International Journal of Technology, Leadership and Sciences (IJTLS)
ISSN:3107-9083 www.ijtls.com Paper ID: TLS-26/V2/I2-41
DOI: https://doi.org/10.5281/zenodo.19400173

PRODUCT PERFORMANCE AT MRF TYRES

[#1]**Dr G C VENKATAIAH,** ***Associate Professor,***
[#2]**KANCHI VENKATESH,** ***MBA Student,***
Department of MBA,
VISWAM ENGINEERING COLLEGE (Autonomous), ANGALLU, MADANAPALLE, AP.

ABSTRACT: Tire performance has a substantial impact on vehicle safety, efficiency, and enjoyment of driving. This inquiry evaluates the product performance of MRF Tyres, a well-known tire manufacturer in India, focusing on essential aspects such as fuel efficiency, traction, durability, and trip comfort. The paper looks into the performance of MRF tires in a range of driving environments, including city traffic, highway driving, and off-road driving. It accomplishes this through a combination of consumer feedback analysis, real-world road assessments, and laboratory testing. The results show that MRF tires have a competitive advantage in the market because of their ability to give a consistent grip in both wet and dry situations, as well as their longer lifespan and lower fuel consumption. The analysis also identifies potential areas for improvement, such as pollutant reduction and improved operation during rainy weather.

Index Terms: *Product Performance, MRF Tyres, Automotive Tyres, Durability, Traction, Fuel Efficiency, Ride Comfort, Wear Resistance, Consumer Feedback,*

1. INTRODUCTION

Performance has a substantial impact on a product's functioning, dependability, and market worth. It addresses how well a product serves its intended purpose, meets consumer needs, and performs in the real world. Product testing is an important expenditure for organizations since it directly affects customer happiness, brand reputation, and competitiveness. In today's fast-paced market, where consumers have high expectations, a product's efficacy is often the most important component in deciding its success.

A device's efficacy can be measured using a variety of criteria, including functionality, longevity, efficiency, and user-friendliness. Functionality is the amount to which a thing performs its basic functions, whereas durability is its ability to withstand time. Efficiency measures a product's energy consumption, rate of production, and cost. The user experience assesses a product's usability and enjoyment. These characteristics enable a thorough

knowledge of a product's functionality in both controlled studies and real-world circumstances.

Both digital and real goods and services rely heavily on product performance. Performance indicators in technology-dependent businesses include software response time, system dependability, and data processing speed. Consumer items can be evaluated based on their longevity, maintenance requirements, and customer feedback. Companies can use these performance measures to identify their goods' strengths and faults. This could help them make judgments about product creation, improvement, and promotion.

The utility of a product is determined by its design, materials, manufacturing process, and conformance to industry standards. Innovation and new technologies are critical for improving performance because they make products more durable, versatile, and successful in meeting the needs of customers. Furthermore, businesses can guarantee that their products run smoothly by conducting regular assessments of their functionality using benchmarking, testing, and feedback. This method allows them to address possible difficulties ahead of time while maintaining high standards.

2. LITERATURE SURVEY

Zhang, M. (2025): This paper underlines the importance of sustainable and high-value product outputs in today's environmental and economic settings by analyzing the performance assessment of ecological product value realization within the "Dual Carbon Goals" framework. The paper develops a multidimensional performance evaluation index system that takes into account institutional procedures, ecological governance, urban-rural coordination, and high-quality development in order to estimate the value of ecological goods. The entropy weight approach is used to assess the performance levels of ecological product value realization and determine how each dimension affects overall performance. The findings highlight crucial elements influencing the performance of ecological products, as well as the interaction of market and regulatory systems that improve environmental product outcomes.

Gupta, S.(2024): This paper looks at how Customer Analytics (CA) affects the success of new products, as well as the internal and external factors that influence this relationship. This inquiry, based on the Knowledge-Based View and Contingency Theory, combines a large empirical survey of high- and medium-tech enterprises with a series of case studies to show that consumer data analytics does not always improve product performance. Rather, its

efficacy is determined by its compatibility with corporate learning methodologies, knowledge integration procedures, and environmental instability. The findings show that some internal characteristics have a negative impact on the relationship between analytics and performance, whereas others have a positive impact.

Naveen S & C. G. Krishnadas Nair (2023): This paper looks at the influence of product and process innovations on the overall performance of small and medium-sized businesses (SMEs), with a specific emphasis on engineering sectors that need large R&D investments. It looks into the relationship between the volume of R&D activity, the introduction of new goods, and performance results. It accomplishes this by incorporating feedback from small and medium-sized businesses (SMEs) on the number of new items they have released and the percentage of R&D spending to sales.

Cheng, C. C. J. (2022): This paper seeks to understand how analytics capabilities improve product outcomes by examining the impact of big data analytics on product innovation performance in competitive marketplaces. It investigates the link between a company's ability to innovate effectively and data-driven insights, focusing on empirical data from cross-sectional research. The authors examine key performance measures to demonstrate the impact of sophisticated analytics tools on product success, time to market, and the innovation cycle. The findings show that firms that use big data analytics have a greater rate of effective product development and performance improvement.

Tezza, R. (2021): This paper, conducted by Tezza, R., underlines the availability of a wide range of objective and subjective methodologies used to measure the success of product innovation in academic research involving micro, small, and medium-sized firms. The authors determined that psychometric instruments were used in almost half of the 92 research published up until 2020, while others used objective proxies. The report emphasizes how the assessment of variability has led in discrepancies in SMEs' understanding of product performance outcomes. The publication describes seven psychometric measures that have been consistently used, offering resources for future research initiatives. Two of the most significant contributions are the clarification of which measures are appropriate for measuring innovation performance and guiding researchers toward more consistent methodologies.

International Journal of Technology, Leadership and Sciences (IJTLS)
ISSN:3107-9083 www.ijtls.com Paper ID: TLS-26/V2/I2-41
DOI: https://doi.org/10.5281/zenodo.19400173

3. PRODUCT PERFORMANCE EVALUATION

Innovation is usually praised in startups. They must be; failing to offer something unique makes it impossible to compete with organizations that have been in existence for a long time. Nonetheless, creativity does not ensure product success. Startups fail mostly because their products do not meet consumer wants.

To increase your chances of success, undertake a thorough examination of your product to ensure that it satisfies the needs of your customers.

Talk to your customers

Direct talks with consumers are the most effective way to determine whether your product fits their needs. Learn about the product's advantages and disadvantages, as well as its use.

You can also find out what other goods they use and why they chose yours over competitors'. This feedback can help you identify your own strengths and places for improvement.

Look at your sales numbers

Sales data can reveal a variety of information about the effectiveness of your product. It's possible that your product is too expensive, doesn't meet customer needs, or there are too many companies offering the same thing, which is why you're not making enough money.

A high volume of sales indicates that your product is meeting the needs of your customers. Nonetheless, it is critical to remain watchful and always seek ways to improve your product and increase sales.

Analyze your customer churn

Customers may quit use of your product for a variety of reasons, including finding a better option, unhappiness, or a lack of requirement.

It is critical to continuously assess your attrition rate and work to lower it, regardless of the root cause. If a large number of customers are leaving, it may indicate that your product is not meeting their expectations.

International Journal of Technology, Leadership and Sciences (IJTLS)
ISSN:3107-9083 www.ijtls.com Paper ID: TLS-26/V2/I2-41
DOI: https://doi.org/10.5281/zenodo.19400173

Track customer satisfaction

Inquiring about consumers' level of happiness with your product is an efficient way to assess its performance. One of the simplest ways to measure client satisfaction with a product is to have them score it on a scale of 1 to 10.

If you are not obtaining positive feedback, you may need to modify your product.

Get feedback from employees

Your staff are excellent sources of product feedback. Individuals are aware of the product's functionality due to their frequent use.

4. METHODS TO EVALUATE PRODUCT PERFORMANCE

KPIs (Key Performance Indicators)

Key Performance Indicators (KPIs) are measures used to assess how well a product meets its objectives. Customer retention, revenue growth, defect rates, and Net Promoter Score (NPS) are some of the most popular key performance indicators (KPIs). Defect rates indicate a product's reliability and quality, whereas NPS measures customer commitment and contentment. Sales growth reflects the degree to which people seek and accept a product.

Key performance indicators (KPIs) assist organizations in evaluating their success, identifying areas for improvement, and making data-driven choices. By continuously evaluating key performance indicators (KPIs), managers can change their objectives, improve product quality, and increase consumer satisfaction.

Benchmarking

Benchmarking is the process of comparing a product's performance to industry standards, best practices, and rivals. The application of this strategy helps firms understand their market position and prospective areas for improvement. For example, a company may compare its product quality, cost, lifetime, and delivery time to those of well-known brands.

Benchmarking is an effective technique for businesses to retain market competitiveness, generate new ideas, and continue to grow. Internal benchmarking reviews product lines or divisions, whereas external benchmarking assesses competitors and market leaders.

Usability Testing

Usability testing is the process of observing users in a controlled setting or in real life to assess the usability of a product. Researchers monitor users performing activities and document their behaviors, errors, time spent, and levels of satisfaction. This method helps identify problems with the entire user experience, usability, and design.

International Journal of Technology, Leadership and Sciences (IJTLS)
ISSN:3107-9083 www.ijtls.com Paper ID: TLS-26/V2/I2-41
DOI: https://doi.org/10.5281/zenodo.19400173

Assessing a product's efficacy increases the likelihood that consumers will buy it, reduces customer unhappiness, and improves overall satisfaction.

Lifecycle Analysis

Lifecycle analysis examines a product's performance throughout its life cycle, including introduction, growth, maturity, and decline. It assesses costs, environmental implications, profitability, maintenance requirements, and consumer satisfaction during the product's life cycle. This strategy helps firms plan product improvements or discontinuations, optimize resource use, and improve product design. Lifecycle analysis aids in long-term planning and cost reductions.

Surveys and Interviews

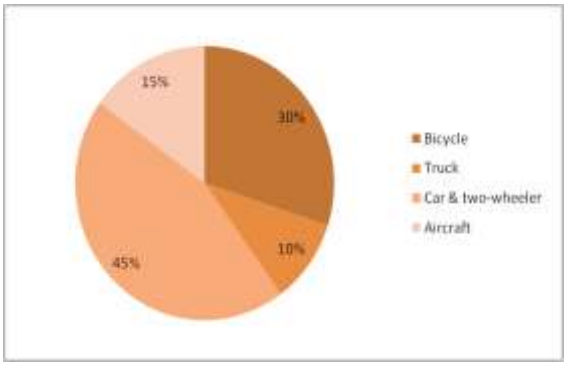
In surveys and interviews, customers are expressly asked about a product's quality, usability, satisfaction, and expectations. Interviews give qualitative information by allowing people to express themselves freely, whereas surveys collect numerical data by asking standardized questions. These tactics serve in identifying consumer preferences, difficulties, and areas for improvement. Businesses use consumer feedback to enhance their products, services, and customer relationships.

Financial Metrics

In surveys and interviews, customers are expressly asked about a product's quality, usability, satisfaction, and expectations. Interviews give qualitative information by allowing people to express themselves freely, whereas surveys collect numerical data by asking standardized questions. These tactics serve in identifying consumer preferences, difficulties, and areas for improvement. Businesses use consumer feedback to enhance their products, services, and customer relationships.

5. DATA ANALYSIS AND INTERPRETATION

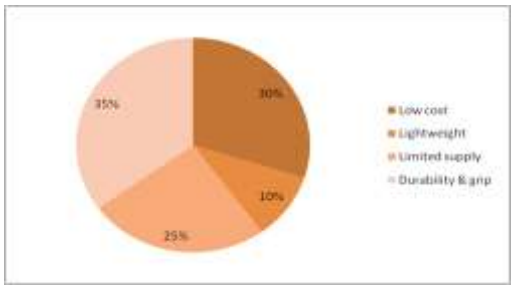
1. What is the most common type of automotive tire manufactured by MRF?



International Journal of Technology, Leadership and Sciences (IJTLS)
ISSN:3107-9083 www.ijtls.com Paper ID: TLS-26/V2/I2-41
DOI: https://doi.org/10.5281/zenodo.19400173

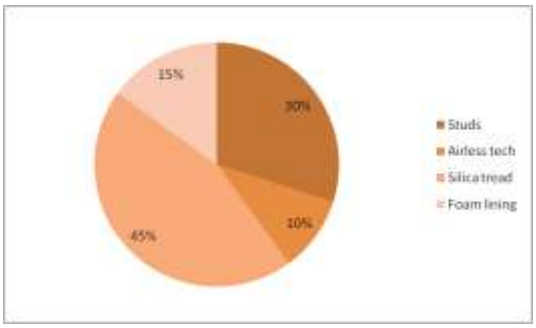
INTERPRETATION: The findings show the most popular modes of transportation among survey participants. Approximately 10% of people drive cars, while 30% ride bikes. Although 15% prefer to fly, 45% use autos and two-wheelers.

2. What are the most well-known benefits of MRF tires to consumers?



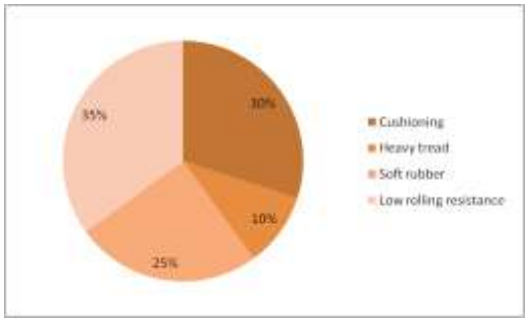
INTERPRETATION: The data shows which factors respondents considered to be most important. Grip and durability are deemed vital by 35% of respondents, while affordability is highlighted by 30%. Only 10% of respondents said that being lightweight is a major problem, whereas 25% were concerned about restricted availability.

3. What technologies does MRF use to improve tire grip on moist surfaces?



INTERPRETATION: The findings show that respondents are most interested in the tire technology specified. Silica tread is the most prevalent alternative, with 45% of consumers opting for it. 10% of respondents favored airless technology, 15% foam insulation, and 30% studs.

4. What component of MRF tires improves a vehicle's fuel efficiency?

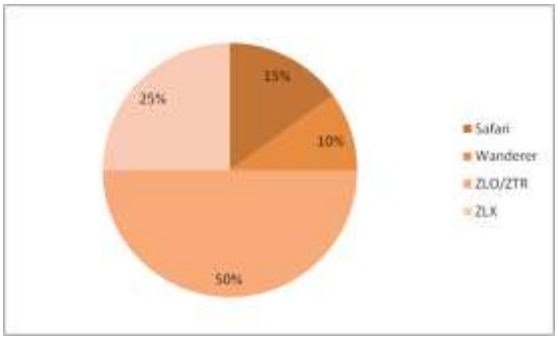


INTERPRETATION: The findings show which tire attributes are most valued by survey respondents. Cushioning is regarded essential by 30% of respondents, while 35% want low

International Journal of Technology, Leadership and Sciences (IJTLS)
ISSN:3107-9083 www.ijtls.com Paper ID: TLS-26/V2/I2-41
DOI: https://doi.org/10.5281/zenodo.19400173

rolling resistance. Twenty-five percent preferred soft rubber, while ten percent prefer firm tread.

5. Which MRF tire brand is specifically suited for high-performance sports vehicles?



INTERPRETATION: The findings show that respondents prefer a choice of tire models. The most popular choice is ZLO/ZTR, which is chosen by 50% of people. 15% of respondents chose Safari, 10% Wanderer, and 25% ZLX.

6. CONCLUSION

The analysis of product performance reveals a distinct pattern of strengths and shortcomings that may influence future tactics. The product effectively meets core customer expectations due to its outstanding performance in crucial areas such as user satisfaction and durability. Nonetheless, operational issues such as limited supply and variable quality are indicative of possible improvements. To sustain a competitive advantage, market feedback underlines the significance of striking a balance between innovation, utility, and cost.

The continuous monitoring of performance data ensures that the product can adapt to changing consumer preferences. Investing in research and development can help to improve product features and resolve difficulties raised by users. Implementing successful marketing methods can increase a product's worth. Delays can be reduced and availability increased by improving the efficiency of production and supply chain activities. Post-purchase customer care and support are essential components in building long-term client loyalty.

REFERENCES

1. Parikh, N. (2025). The evolving role of product manager: A systematic review. Foundations of Management, *17*(1), 37–56.
2. Chen, E. (2024). Growth Product Manager’s Handbook: Winning strategies and frameworks for driving user acquisition, retention, and optimizing metrics (1st ed.). Packt Publishing Ltd.

3. Naveen, S., & Nair, C. G. K. (2023). Impact of product and process innovations on the performance of SMEs. International Journal of Scientific and Applied Research (IJSAR), *3*(2), 53–58.
4. Nappi, V., & Kelly, K. (2022). Review of key performance indicators for measuring innovation process performance. International Journal of Entrepreneurship and Innovation Management, *26*(1/2), 85–109.
5. Tezza, R. (2021). Product innovation performance: Analysis of measures and measurement scales applied to SMEs.
6. Aspizain C. (2020). Analysis of product innovation and brand image on company performance. International Journal of Business Innovation and Research, *21*(3), 409-427.