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Assessing Customer Satisfaction in the Automobile Sector: An Empirical Investigation of Bangladeshi Low-Cost Passenger Car Users

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ABSTRACT

People in the top and middle classes frequently use motor vehicles as a mode of transportation. The purpose of the study is to gauge consumer awareness and satisfaction with low-cost passenger car features that affect consumer satisfaction with low-cost cars in Bangladesh. A structured survey questionnaire is created in order to gather and analyze primary data. The approach of simple random sampling is used. Customer happiness is the dependent variable, whereas quality, mileage, affordability, fuel efficiency, design, performance, durability, and ease of maintenance are the independent variables. 76 car owners make up the sample size, and SPSS software is used to process the data once it has been evaluated and structured using regression modeling. Users of low-cost cars have been found to be happy with qualities including performance, innovative design, and general upkeep, but these cars also have some disadvantages. Users of low-cost cars have been found to be happy with aspects like performance, innovative design, and general upkeep; yet, low-cost cars have significant disadvantages when it comes to durability and fuel efficiency.

Keyword: *Quality, Mileage, Price, Fuel Efficiency, Durability, Performance*

1. Introduction

Bangladesh has advanced significantly in the socioeconomic and development domains. Bangladesh become one of the world's lowest middle-income countries in recent years. Before the last 20 years, only a small portion of affluent people and businesspeople owned cars; nevertheless, middle-class incomes have increased as a result of industrialization and globalization. The purchasing power of the nation's citizens rose, according to documents (Imam, 2021). Four primary factors have contributed to Bangladesh's increasing car-use trend during the last 20 years: Bangladesh's population has increased, its infrastructure has been upgraded, people can travel about more readily in pursuit of employment, and its citizens now enjoy significantly higher levels of living. (Mahmud Hasan and others, 2022).

In addition to their social status, modern people buy cars because they consider them essential. Although buying a new car always makes customers pleased, the expenses of maintaining the vehicle can eventually make the purchase costly. Because people don't buy cars every day, it's crucial to keep in mind that there are many other considerations than the car's outlook, such as fuel economy and maintenance expenses. Fuel prices are usually the top concern for private vehicle owners in Bangladesh because of the severe and ongoing traffic congestion that occurs every day of the week.

Data indicates that a yearly requirement of 30,000 passenger automobiles is anticipated, with 5,000 of those units being brand-new (The Daily Star). The majority of Bangladeshi buyers usually opt to buy low-cost passenger automobiles in light of all of this. The vehicle's excellent build quality further justifies its reasonable price, and its low fuel consumption is the main contributing element. Spare parts are widely available in our country; people don't have to drive far to obtain them because they can be found at the nearest mechanic shops.The study's stated problem is to determine how pleased car owners are with the performance of affordable passenger cars in Bangladesh. Its main focus is on all the aspects that affect customer satisfaction.

2. Objectives of the Study
A. General Objective
The main objective of the study is to quantify the factors that affect Bangladeshi consumers' happiness with low-cost passenger cars.

B. Specific Objectives
The specific objectives are focused is on:
1. Examining Bangladesh's automotive industry and present trends.
2. To determine the customer's awareness, feelings, and inclinations regarding inexpensive passenger cars.
3. To investigate the connection between customer happiness and their experiences with mileage, design, durability, performance, fuel efficiency, fair price, and ease of maintenance.

3. Literature Review
Customer happiness has consistently been at the center of marketing strategies and practices over the years. Several case studies have shown that it costs about five times as much to acquire new consumers as it does to keep existing ones. According to Naumann, Haverila, Khan, M. S., and Williams (1995), this leads to an increase in the need for customer connections. As a result, many companies have used a well-thought-out framework to help achieve their operational aim of customer happiness. Parker and Mathew (2001) state that the concept of customer satisfaction can be defined in two basic ways. In the first method, satisfaction is defined as a long-term process, while in the second way, it is identified as the outcome of consumption intuition and experience.

In their book, Hill and Alexander (2000) state that "Most of the businesses are now investing heavily in database marketing, relationship management, and customer planning in order to get closer and more targeted to their customers." Businesses must continue to offer premium, high-quality services as a long-term competitive edge in today's very competitive market. Lee (2013) numerous studies on consumer satisfaction, sponsored by a number of American scholars, have focused on the automotive industry (Haubl, 1996; Iacobucci, et al. 1996; McCarthy et al., 1992; Rosecky and King, 1996). Several studies on consumer satisfaction have been conducted by American researchers in the automobile sector (Haubl, 1996; Iacobucci, et al. 1996; McCarthy et al., 1992; Rosecky and King, 1996).

Few authors and writers have looked at how consumers view cars (Rosecky and King, 1996), and the majority of the literature on the topic concentrates on customer loyalty and brand switching (Iacobucci et al., 1996; McCarthy et al., 1992; Purohit, 1992). Research on consumer preferences, brand perceptions, and reasonably priced cars in the market has been scant. As a result, they have ignored the unique characteristics of each of their clients, espe-

cially their "attitudes" and "specificity," which provide different viewpoints on the vehicles or their brands and are important considerations when making purchasing decisions (Festinger, 1964; Rosecky and King, 1996; Markin, 1969). Such studies provide credence to the idea that car buyers'merely' look for 'product-related attributes' (Keller, 1993).Refurbished cars have been the mainstay of Bangladesh's automotive industry for the last few decades. In 2020, imported reconditioned cars accounted for 82% of passenger vehicle sales (BRTA, 2021). In general, consumers value Japanese goods higher than they do other imports. According to the Bangladesh Road Transport Authority (BRTA), of the 377,660 registered vehicles in Bangladesh in 2020, just 20,093 were passenger vehicles, accounting for only 5.3% of the overall volume of the automobile sector. (BRTA, 2021).

In the restored private car class, Toyota holds an 88.5% market share, followed by Nissan at 4.0%, Honda at 3.2%, and Mitsubishi at 2.4%, according to a survey of the Bangladeshi auto industry. Automobiles manufactured by Hyundai (Korea) and Tata (India) make up 0.9% of the market. (2019, Ema). These are the least expensive passenger automobiles available in Bangladesh that cater to middle-class consumers. It's possible that most people who currently own reasonably priced cars have changed their perspective on them. In this case, an attitude becomes an assessment of what one wants or doesn't want based on past or present experiences, including past dealer satisfaction, amenities and goods (after-sales and warranty), driving historyand consumers' socioeconomic position. Attitudes can be established based on past information without experience, much as customers' preferences or biases for or against brands are dependent on how those brands are perceived in the marketplace. Additionally, this primarily depends on each customer's purchasing power. Although consumers may have favorable opinions of the manufacturer's cars, they might not be able to purchase them due to a lack of funds or motivation. On the other hand, buyers with high spending tendencies (or, to put it another way, overspending capacity) may pass up cars from manufacturers with lower costs.

Therefore, if one is interested in predicting passengers' satisfaction with cars, an assessment of the potential customer's view of the vehicle is necessary. In order to further define the concept of consumer viewpoint on cars, a collection of attitudes variables that potential future car buyers might have were developed as a result of the conversation. Important aspects were found to include quality, lifespan, safety, dependability, efficiency, technology, handling, value or economical pricing, style or design, comfort, status, prestige, and visual impact. The first nine elements are all generally categorized as "objective." All six of the remaining factors are classified as "subjective." According to Markin (1969), consumers' thoughts, feelings, and "reaction attitudes" are grouped into a set of "patterned affective reactions," which has a strong correlation with different types of customers.

This could be due to differences in demography, lifestyle, psychological profiling, or geography. This leads to a change in behavior from personal buyer to different buyer in a particular culture.

Because it demonstrates that consumers have a positive attitude and are satisfied with inexpensive passenger cars based on their usage experience and the attributes of the cars are taken into account when rating them, the literature and summary above are crucial to the study. In this study, customer satisfaction with inexpensive cars will be evaluated using the following factors: customer experience with quality, mileage, fair price, energy-efficient design, longevity, performance, and ease of maintenance factor.

4. Methodology

It is clear that this study is descriptive in nature and aims to test theories. The proper choice of variables and sample size determines how accurate the research result will be; the more variables and sample size used, the more accurate the result will be (Kumar, R., 2005). Primary sources were respondent responses, while secondary research was conducted using published material sets, including books, articles, websites, and brochures from auto companies. Additionally, since primary sources accounted for the majority of the data in the study, this was taken into consideration when creating the questionnaire.

Target Population: Owners of low-cost passenger cars in Bangladesh, particularly in high-traffic areas of Dhaka division (narayangang, narsingdi, gazipur, and tangail), Chittagong metropolitan area (nasirabad, khulsi, and agrabad), and Dhaka city (Dhanmondi, Shahbag, Motijheel, badda, and gulshan).As a representative of low cost passenger car brands,Toyota, Suzuki, Honda, Hyundai And Nissan car has been chosen. There are 76 low-cost car owners in the sample. Information is gathered from both genders. The lottery approach, which uses probability-based simple random sampling, selects sample members at random.

For data collection purposes, we assume an incidence rate of 80%, which means that the respondents who have actually filled out our survey are within our target sampling range. Furthermore, the survey was correctly completed by 85% of respondents, proving that they were the ones that participated.

$$\textbf{Initial Sample Size} = \frac{\text{Final Sample Size}}{\text{Incidence Rate X Completion Time}}$$
$$= \frac{50}{0.80 \times 0.85}$$
$$= 73.5 \approx 74$$

[Rounded to nearest decimal] (N. K. & Dash S., 2015)

In order to increase accuracy, we have collected 76 samples to back up the required findings. Data is gathered through online surveys (Google Forms) and stored on spreadsheets once the questionnaires are distributed to the respondents directly. No supervisors or validation techniques were used. A nine-point Likert scale with the following choices: strongly disagree, highly disagree, somewhat disagree, disagree, disagree, disagree, disagree, somewhat agree, strongly agree, and extremely agree is utilized for this purpose, along with observation questions that let respondents provide accurate responses to a single inquiry.

A decisive research approach has been employed to examine links and test specific hypotheses. For data analysis, a quantitative approach has been employed. Thus, the findings have been used as input for analysis. More precisely, the study carried out descriptive research, a type of conclusive inquiry. It might be called cross-sectional research since it collects all the good data and information for a specific time frame.

Data gathered via questionnaires is processed using SPSS verson-20 software. The study's research questions are:
1. Does mileage affect customer satisfaction?
2. Does reasonable price affect customer satisfaction?
3. Does fuel efficiency affect customer satisfaction?
4. Does design affect customer satisfaction?

5. Does durability affect customer satisfaction?
6. Does performance affect customer satisfaction?
7. Does easy maintenance affect customer satisfaction?

5. The Hypotheses of the Study is:

H1: There is a significant relationship between mileage and the customer satisfaction.
H2: There is a significant relationship between reasonable price and the customer satisfaction.
H3: There is a significant relationship between fuel efficiency and the customer satisfaction.
H4: There is a significant relationship between design and the customer satisfaction.
H5: There is a significant relationship between durability and the customer satisfaction.
H6: There is a significant relationship between performance and the customer satisfaction.
H7: There is a significant relationship between easy maintenance and the customer satisfaction.

The dependent variable of the study is consumer satisfaction (Y) and independent variables are Mileage (x_1), Reasonable price (x_2), Fuel efficiency (x_3), Design (x_4), Durability (x_5), Performance (x_6), Easy maintenance (x_7) and b_0 = Constant of variables
The regression model that will be used is as follows:
Y (consumer satisfaction) = $b_o + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + b_7x_7 + e$

The relative significance of each of the independent variable on the dependent variable can be measured from the associated coefficient.

6. Conceptual Framework
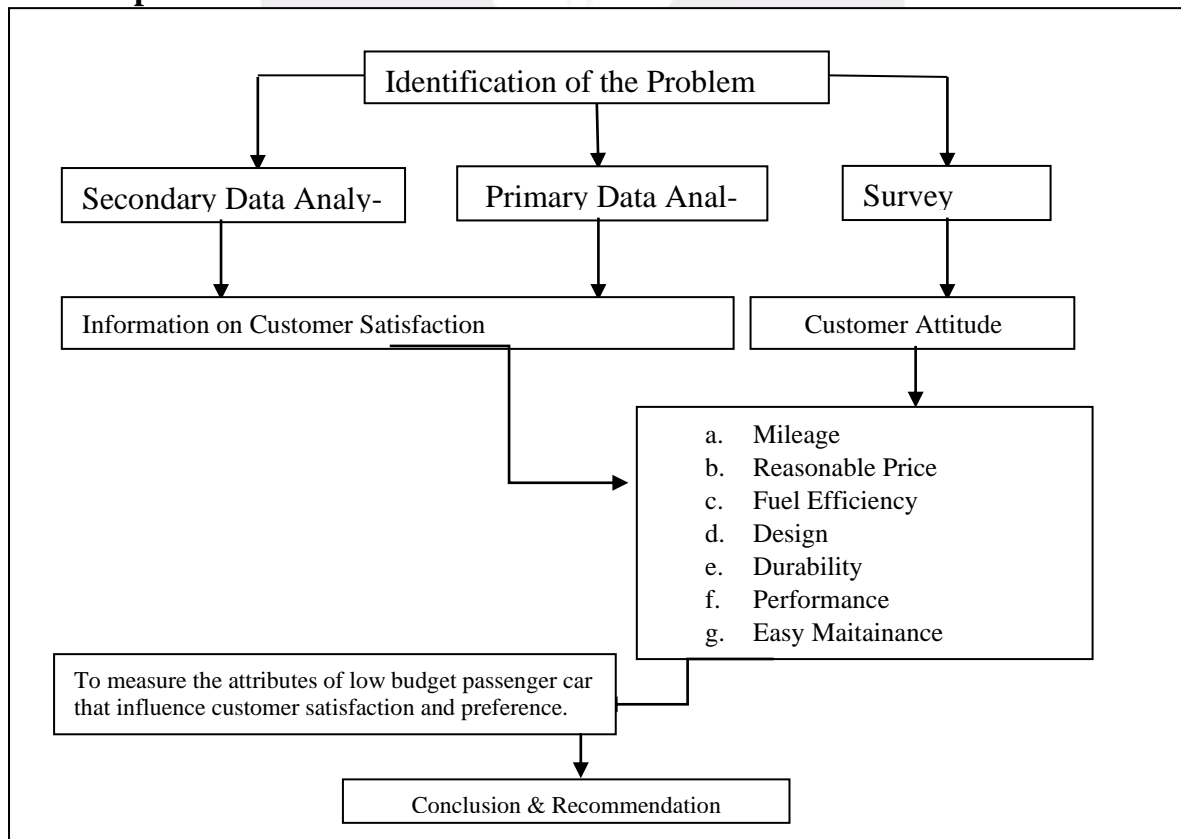
7. Data Analysis and Findings

In this study, data findings based on regression models are examined using SPSS version 20 data analysis software. The outcomes of the SPSS data analysis are displayed below, along with an appropriate explanation:

Low budget passenger car model Frequency findings:

Car Model				
Model	Frequency	Percent	Valid Percent	Cumulative Percent
Toyota	26	33.8	34.2	34.2
Suzuki	8	10.4	10.5	44.7
Honda	22	28.6	28.9	73.7
Hyundai	15	19.5	19.7	93.4
Other (Nissan)	5	6.5	6.6	100.0
Total	76	98.7	100.0	
Total	77	100.0		

The frequency table that follows lists the various car models in the first column and the number of respondents who checked each value in the second column. For instance, 26 respondents, or 33.8%, said they preferred Toyota cars. However, just 8. or 10.4% of the sample's respondents said they preferred Suzuki cars.

Income Model Cross-tabulation						
Income	Cars					Total
	Toyota	Suzuki	Honda	Hyundai	Other (Nissan)	
50K to 80K	11	2	6	3	0	22
80K to 100K	7	1	2	6	3	19
100K to 120K	4	2	9	3	1	19
Over 120K	4	3	5	3	1	16
Total	26	8	22	15	5	76

In a cross tabulation, a cell represents each conceivable combination of the categories of the two variables. Respondents are categorized according to their income range in order to do cross-tabulation. Eleven of the 22 respondents, who earn between $50,000 and $80,000, say they prefer Toyota vehicles. More respondents with incomes between $100,000 and $120,000 prefer the Honda model than any other. On the other hand, just five respondents use the Suzuki model, while the largest number 26 use the Toyota model.

Toyota is the most popular option among the respondents, with eight using it and 22 favoring Honda.

Age Model Cross tabulation						
Age	Model					Total
	Toyota	Suzuki	Honda	Hyundai	Other (Nissan)	
25-29	12	4	7	5	1	29
30-40	7	3	4	4	1	19
41-50	3	1	6	3	1	14
Above 50	4	0	5	3	2	14
Total	26	8	22	15	5	76

The following cross-tabulation arranges the respondents' age range and vehicle model. Respondents between the ages of 25 and 29 have chosen the Toyota and Honda models. The numbers are 12 and 7 out of 76 samples. More respondents between the ages of 41 and 50 preferred the Honda model than any other. On the other hand, there is very little demand for the Suzuki model among the 76 sample members; 26 of them use the most popular Toyota model, and 8 of them use the Suzuki model, which is the least popular of the four. Regression analysis on customer satisfaction of Toyota car attributes:

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.767[a]	.588	.546	1.295

Regression analysis is constructed in this case with the number of car models used as the independent variable and the overall satisfaction with low-cost passenger automobiles as the dependent variable. The distinction between R square and adjusted R square is insignificant in the table that follows.042 (.588–.546). As a result, the overall contentment rate with car utilization is highly remarkable and favorable.

ANOVA[b]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	162.714	7	23.245	13.861	.000[a]
	Residual	114.032	68	1.677		
	Total	276.747	75			

The critical value of F for degrees of freedom 7 and 60 (almost 68) in this instance is 2.17. The anticipated value of F (13.861) is greater than the critical value. Here,.000 < 0.5 (less than 0.5) is the ANOVA significance criterion. As a result, the data appear reasonable and the anticipated conclusion is acceptable. As an outcome, the results show that consumers are happy with the specific car models.

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.537	.864	.537	.622	.536	-1.187	2.262
	Mileage_Covered	.067	.089	.067	.750	.456	-.111	.244
	Fair_Price	.056	.087	.060	.642	.523	-.117	.229
	Fuel_Inefficient	-.017	.075	-.019	-.229	.820	-.167	.132
	Design Innovation	.346	.104	.321	3.317	.001	.138	.554
	Durability	-.070	.093	-.069	-.757	.452	-.255	.115
	Performance	.414	.111	.423	3.717	.000	.192	.636
	General_Maintenance	.192	.076	.215	2.542	.013	.041	.343

The standardized error coefficient is calculated to be 0.537 in the following table. The negative values for durability (-0.069) and fuel efficiency (-0.019) suggest that Toyota customers are not happy with these two features. However, they have high levels of satisfaction with general maintenance (0.215), performance (0.423), and design-innovation (0.321). For design-innovation (.001), performance (.000), and general maintenance (.013), the significance level is quite excellent because the results are less significant than 0.05 (<.05).The significance level of Mileage covered, fair price, fuel efficient and durability is not much satisfactory.

Therefore, the Customer Satisfaction of Toyota =
.537 + .067 (mileage_covered) +. 060 (fair_price) - .019 (fuel_efficient) +.321 (design_innovation) - .069 (durability) + .423 (performance) + .215 (genral_maintanence)

8. Recommendations of the Study

The current study set out to better understand the variables influencing consumer satisfaction and car-buying decisions. Nonetheless, this sector still has a number of unimportant issues. As a result, some specific courses of action are recommended to acceleratecustomer satisfaction and purchase decisions related to purchasing a car success.

According to the report, consumers of low-cost cars are happy with the chosen attributes, such as their performance, innovative design, and ease of maintenance.

Therefore, by emphasizing these highly regarded qualities, businesses may market their cars to new potential buyers and leverage the features to get a competitive edge in the auto industry. Research results also indicate that these inexpensive vehicles have certain drawbacks in terms ofdurability and fuel economy. As a result, businesses have plenty of opportunities to improve these features of their cars.

9. Limitations of the Study

This research provides valuable new insights, but is not free from limitations. First, it relies on only low budget car users sources of data about past and ongoing study. Furthermore, action and search research methods have applied here to make this study successful. More depth the researchers could not really gather enough information because of the right direction and the right information. With the best research knowledge there is very little research done in this low budget car user's area, which is why there is no guidance.

10. Conclusion

The goal of the current study was to gain a better understanding of the factors that affect customer satisfaction and purchase decisions related to purchasing a car. A large portion of clients are pleased with the dealers' offerings and select them due to their comfort level. Bangladesh, a middle-income country, has a sizable following of low-cost travelers. According to this survey, individuals enjoy driving these vehicles due to their performance, mileage, low maintenance requirements, and above all their reasonable prices. Most car owners have been driving a remanufactured, low-cost vehicle for more than 12 years. It shows how devoted they are to such businesses. In conclusion, it can be said that consumers in our country choose affordable passenger cars. Even though the study's sample size and regression value are small, it might be expanded to include a bigger sample size and cover international companies in the Middle East, India, and Sri Lanka. Additionally, the questionnaire can be updated and revised to include thorough coverage of client satisfaction.

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