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Abstract

The increased demand for mobile services drives increasingly fierce competition among mobile telecommunications providers in Indonesia. New promotional strategies are needed, and companies are advised to determine the target group of customers to collect objective and adequate information regarding their real needs, such as college students. Therefore, this study examines college students' perceptions of adopting mobile telecommunication provider services in Indonesia. This study especially explains the effects of customer perceptions regarding service quality, price fairness, and brand image on satisfaction that leads to customer loyalty. A total sample of 208 customers of the mobile telecommunication providers in Java Island were randomly selected for the study, and the data collected was analyzed with CB-SEM. The empirical results revealed a positive significant impact of customer perceptions of service quality, price fairness, and brand image on customer satisfaction. College students' perception of price fairness has the largest significant positive influence on customer satisfaction and loyalty. The mediation mechanism analysis also confirms that customer satisfaction partially mediates between customer perceptions of service quality and brand image. This study suggests that mobile telecommunication providers in Indonesia develop superior pricing strategies to increase customer satisfaction, leading to customer loyalty.

Keywords: Customer Perception, Customer Satisfaction, Customer Loyalty

1. Introduction

Indonesian society is increasingly open to information and accepting technological changes towards an information society. BPS (2022) recorded that 90.54 percent of households in Indonesia have owned or controlled a mobile phone. This figure increased when compared to 2018 at 88.46 percent. Mobile phone facilities have a significant role as a medium for Internet access. APJII (2022) states that the internet penetration rate in Indonesia in 2021-2022 (first quarter) is 77.02 percent of the total population of Indonesia in 2021. This percentage also increased by 4.50 percent compared to 2019-2020. This increased demand for mobile services drives increasingly fierce competition among mobile telecommunications providers in Indonesia. Goh et al. (2020) explain the need for new promotional strategies to meet changing customer needs. In addition, customer satisfaction is important in mobile services and will impact customer loyalty. Kotler and Keller (2009) state that creating loyal customers is the core of every business. A business is successful if it manages to acquire, retain, and grow customers.

Mobile operators should realize that customers perceive satisfaction differently (Ansah, 2020). Companies are advised to determine the target group of customers (existing and potential) to collect objective and adequate information regarding their real needs (Willys, 2018). Students are one of the potential customer target groups. Based on demographics, students and college students are internet users, with the largest penetration rate in Indonesia at 99.26 percent (APJII, 2022). Educated and young customers are very conscious of talk time, network, service quality, internet facilities, and product offerings (Kumar et al., 2021). Understanding the preferences and trends of markets such as college students is important for mobile service providers in building effective and efficient business strategies (Goh et al., 2020).

A customer's positive perception of a product will increase satisfaction and further influence customer loyalty (Ansah, 2020). Mobile phone users consider service quality as the most compelling element in shaping their satisfaction (Aslam et al., 2018), which can ultimately lead them toward loyalty (Waqar and Khan, 2020). Price fairness also greatly impacts customer satisfaction as customers can evaluate the value of the service they receive based on their price (San et al., 2022; Hanaysha, 2016) and then create customer loyalty (Vu et al., 2021). In addition, mobile operators are advised to improve the company's overall brand image to increase customer satisfaction and reduce consumer switching to other mobile operators. Retaining existing customers is easier than finding new ones (Chigwende and Govender, 2020).

Many studies have analyzed customer satisfaction and loyalty in the telecommunications industry (San et al., 2022; Ansah, 2020; Mohamad Yazid et al., 2021; Ting et al., 2020; Shamsudin et al., 2020; Juliana, 2019). However, these studies did not specifically analyze customers' perceptions, such as college students, except for the research conducted by Goh et al. (2020) in Malaysia. Therefore, this study examines college students' perceptions of adopting mobile telecommunication provider services in Indonesia. This study especially explains the effects of customer perceptions regarding service quality, price fairness, and brand image on satisfaction that leads to customer loyalty. The findings of this study can help marketing practitioners in the mobile telecommunications sector in Indonesia as an important contribution to the knowledge of customer satisfaction and loyalty.

Customer Satisfaction

Customer satisfaction is generally explained as fulfilling one's expectations (Oliver, 1980). Satisfaction is a person's pleasure or disappointment from comparing perceived product performance against their expectations. The customer will be satisfied and happy if the performance matches or exceeds expectations (Kotler and Keller, 2009). Customer satisfaction is the essence of success in today's highly competitive business environment (Jamal and Naser, 2002). Marketers must pay attention to customer satisfaction to achieve a competitive advantage, namely satisfaction that exceeds customer expectations according to their needs and desires (Minta, 2018). Customer satisfaction is key in shaping customers' future purchase intentions (Jamal and Naser, 2002; Taylor and Baker, 1994). Woodruff (1997) identified that measuring customer satisfaction without fulfilling customer-perceived value cannot meet customer expectations. Therefore, further variables must exist to explain the relationship between customer satisfaction and loyalty.

Customer Loyalty

Loyal customers continuously use an organization's services and show loyalty, commitment, and pride in using the service (Supriyanto et al., 2021). Oliver (1997) describes customer loyalty as a strong ongoing commitment to repurchase or support a preferred product or service consistently in the future, thereby creating repeat purchases. One of the keys to maintaining loyalty is customer satisfaction. Highly satisfied customers tend to remain loyal over a long period, talk good things about the company and its products to others, pay less attention to competing brands, and cost less to serve than new customers (Kotler and Keller, 2009). The importance of customer loyalty is closely related to company survival and strong growth in the future (Kim et al., 2004).

Customer Perception

Customers gain benefits and bear costs. Customer perceived value is based on the difference between the total benefits (product, service, personal, and image) and the total costs (monetary, time, energy, and psychological) of different options. Ultimately, customers make choices by estimating which offer will deliver the highest value and act on that estimate. Whether or not an offering matches expectations will affect customer satisfaction and the probability that the customer will buy the product again (Kotler and Keller, 2009).

Service Quality

Service quality has attracted the attention of academics and practitioners in recent decades due to its significant impact on company performance outcomes such as customer satisfaction, loyalty, and profitability (Gontur et al., 2022). Service quality is considered a major source of competitive advantage because it helps attract and retain customers (Irfan and Hadi, 2016). Kotler and Keller (2009) state that quality is the totality of features and characteristics of a product or service that depend on its ability to satisfy needs. A seller has delivered quality when its products or services meet or exceed customer expectations. Gronroos (1984) defines service quality as the result of an evaluation process in which the consumer compares his expectations with the service he feels or receives. Naini et al. (2022) added that service quality is defined as satisfying customer needs and desires and the accuracy of delivery in balancing customer expectations.

Price Fairness

From the consumer's point of view, price is what is given up or sacrificed to obtain a product (Zeithaml, 1988). Price fairness can refer to the extent to which outcomes are perceived as reasonable and fair and to which sacrifices and benefits are commensurate. Price fairness assessments can be based on three price reference points: past prices, competitor prices, and company costs (Bolton et al., 2003). Xia et al. (2004) define perceived price fairness as the overall consumer assessment of whether the price offered of a product or service by a seller is reasonable, acceptable, or justified. Hanaysha (2016) explains that consumers look for products and services at the best price to provide maximum value. Evaluation of price fairness involves comparing prices with certain standards or references.

Brand Image

Keller (1993) states that brand image is defined as the perception of a brand that is reflected in the brand associations stored in consumers' memories. Consumers often form a more favorable perception of a product with a brand that they already perceive positively (Kotler and Keller, 2009). Ind (1997) explains that when consumers buy products from a company, they are not only purchasing a product but also receiving a set of values representing the company. A strong brand image can differentiate a product from its competitors and encourage repeat purchases (Porter and Claycomb, 1997; Hsieh et al., 2004), in addition to gaining a better position in the market, sustainable competitive advantage, and increasing market share (Park et al., 1986).

Hypothesis Development

Customer Perception of Service Quality, Brand Image, and Service Price Fairness and Customer Satisfaction

Increasing customer perceptions of service quality, price fairness, and brand image of telecommunications networks will increase customer satisfaction when using these services (Ansah, 2020). Aslam et al. (2018) found that service quality significantly and directly influences customer satisfaction. This is in line with the study conducted by Kumar et al. (2021), Mohamad Yazid et al. (2021), Nyan et al. (2020), and Shamsudin et al. (2020) which concluded that there is a significant and positive relationship between service quality and customer satisfaction. Price fairness also has a significant positive effect on customer satisfaction (Hanaysha, 2016; Kumar et al., 2021; San et al., 2022), and an increase in the price of a product will show a negative effect on customer satisfaction (Juliana, 2019). The fairness of service prices positively and strongly influences customer satisfaction, such as with college students (Goh et al., 2020). Research by Ting et al. (2020) concluded that corporate image is a factor that predicts the level of customer satisfaction by strengthening the bond of satisfaction between consumers and service providers. There is a positive relationship between a good brand image by mobile network companies and customer satisfaction (Chigwende and Govender, 2020). In their research, Ugwunwanyi et al. (2021) added that doing business by promoting a positive

image will foster a reputation that can increase customer satisfaction and marketing performance in the mobile telecommunications industry. Based on these things, this study hypothesizes that:

- H₁: A significant positive relationship exists between customer perception of service quality and customer satisfaction.
- H₂: A significant positive relationship exists between customer perception of price fairness and customer satisfaction.
- H₃: A significant positive relationship exists between customer perception of brand image and customer satisfaction.

Mediation Role of Customer Satisfaction in the Relationship between Customer Perception and Customer Loyalty

Customers' positive perceptions of service quality, price fairness, and brand image have a statistically significant and positive indirect impact on customer loyalty through the mediating variable of customer satisfaction (Ansah, 2020). Customer satisfaction is a key factor in creating customer loyalty. Several studies have shown that customer satisfaction has a negative influence on brand-switching intentions (Goh et al., 2020) and a positive impact on customer loyalty (Chigwende and Govender, 2020; Aslam et al., 2018; Ramadania et al., 2018). Customer satisfaction mediates the relationship between service quality and customer loyalty (Nyan et al., 2020; Ramadania et al., 2018; Mahmood et al., 2018). If the company offers quality products and services to customers, customers will be more loyal to that brand than other brands (Waqar and Khan, 2020). Research by San et al. (2022) found that customer satisfaction is a mediator in the relationship between price fairness and customer loyalty. This result is supported by Vu et al. (2021), which state that to increase customer loyalty, telecommunication service providers should focus on the price structure dimension because it has the strongest positive impact on customer satisfaction and loyalty. Customers like college students will likely switch to other brands if call, data, and SMS rates are unreasonable (Goh et al., 2020). If a company uses favorable pricing strategies for its products, it can positively impact customer satisfaction, leading customers toward loyalty (Waqar and Khan, 2020). Customer satisfaction mediates corporate brand image and customer loyalty (Mohamad Yazid et al., 2021; Chigwende and Govender, 2020; Anwar et al., 2019; Tu et al., 2012). In their research, Anwar et al. (2019) explained that brands that have a positive image in customers' minds will satisfy customers and help them become loyal to the brand. Based on these things, this study hypothesizes that:

- H₄: A significant positive relationship exists between customer satisfaction and customer loyalty.
- H₅: Customer satisfaction significantly mediates service quality and customer loyalty.
- H₆: Customer satisfaction significantly mediates price fairness and customer loyalty.
- H₇: Customer satisfaction significantly mediates brand image and customer loyalty.

2. Method

A quantitative research approach was utilized for collecting the relevant data of this study using a survey technique through a questionnaire. Specifically, the sampling frame of this study consists of college students at all universities in Java Island, Indonesia. Java Island was chosen as the research location since the area is the island with the largest internet contribution rate in Indonesia (APJII, 2022). The sampling technique used purposive sampling with a total sample size of 208, where outlier data will be eliminated in the data analysis test. Finally, a total of 198 questionnaires can be used for analysis. The researcher adapted instruments from previous studies to develop the survey questions using a 5-point Likert scale ranging from 1 strongly disagree to 5 strongly agree. The variables in this study consisted of service quality (SQ), price

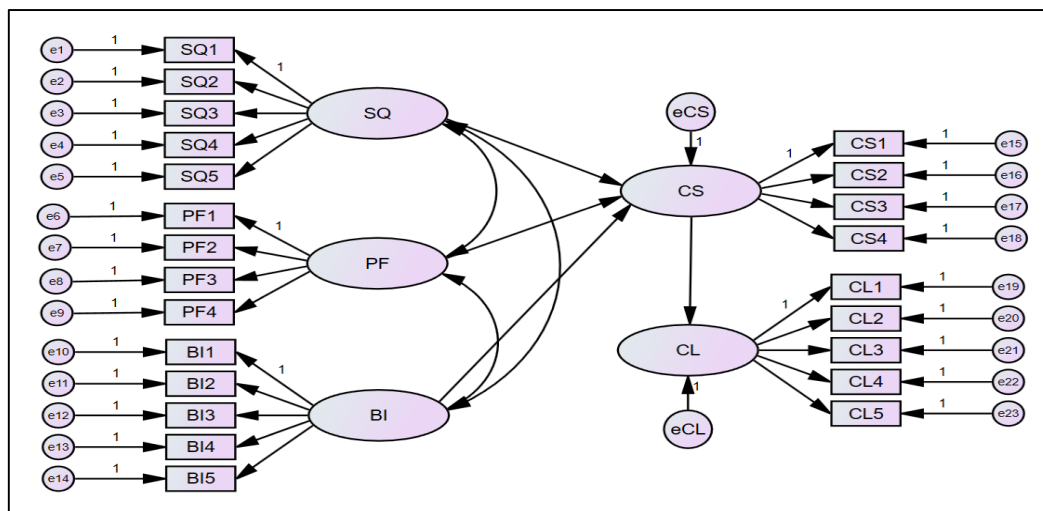
fairness (PF), brand image (BI), customer satisfaction (CS), and customer loyalty (CL). The operational definition of the variables can be seen in Table 1.

Table 1

Operational Definition of the Variables

Variable	Indicator	Source
Service Quality (SQ)	SQ1 - Coverage	Kim et al. (2004)
	SQ2 - Call Clarity	
	SQ3 - Value-added Service	
	SQ4 - Customer Support	
	SQ5 - Convenience in Procedures	
Price Fairness (PF)	PF1 - Reasonable	Srikanjanarak et al. (2009)
	PF2 - Flexible	
	PF3 - Acceptable	
	PF4 - Superiority	
Brand Image (BI)	BI1 - Well-liked	(Qayyum et al., 2013; Morgan and Govender, 2017)
	BI2 - Respected Brand	
	BI3 - Stable and Firmly Established	
	BI4 - Leading Firm	
	BI5 - Positive Image	
Customer Satisfaction (CS)	CS1 - Satisfying Service	(Morgan and Govender, 2017; Minta, 2008)
	CS2 - Meets My Expectations	
	CS3 - Meets My Needs	
	CS4 - Pleasant Relationship	
Customer Loyalty (CL)	CL1 - Loyal	(Qayyum et al., 2013; Nyan et al., 2020)
	CL2 - Repurchase Intention	
	CL3 - Willingness to Recommend	
	CL4 - Resistance to Switching	
	CL5 - Positive Word of Mouth	

Source: Processed Data (2023)



The statistical technique used was Covariance-Based Structural Equation Modelling (CB-SEM) to analyze the data and proposed relationship (Hair et al., 2006). There is a two-step approach to testing the hypothesis of this study. The measurement model test will be carried out in the first step, and the second step is the structural model test. The researcher used IBM SPSS

AMOS 22 to conduct CB-SEM analysis in this study. Measurement model testing is carried out with Confirmatory Factor Analysis (CFA) statistical techniques using convergent and discriminant validity tests (Ghozali, 2014). Convergent validity tests such as the Standardized Loading Factor (SLF), Construct Reliability (CR), and Average Variance Extracted (AVE) are used to test whether the indicator variables used are truly significant in reflecting latent variables. Hair et al. (2010) suggest that the SLF value $\geq 0,5$ already shows good convergent validity properties, the CR value ≥ 0.7 includes good reliability, and the AVE value $\geq 0,5$ indicates adequate convergence. A discriminant validity test measures how far a latent variable differs from others. This test is carried out by comparing the square root value of the AVE with the correlation value between latent variables (Ghozali, 2014). Furthermore, structural model testing will be carried out, namely testing the significance of the direct and indirect effects of the hypothesis. The significance of direct influence is tested by looking at the path coefficient and significance values (p -value < 0.05). Testing the significance of indirect effects (mediation) is done using the Sobel Test (Gio, 2022).

3. Results

Respondents' Characteristics

Table 2

Respondents' Characteristics

Variable		Frequency	Percentage
Gender	Male	87	43.9
	Female	111	56.1
Age Group	15-24 years	88	44.4
	25-34 years	110	55.6
Education Level	D1/D2/D3	46	23.2
	D4/S1	23	11.6
	S2/S3	129	65.2
Period of Using Current Mobile Service Provider	Below one year	64	32.3
	1-3 years	70	35.4
	3-5 years	46	23.2
	More than five years	18	9.1

*Sample size = 198

Table 2 shows 198 students were recruited as respondents in this study, of which 43.9% were male and 56.1% were female. The ages of the respondents were grouped into two categories. Most of them (55.6%) were from the age group of 25-34 years old. Regarding the respondents' education level, 23.2% were D1/D2/D3 students, 11.6% were D4/S1 students, and 65.2% were S2/S3 students. Finally, most respondents (35.4%) have been using the current mobile service for 1-3 years, 32.3% have used it for less than one year, 23.2% have used it for 3-5 years, and 9.1% have used it for more than five years.

The results of the validity and reliability test of the variables of service quality, price fairness, brand image, customer satisfaction, and customer loyalty show that the p -value is smaller than $\alpha = 0.05$ (5%) and the Cronbach Alpha coefficient value = 0.959 > 0.6 , so it can be said that all Question items on research variables have been valid and reliable. The

multivariate normal assumption test results obtained the value $|CR| = 2.23 < 2.58$, meaning that the multivariate normal assumptions have been fulfilled. Evaluation of the outer model (construct model) has two stages. First, the evaluation of convergent validity shows the loading factor > 0.500 , meaning that all indicators in the variable can be used for further analysis. Second, the evaluation of construct reliability in Table 3 shows composite reliability > 0.700 , meaning that the entire construct model in this study has good reliability.

Measurement Model Test

Validity and reliability testing is conducted to test whether the indicator variables used are significant in reflecting latent variables (convergent validity). Table 3 shows the measurement scale of the construct research results. Researchers use Standardized Loading Factor (SLF) and Construct Reliability (CR) to evaluate research reliability. The SLF value must be greater than 0.5, and the CR value must be greater than 0.7, which indicates sufficient internal consistency of the constructs (Hair et al., 2017). Table 3 shows that the SLF and CR values of the independent variables are above 0.70. Thus, these concepts have internal consistent reliability. Researchers conducted factor loadings of all item values and average variance extracted (AVE) to estimate convergent validity. Factor loading and AVE should be higher than 0.50 (Hair et al., 2017). In this study, the factor loadings of all items and AVE values were above 0.50. Therefore, the convergent validity of the ideas is appropriate.

Table 3

Convergent Validity Result

Variable	Indicator	SLF	Composite Reliability	AVE
Service Quality (SQ)	SQ1	0.822	0.893	0.626
	SQ2	0.809		
	SQ3	0.763		
	SQ4	0.760		
	SQ5	0.800		
Price Fairness (PF)	PF1	0.697	0.859	0.604
	PF2	0.816		
	PF3	0.798		
	PF4	0.801		
Brand Image (BI)	BI1	0.743	0.876	0.586
	BI2	0.783		
	BI3	0.755		
	BI4	0.778		
	BI5	0.769		
Customer Satisfaction (CS)	CS1	0.769	0.837	0.562
	CS2	0.782		
	CS3	0.726		
	CS4	0.756		
Customer Loyalty (CL)	CL1	0.804	0.903	0.651
	CL2	0.845		
	CL3	0.823		
	CL4	0.820		
	CL5	0.756		

Source: Processed Data (2023)

After convergent validity provides good results, the overall model will be tested. Table 4 presents several measures that can be used to test the overall model along with their limit values. Based on the results of the model fit test, it is found that the overall model has a good ability to match the sample data (good fit).

Table 4

Model Fit Result

Measurement of Model Fit	Value	Limit Value
GFI	0.906	≥ 0.9
RMSEA	0.034	≤ 0.05
TLI	0.982	≥ 0.9
NFI	0.928	≥ 0.9

Source: Processed Data (2023)

Next, we estimated discriminant validity through the Fornell-Larcker criterion (Fornell & Larcker, 1981). This criterion indicates the square root of the AVE index with the latent construct. Specifically, the square root of the AVE should be higher than the highest correlation with other constructs (Hair et al., 2017). Table 5 shows that the AVE square roots of service quality, brand image, customer satisfaction, and customer loyalty are higher than the corresponding latent variable correlations. As a result, the discriminant validity of these variables is good.

Table 5

Discriminant Validity Result

	CS	CL	SQ	PF	BI
CS	0.766				
CL	0.322	0.777			
SQ	0.485	0.345	0.791		
PF	0.535	0.487	0.528	0.750	
BI	0.576	0.525	0.568	0.697	0.806

Source: Processed Data (2023)

Structural Model Test

The results of the Inner model test were carried out using the R Square tests. Based on the R square test results from the structural model, the R Square coefficient for customer satisfaction is 0.937. It can be interpreted that the three exogenous variables can explain 93.7% of the variation in customer satisfaction in the model, namely service quality, price fairness, and brand image. While 6.3% remaining are other factors outside the research model. Service quality, price fairness, and brand image strongly affect customer satisfaction. Furthermore, the R Square of 0.895 is obtained for customer loyalty, meaning that 89.5% of the variation in customer loyalty can be explained by customer satisfaction, and other factors outside the research model explain 10.5%. It means that customer satisfaction has a strong effect on customer loyalty.

Table 5

R Square Test Result

Variable	R Square	Decision
CS	0.937	Strong
CL	0.895	Strong

Source: Processed Data (2023)

The researcher tested the direct effect by looking at the significance of the path coefficient at $\alpha = 0.05$. The path coefficient value is used to test the effect on the research hypothesis described in Table 6. Separately, the effect of service quality, price fairness, and brand image on customer satisfaction is significant and positively correlated. This means that better service quality, price fairness, and brand image owned by mobile telecommunication providers will increase customer satisfaction directly (Hypothesis 1, Hypothesis 2, and Hypothesis 3 accepted). Separately, the effect of customer satisfaction on customer loyalty is significant and positively correlated (Hypothesis 4 is accepted). The better the customer satisfaction, the more customer loyalty will increase directly.

Table 6.

Direct Effect Testing Result

Variable	H	Path Coefficient	P-Value	Note
SQ → CS	H1	0.256	0.011	Significant
PF → CS	H2	0.578	***	Significant
BI → CS	H3	0.378	***	Significant
CS → CL	H4	1.076	***	Significant

Source: Processed Data (2023)

Mediation Effect on Customer Satisfaction (Specific Indirect Effects)

Furthermore, mediation testing will be conducted, namely testing whether customer satisfaction mediates the relationship between service quality, price fairness, and brand image on customer loyalty. Mediation testing is done using the Sobel test. Based on the Sobel test results in Table 7, it is known that there is a significant indirect effect between service quality and customer loyalty through customer satisfaction. Also, price fairness significantly indirectly affects customer loyalty through customer satisfaction. However, the brand image has no significant indirect effect on customer loyalty through customer satisfaction. So, it is concluded that Hypothesis 5 and Hypothesis 6 are accepted, and Hypothesis 7 is rejected.

Table 7

Indirect Effect Testing Result

Variable	H	Z Sobel	P-Value	Result	Note
SQ → CS → CL	H5	2.469	0.013	Z Sobel > 1.96	Significant
PF → CS → CL	H6	5.880	0.000	Z Sobel > 1.96	Significant
BI → CS → CL	H7	0.909	0.362	Z Sobel < 1.96	Not significant

Source: Processed Data (2023)

Discussion

The findings show that service quality has a significant influence on customer satisfaction. Hence, H1 is supported. This finding is consistent with the study by Kumar et al. (2021), Mohamad Yazid et al. (2021), Nyan et al. (2020), Shamsudin et al. (2020), and Aslam et al. (2018). Educated and young individuals such as college students consider the quality of service from mobile telecommunications providers to have a relationship with their satisfaction (Kumar et al., 2021). This research shows that college students, as customers, consider service quality such as coverage, call clarity, value-added service, customer support, and conveniences in procedures as attractive elements in shaping their satisfaction with mobile telecommunication services.

Besides, price fairness has positively influenced customer satisfaction in this study. H2, hence, is supported. This finding is in line with the studies of San et al. (2022), Kumar et al.

(2021), Goh et al. (2020), Aslam et al. (2018), and Hanaysha (2016). The fairness of service prices positively and strongly influences customer satisfaction, such as with college students (Goh et al., 2020). Perceived price fairness can be considered one of the main criteria for assessing customer satisfaction (Hanaysha, 2016). Hence, it means that college students in this study perceived price fairness as an essential determinant affecting their satisfaction with mobile service providers. Price fairness also had the most potent effect on customer satisfaction in this study.

The brand image affected customer satisfaction, and H3 is supported. This finding is in line with the study by Ugwunwanyi et al. (2021), Ting et al. (2020), and Chigwende and Govender (2020). Brand image is a factor that predicts the level of customer satisfaction by strengthening the bond of satisfaction between consumers and service providers (Ting et al., 2020). This result indicates that college students in this study perceived the brand image like well-liked, respected brand, stable and firmly established, leading firm, and positive image as an essential element that affects their satisfaction.

The positive relationship between customer satisfaction and customer loyalty implies that the higher the satisfaction levels of customers, the lower the willingness customers will show in switching to other brands of mobile services. H4, hence, is supported. Therefore, there is a need for mobile service providers to understand customer's needs and wants to attract more customers and successfully retain them. This finding is similar to the results of previous studies (Chigwende and Govender, 2020; Aslam et al., 2018; Ramadania et al., 2018).

This study also shows that customer satisfaction mediates the relationship of service quality and price fairness to customer loyalty. Service quality and price fairness are positively associated with higher levels of consumer satisfaction and ultimately increase customer loyalty. This finding is consistent with previous literature (Nyan et al., 2020; San et al., 2022). However, customer satisfaction does not mediate the relationship between brand image and customer loyalty. This result is different from the research of Mohamad Yazid et al. (2021), which explains that a positive image of the company in the minds of customers will satisfy customers and help them to become loyal to the brand. This indicates that students in this study consider that the brand image of telecommunications companies in Indonesia is equally good at meeting customer needs and wants. Thus, brand image is not an essential factor that determines their loyalty. In other words, consumers such as college students in Indonesia pay more attention to telecommunication companies' service quality and price fairness when making purchasing decisions.

4. Conclusions

Increasingly fierce competition in the telecommunications industry requires mobile telecommunication providers in Indonesia to continuously innovate to follow customer preferences and market trends in designing efficient and effective business strategies, especially those focusing on the younger generation, such as college students. College students are one of the potential target customer groups in the mobile telecommunications industry in Indonesia, and it is crucial to understand their perceptions of customer satisfaction and loyalty. Customers perceive satisfaction and loyalty differently. The right features of the mobile telecommunication providers' offer will ensure customer satisfaction.

In this study, college student perceptions such as service quality, price fairness, and brand image were found to positively affect customer satisfaction, where price fairness had the most significant influence on customer satisfaction. Customer satisfaction was also positively related to mobile service customer loyalty. In addition, customer satisfaction mediates college students' perceptions of service quality and price fairness on customer loyalty. The mediation mechanism

analysis also confirms that customer satisfaction partially mediates between customer perceptions of service quality and brand image. This result means that students who are satisfied with mobile service providers' service quality and price fairness will tend to be loyal.

The findings also reveal that college student perceptions of price fairness have the largest significant positive influence on customer satisfaction and loyalty. This study confirms that college students' perceptions of price fairness can be considered one of the critical criteria for assessing customer satisfaction and loyalty in the mobile telecommunications industry in Indonesia. The findings advise mobile telecommunication providers to develop superior pricing strategies and effective pricing mechanisms to increase customer satisfaction and loyalty. Such practices enable mobile telecommunication providers to remain competitive and improve their performance in the long run.

Implications

This research contributes to knowledge in business and marketing concerning customer satisfaction and loyalty, especially college students in the mobile telecommunications industry in Indonesia. Thus, this research will add to the existing literature and enrich the understanding of the subject. From the results of this study, mobile telecommunication providers will be able to understand the importance of service quality, price fairness, and brand image on customer satisfaction and loyalty. Understanding market trends and customer preferences is important for mobile telecommunication providers in building efficient and effective business strategies, especially those focusing on the younger generation, such as college students.

Limitations and recommendations

Despite its contribution, this study also has limitations, including limited time and resources during data collection, limited sample size, and conducted only in Java Island which cannot represent the entire population of Indonesia. Also, this research is based on survey data that only analyzes the relationship in one time period (cross-section) so changes in the dynamic business environment will greatly affect the analysis in different periods. As a result, the results of the influence between the variables studied are data based on one period of time (cross-section).

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