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A Study on Market Potential for Shock Absorbers of Bikes, Cars and Trucks

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Abstract :

The automotive industry is experiencing rapid growth due to technological advancement, increasing vehicle ownership, and rising demand for improved vehicle safety and comfort. Shock absorbers play a critical role in vehicle suspension systems by controlling vibrations and maintaining stability. This study focuses on analysing the market potential for shock absorbers used in bikes, cars, and trucks from the perspective of dealers and mechanics. The research evaluates factors influencing stocking decisions, brand preference, and recommendation behaviour among dealers and mechanics. Primary data was collected using a structured questionnaire from 50 dealers and 90 mechanics through a convenience sampling method. The study applied descriptive analysis, cross-tabulation, and chi-square tests to examine relationships between variables. The results indicate that product quality, warranty, and after-sales support are the most important factors influencing dealer stocking decisions, while mechanics prioritize quality and price when recommending shock absorbers to customers. The findings also highlight that urban markets dominate shock absorber demand, while rural markets remain relatively untapped. The study concludes that manufacturers must focus on quality, dealer support, and strong distribution networks to increase market share in the automotive suspension components market.

Keywords: Shock absorbers, automotive aftermarket, dealer perception, mechanic preference, market potential, automotive components.

I. INTRODUCTION

The automotive industry plays a crucial role in global economic development, providing transportation solutions and supporting various allied industries. Among the many components that contribute to vehicle performance and safety, shock absorbers are essential parts of the suspension system. They help control vehicle movement, absorb road shocks, and maintain tire contact with the road surface, thereby improving ride comfort and stability. The growing demand for automobiles, especially in emerging economies such as India, has led to an increased demand for automotive components including shock absorbers. Vehicles such as bikes, cars, and trucks require efficient suspension systems to ensure safety, durability, and passenger comfort. In the automotive aftermarket sector, dealers and mechanics play a vital role in influencing customer purchasing decisions. Dealers decide which brands to stock based on factors such as product quality, warranty support, profit margins, and brand reputation. Similarly, mechanics influence customer preferences by recommending reliable products based on their experience and technical knowledge.Understanding the perceptions and preferences of dealers and mechanics is essential for manufacturers aiming to expand their market presence. This study examines the market potential of shock absorbers by analysing dealer stocking preferences and mechanic recommendation behaviour across different vehicle segments. Similarly, mechanics act as key influencers because customers often depend on their technical knowledge and experience when replacing automotive parts. Mechanics recommend products based on factors such as durability, ease of installation, reliability, and past performance. Therefore, understanding the preferences and decision-making factors of dealers and mechanics is important for automotive component manufacturers to strengthen their market presence and improve customer satisfaction.

II. REVIEW OF LITERATURE

Perceived Quality

Perceived quality plays an important role in influencing product selection in the automotive spare parts market. It is defined as the customer's perception of the overall quality or superiority of a product relative to alternatives (Zeithaml, 1988). High-quality automotive components such as shock absorbers improve vehicle safety, ride comfort, and durability (Kotler & Keller, 2016). Studies indicate that dealers and mechanics prefer brands that consistently deliver reliable performance and long product life (Aaker, 1991). When customers experience improved vehicle stability and reduced road vibrations due to quality suspension components, they are more likely to repurchase the same brand in the future (Garvin, 1987). Thus, perceived quality significantly influences brand preference and long-term customer satisfaction in the automotive aftermarket industry.

Brand Reputation

Brand reputation is another important factor that influences dealer and mechanic preferences in the automotive components market. Brand reputation refers to the overall perception of a brand based on its past performance, reliability, and trustworthiness (Fombrun & Shanley, 1990). Established brands in the automotive industry often gain customer confidence because of their consistent product performance and service reliability (Keller, 2003). Dealers are more likely to stock brands with strong reputations since they reduce the risk of product failures, returns, or customer complaints (Kotler & Keller, 2016). Therefore, brand reputation plays a vital role in building trust among dealers, mechanics, and end customers in the spare parts market.

Price and Profitability

Price competitiveness and profitability are important factors influencing dealer stocking decisions in the automotive aftermarket sector. Pricing strategies determine how attractive a product is to both dealers and final consumers (Monroe, 2003). Dealers usually prefer brands that offer competitive pricing along with reasonable profit margins to ensure business sustainability (Nagle & Holden, 2002). A balance between product affordability and dealer profitability helps manufacturers strengthen their distribution network and increase market penetration (Kotler & Armstrong, 2018). Therefore, effective pricing strategies are crucial in maintaining competitiveness within the automotive spare parts market.

Role of Mechanics in Customer Decisions

Mechanics play a crucial role in influencing customer purchasing decisions in the automotive spare parts market. Customers often rely on the technical knowledge and practical experience of mechanics when choosing replacement components (Schiffman & Kanuk, 2010). Mechanics tend to recommend products that provide reliable performance, durability, and ease of installation (Kotler & Keller, 2016). Since customers trust the expertise of mechanics, their recommendations significantly affect brand preference and repeat purchase decisions in the aftermarket industry (Solomon, 2018).

Market Trends in Suspension Systems

Technological advancements in suspension systems have significantly increased the demand for high-performance shock absorbers in modern vehicles. Innovations such as gas-charged shock absorbers, adaptive suspension systems, and electronically controlled dampers have improved vehicle handling, ride comfort, and driving stability (Gillespie, 1992). As the automotive industry continues to evolve with better vehicle technologies and improved road infrastructure, the demand for advanced suspension components is expected to grow steadily (Automotive Research Association of India, 2020). These developments highlight the importance of continuous innovation in shock absorber technology to meet changing market demands.

III. RESEARCH FRAMEWORK

Research Framework

The research framework of this study focuses on identifying the key factors that influence dealer and mechanic preferences for shock absorbers in the automotive aftermarket industry. The framework considers several important variables that affect purchasing and stocking decisions. These variables include **perceived quality, brand reputation, price and profitability, and the role of mechanics in customer decisions**. Perceived quality refers to the durability, reliability, and performance of

shock absorbers, which directly influence customer satisfaction and repeat purchases. Brand reputation reflects the trust and credibility associated with established automotive component brands. Price and profitability influence dealers' decisions to stock particular brands based on competitive pricing and profit margins. Additionally, mechanics play a crucial role as opinion leaders who recommend products to customers based on their technical expertise and experience. These factors collectively influence the **preference and selection of shock absorber brands** in the automotive spare parts market.

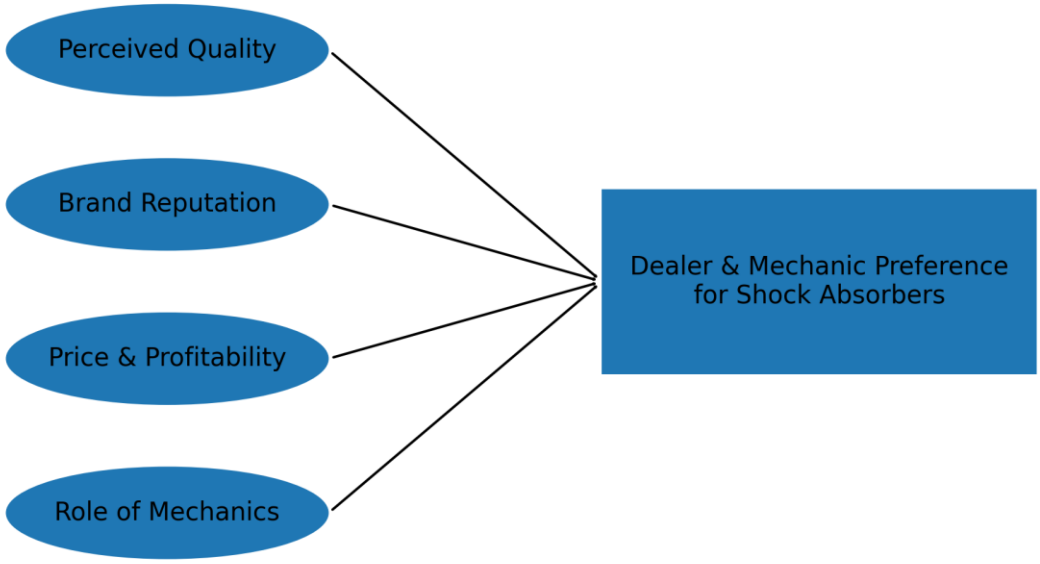

Fig 1. Research Model

OBJECTIVES OF THE STUDY

➢ To identify dealer insights on market demand, product quality, and brand support.

➢ To analyse key factors influencing dealers when choosing shock absorber brands.

➢ To study mechanics' perception towards shock absorber quality, price, and brand reputation.

➢ To identify the preferred shock absorber brands recommended by mechanics.

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IV. RESEARCH METHODOLOGY

The research design used in this study is descriptive in nature. Both primary data and secondary data were used for the research.Primary data was collected from respondents using a structured questionnaire distributed to dealers of automotive spare parts and general mechanics. The questionnaire contained demographic questions, ranking questions, and preference-based questions.The sampling method used in this research was convenience sampling. The sample size consisted of 140 respondents including 50 dealers and 90 mechanics. The sampling period extended from June 2, 2025 to June 30, 2025.The tools used for analysing the collected data included column charts, cross-tabulation, and Chi-square statistical analysis. These tools helped identify relationships between variables such as dealership type, business model, and shock absorber demand.

V. DATA ANALYSIS AND INTERPRETATION

Cross tabulation and Chi –square

Association between Vehicle Segment Demand and Type of Dealership

Cross Tabulation

Vehicle Segment Demand	Two Wheeler	Passenger Car	Commercial Vehicle	Mixed	Total
Bikes	24	0	1	0	**25**
Cars	0	12	4	1	**17**
Trucks	1	0	4	0	**5**
All	0	0	0	3	**3**
Total	**25**	**12**	**9**	**4**	**50**

Chi-Square Test:

Test	Value
Pearson Chi-Square	**24.87**
Degrees of Freedom	**9**
Significance (p-value)	**0.000**

Inference:

The Chi-square test was conducted to examine the relationship between vehicle segment demand and the preference for shock absorbers. The calculated Pearson Chi-Square value is 24.87 with 9 degrees of freedom. The p-value obtained is 0.000, which is less than the significance level of 0.05, indicating that the result is statistically significant. Therefore, the null hypothesis is rejected, and it can be concluded that there is a significant relationship between vehicle segment demand and the usage of shock absorbers. From the data, two-wheelers show the highest demand with a total of 25 responses, mainly from bikes (24). Passenger cars account for 12 responses, while commercial vehicles show 9 responses, primarily from trucks. Thus, the findings indicate that the demand for shock absorbers varies across different vehicle segments in the automotive aftermarket market.

Association between Business Model and Re-Stocking Method

Cross Tabulation

Business Model	Distributors	Company	Online method	Total
Retail	33	1	0	**34**
Wholesale	5	2	0	**7**
Both	7	1	1	**9**
Total	**45**	**4**	**1**	**50**

Chi-Square Test

Test	Value
Pearson Chi-Square	**6.45**
Degrees of Freedom	**2**
Significance (p-value)	**0.039**

Inference:

The Chi-square test was conducted to examine the relationship between business model and supply method in the automotive aftermarket sector. The calculated Pearson Chi-Square value is 6.45 with 2 degrees of freedom. The obtained p-value is 0.039, which is less than the significance level of 0.05. This indicates that there is a statistically significant relationship between the type of business model and the supply source. Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted. From the data, the retail business model shows the highest frequency with 34 responses, mainly supplied through distributors (33). The wholesale business model accounts for 7 responses, with most purchases

also made through distributors (5). The category of both retail and wholesale records 9 responses, where distributors again dominate with 7 responses. Company supply accounts for 4 responses and the online method records only 1 response. Hence, the results indicate that distributors play a dominant role in supplying shock absorbers across different business models.

Association between Branded Product Demand and Dealership Type

Dealership Type	Always	Frequently	Sometimes	Rarely	Never	Total
Two Wheeler	1	4	11	7	2	**25**
Passenger Car	0	1	2	8	1	**12**
Commercial Vehicle	0	1	0	1	2	**4**
Two Wheeler & Passenger Vehicle	0	0	3	5	0	**8**
Mixed	0	0	0	0	1	**1**
Total	**1**	**6**	**16**	**21**	**6**	**50**

Chi-Square Test

Test	Value
Pearson Chi-Square	**6.48**
Degrees of Freedom	**4**
Significance (p-value)	**0.092**

Interpretation:

The Chi-square test was conducted to examine the relationship between dealership type and the frequency of preference for shock absorbers. The calculated Pearson Chi-Square value is 6.48 with 4 degrees of freedom. The obtained p-value is 0.092, which is greater than the significance level of 0.05. This indicates that the relationship between dealership type and frequency of preference is not statistically significant. Therefore, the null hypothesis is accepted and the alternative hypothesis is rejected. From the data, two-wheeler dealerships show the highest participation with 25 responses, followed by passenger car dealerships with 12 responses. The category of two-wheeler and passenger vehicle dealerships accounts for 8 responses, while commercial vehicle dealerships record 4 responses. Mixed dealerships show only 1 response. The frequency responses indicate that “sometimes” (16 responses) and “rarely” (21 responses) are the most common choices among dealers. Hence, the findings suggest that dealership type does not significantly influence the frequency of preference for shock absorbers.

VI. FINDINGS, SUGGESTIONS AND CONCLUSION

Findings

• Most of the dealers surveyed operate in urban areas and primarily focus on two-wheeler dealerships, followed by passenger vehicle and commercial vehicle dealerships.

• Retail is the dominant business model among dealers, with most businesses operating for around 6 to 10 years in the automotive spare parts market.

• Dealers observe the highest demand for shock absorbers in the vehicle segment they specialize in, such as bike shock absorbers for two-wheeler dealers and car or truck shock absorbers for other dealers.

• Product quality is the most important factor influencing dealers when selecting a shock absorber brand to stock, followed by warranty and after-sales support.

• Dealers expect strong warranty coverage, consistent product quality, and reliable support services from new shock absorber brands entering the market.

• Mechanics prioritize product quality when recommending shock absorbers, followed by price, warranty support, brand reputation, and product availability.

• Mechanics service both cars and bikes almost equally, indicating balanced demand across two-wheeler and four-wheeler segments.

• Customer requests for specific brands are not strongly linked to dealer or mechanic preferences, indicating that customers may focus more on price and availability.
• Most mechanics and dealers operate in urban areas, while semi-urban and rural areas show lower representation in the servicing and dealership network.
• Price promotions and discounts have limited influence on mechanic recommendations, as performance, reliability, and durability remain the key deciding factors.

Suggestions

•Shock absorber manufacturers should focus on improving product quality and durability to build trust among dealers and mechanics.
• Companies should provide strong warranty coverage and efficient after-sales support to increase dealer confidence in stocking their products.
• Training programs and technical workshops should be organized for dealers and mechanics to improve product knowledge and brand trust.
• Marketing strategies should focus on creating brand awareness among customers to increase demand for branded shock absorbers.
• Companies should expand distribution networks to semi-urban and rural areas to capture untapped market opportunities.
• Competitive pricing strategies should be adopted while maintaining product quality to remain attractive to both dealers and customers.

Conclusion

The study highlights the key factors influencing the market potential of shock absorbers for bikes, cars, and trucks from both dealer and mechanic perspectives. The findings show that product quality, warranty support, and brand reliability are the most important factors influencing dealer stocking decisions and mechanic recommendations. While price plays a role, it is not the primary determinant when compared with performance and durability. Dealers tend to focus on the vehicle segment in which they specialize, indicating that demand for shock absorbers is closely linked to dealership type and vehicle usage patterns. Additionally, both dealers and mechanics are largely concentrated in urban areas, suggesting significant opportunities for market expansion in semi-urban and rural regions. Overall, shock absorber brands that focus on quality improvement, strong after-sales service, effective distribution strategies, and better engagement with dealers and mechanics will be better positioned to increase their market share and strengthen their presence in the automotive aftermarket industry.

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