doi.org/10.13106/jafeb.2021.vol8.no1.451

Mahmoud, T. O. (2018). Impact of green marketing mix on purchase intention. *International Journal of ADVANCED AND APPLIED SCIENCES*, *5*(2), 127–135. https://doi.org/10.21833/ijaas.2018.02.020

Mutia Rosadi, S. A. (2019). Faktor- Faktor Yang Mempengaruhi Konsumsi Listrik Di Indonesia. *Jurnal Kajian Ekonomi Dan Pembangunan*, *Volume 1*, Hal 273-286.

Podbregar, I., Filipović, S., Radovanović, M., Isaeva, O. M., & Šprajc, P. (2021). Electricity prices and consumer behavior, case study Serbia—randomized control trials method. *Energies*, *14*(3), 1–12. https://doi.org/10.3390/en14030591

Raditya, B., Indrasari, M., Handini, S., & Soekiman, S. (2019). *The Effect of Quality of Products and Services on Trust and Decision of Customers to Choose Banks (Study at Sampang Bank Rakyat Indonesia Branch)*. *December*, 1–4. https://doi.org/10.4108/eai.30-7-2019.2287615

Ramli, S., Mus, A. R., Damis, H., & Mahmud, A. (2021). The Intervening of Purchase Decision Between Marketing Mix, Consumer Behaviour and Brand Image on Customer Satisfaction. *Jurnal Manajemen Bisnis*, *8*(2), 382–396. https://doi.org/10.33096/jmb.v8i2.925

Riyadi, S., Munizu, M., & Arif, D. (2021). Supply chain performance as a mediating variable effect of information technology on company competitiveness. *Uncertain Supply Chain Management*, *9*(4), 811–822. https://doi.org/10.5267/j.uscm.2021.8.008

Situmeang, R. R., Tanzil, W., Tandratama, V., & Putra, S. A. (2020). The Effect of Product Quality, Distribution Channels, and Service Quality on Customer Satisfaction Spotlights. *Jl. Sekip Jl. Sikambing No.Simpang, Sei Putih Tim. I, Kec. Medan Petisah*, *10*(2), 44–49. www.enrichment.iocspublisher.org

Solomon, M. R. (2011). Consumer Behavior: Buying, Having and Being. In *Pearson* (12th Edition, Vol. 11, Issue 1).

Stauss, B., & Seidel, W. (2019). Effective Complaint Management: The Business Case for Customer Satisfaction. In Springer (Ed.), *Springer Nature Switzerland AG* (2nd Edition). # Springer Nature Switzerland AG 2004, 2019.

Sukesi, S., & Yunaidah, I. (2020). The effect of tax socialization, superior service, and service quality on taxpayers' satisfaction and compliance. *Journal of Economics, Business, & Accountancy Ventura*, *22*(3), 347–359. https://doi.org/10.14414/jebav.v22i3.1698

Tim Sekretaris Jenderal Dewan Energi Nasional. (2019). Indonesia Energy Out Look 2019. *Outlook Energi Indonesia 2019*, *53*(9), 1689–1699.