

Level of Acceptability of a Fabricated Motorcycle Clutch Bearing Race Remover

Junry B. Ubag^{1*}, Ronald D. Robles², Randy P. Dagumampan³, Zumel C. Cadenas⁴,
Reuben B. Artículo⁵

^{1,2,3,4,5} Iloilo Science and Technology University, Burgos St., La Paz, Iloilo City, Philippines

*Corresponding Author Email: junry.ubag@isatu.edu.ph

Abstract

This research assessed the acceptability of the newly developed motorbike clutch bearing race remover in relation to the efficiency of the remover as well as its longevity and functionality. Developed in order to overcome the problems associated with conventional means of removing the clutch-bearing races, which tend to lead to extended labour time and the possibility of damaging the races, this tool ensures safety as well as efficiency in removal of the said races. Utilising a quantitative descriptive methodology, the research was conducted on 60 respondents, who were automotive students, instructors, and technicians. They all were required to fill out the survey designed by the researcher. It was determined that the remover scored highly among all criteria of assessment. There were no statistically significant differences in the ratings between different groups of respondents.

Keywords

Acceptability, automotive servicing, durability, fabricated mechanical tool, functionality, motorcycle clutch bearing race remover, motorcycle maintenance, performance.

INTRODUCTION

Motorcycles are significant transportation modes that contribute to developing countries economy due to cost-efficiency and gas millage [1]. With the level of ownership, the need for effective management becomes important for safety and reliability. As mentioned by [2], the most critical challenges that individuals face regarding motorcycle maintenance is eradication clutch-bearing races that involves effective usage of improvised instruments, generating unexpected damage and maximised repair time. This challenge demands effective tool management that are specialised for technical management of motorcycles. To mitigate this growing issue, clutch-bearing race remover was styled to attach, enabling motorcycles to become easier to manage and sharpened with faster features [3]. This research analyses tool's design, safety, functionality, durability, and usability on the basis of constructive feedback from automobile technology learners, technicians, and instructors, to achieve more agile motorcycle management and maintenance practices.

LITERATURE REVIEW

Technical advancements in engineering and application-based education ensured that development and revolution of improvised tools enhances the quality of automation and increase operational safety among automated vehicles enabling more maintenance capacity and task efficacy [4]. Various workshop-oriented paradigms like motorcycle mechanics and servicing, the consistent designing and monitoring is necessary to achieve precise mechanical operations reducing elemental damage and negative performance output [5]. One of the crucial

maintenance techniques is bearing-enabled race removal which needs attachment controlled face applications and clean alignment to obstruct rapid destruction to mechanical assemblies. However, [6] opined that effectiveness of these improvised tools is evaluated through performance analysis, productivity, and durability of mechanical parts of motorcycles. This feedback and evaluation report acts as a critical indicator for effectiveness of the engineering and overall usability. This chapter presents thorough analysis of current literature and theoretical studies that draws on the relevance of improvised tools on motorcycle featuring and how they are useful for real world technical maintenance processes.

Performance of Mechanical Tools

The overall performance of mechanical instruments is described by their capacity to deliver critical tasks with precision and tremendous efforts. In the case bearing race removal, optimal performance includes the exertion of maximum power and consequent force, maintaining appropriate alignment and extraction of press-fitted elements without destructing the nearby components. [7], stated that performance is defined by excellence in in usability paradigm, emphasising how accurately and precisely consumers gain certain objectives with a given contextual references. In the maintenance performance, tis involves appropriate usage of improvised tools in performing correct tasks within deadline and maintain ach part's durability through risk assessment and continuous management. [8] asserted that mechanical performance of an automated product depends on factors like force-transmission efficient and structural stability. A strong affinity in both components promotes efficient force distribution and reduces energy loss

or destruction risks due to misalignment. Ineffective measures can cause failures in mechanical development which can be reduced by bearing race removal that controls stable alignment and mechanical advantage to gain agile performance.

Durability of Fabricated Mechanical Tools

Durability in mechanical instruments indicates its consistent capacity to resist repeated usage without continuous decay in structural integrity and regular millage [9]. Workshop environment curates service lifespan of automated tools needs to be evaluated based on its long-term usability and reliability. [10], stated that material resistance is dependent on crucial elements like wear behaviour, fatigue resistance, and withstanding power to cycle loading. Daily stress and rapid usage with no proper management lead to micro-crack development which elevates the chances of structural failures and a lack of sufficient fatigue strength in mechanical tools. [11], emphasized the choice of right material is important to ensure limitless performance and long-term durability of the instruments. Upon the application of bearing face removal, technical instruments go through a process of repeated high-force operations that increases the consistency of performance lowering maintenance costing and increasing operational safety. Therefore, durability is not a property of material resistance it is a feature that ensures tools to have a functional backup.

Functionality of Mechanical Tools

As per, [12], functionality is a tool's capacity to deliver an agile performance under a real world working environment, providing long-term usability, operational agility, and faster task completion. [13], added that quality of a mechanical tool can be measured only when a customer attain efficient and satisfactory response from a tool without causing any harm and delaying the goal. In terms mechanical applications, a functional tool assist users to execute tasks within deadline and with minimum effort along with consistent accuracy rate. Bearing face removal increases the functionality of tools increasing its dependence on the factors like alignment stability, force dispersion, and operational ease. [14], opined that a well-constructed tool always offer effective performance rate reducing strain and ensures reliable mechanical durability during high-stress response.

Acceptability of Mechanical Tools

Based on [15], acceptability is a user's perception regarding the degree of satisfaction they feel after using fabricated tool, considering its durability, functional efficacy, and performance. [16] Asserted that acceptability determines how efficiently these tools serve to the users under real world situations and meet their practical needs. [17], further explained acceptance of dynamic mechanical tool adherence is dependent on factors such perceived relative advantage, compatibility with current practices, ease of implementation, visibility of benefits. When a tool showcases value, it is more likely to attain greater use acceptability. A high-extended rate

of acceptability indicates that fabricated tool is well-suited for using in workshops and technical-vocational environment.

Bearing Race Removal in Mechanical Maintenance

Maintenance requires agile changes, including the removal of bearing races and the extraction of press-fitted elements to ensure effective task delivery [18]. These interface-fits increase agility in stable part allocation but make a more complex disassembly structure. [19] Noted that extraction of interface-fit elements need a consequent and controlled measure that look out for damage and ignore technical deformation. However, more authentic tools are implemented to enable force application and alignment while reducing the risk of technical destruction during overall maintenance.

Damage Caused by Improper Removal Techniques

Bearing race removal measures that unaligned like prying or hammering leads to strategic deformation of tools and longitudinal cracks which can cause loss of integrity and lack of mechanical support. [20], stated that surface-level destruction delves into stress concentration zones that elevate crack development and fatigue failure. The study by [21], confirmed that such stress concentration appropriately minimise fatigue life and enhance crack propagation-related risks. As a result, reducing inadequate removal techniques is critical for preserving mechanical integrity and expanding service span [22], [23].

Use of Specialised Tools in Bearing Removal

Several instruments such as extractors and pullers exert controlled forces to minimise destruction and fighting this issues there is a need for specialised equipment that offer safe and efficient bearing-race removal. [24] stated that various engineering tools referred to gain effective and solid task completion. The newly styled tools ergonomically enhance performance by minimising strain and enhancing quality precision. Moreover, specialised tools cover durability and manage agile performance while increasing user acceptability for bearing-race removal.

Research Gap and Synthesis

Limited literature has evaluated the utilisation of procurement of motorcycle clutch bearing race removers in technical and vocational education paradigm. But, there are abundant studies on mechanical design and engineering usability while maintaining procedure analysis. Most studies emphasise the mechanical styling of bearing systems and industrial scale trials focusing on theoretical consistency which generate limited value on locally constructed teaching aids utilised workshop-based learning. However, very limited comprehensive studies delve into usefulness, performance and durability as the elements impacting the acceptability rate in procured mechanical tools. This research tends to fill this gap by assessing acceptability of a manufactured motorcycle clutch bearing race remover related to durability and functionality in technical-vocational settings.

Conceptual Synthesis

Based on literature analysis, the performance and functionality of improvised tools are major factors impacting their acceptability. The rate of performance produces effective task execution and durability ensures long-term usability under repeated stress. Finally, overall functionality is addressed by easy propagation of operational effectiveness. Variables are measured to determine the acceptability rates of manufactured motorcycle clutch bearing race remover. This association of variables construct a critical understanding for leveraging information on manufacturing items whether is appropriate for real-world usage in motorcycle maintenance process.

CONCEPTUAL FRAMEWORK OF THE STUDY

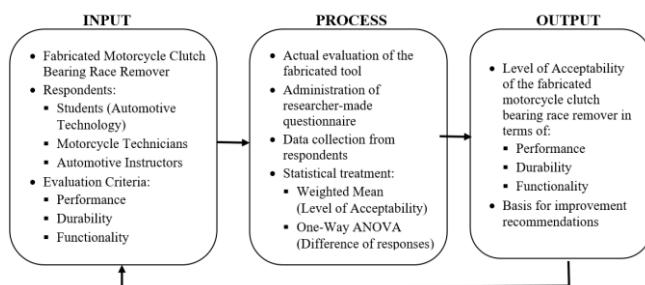


Figure 1. The Conceptual Framework of the Study

The above Figure 1 illustrates a Input-Process-Output (IPO) model that broadcasts the research design where inputs consists of selected respondents and the acceptability rate of motorcycle clutch bearing race remover. These respondents include automobile students, technicians, and instructors. The analysis will be based on three elements: performance, durability, and functionality.

The study assesses an improvised motorcycle clutch bearing race remover using a structured questionnaire. It gathers responses and conducts statistical analyses, using a weighted mean to estimate acceptability levels and a One-Way ANOVA to assess group differences. The findings deliver performance, durability, and functionality, enabling proposed improvements to the tool's effectiveness.

Statement of the Problem

This study aimed to assess the acceptability of a fabricated motorcycle clutch bearing race remover in terms of performance, durability, and functionality.

Objectives of the Study

1. What is the level of acceptability of the fabricated motorcycle clutch bearing race remover in terms of performance, durability, and functionality?
2. Is there a significant difference in the level of acceptability of the fabricated motorcycle clutch bearing race remover as assessed by students, motorcycle technicians, and automotive instructors?
3. What improvements may be recommended based on the findings of the study?

Null Hypotheses

H₀₁: There is no significant difference in the level of acceptability of the fabricated motorcycle clutch bearing race remover in terms of performance, Durability, and Functionality as assessed by students, motorcycle technicians, and automotive instructors.

METHODOLOGY

Research Design

This research employed a descriptive design to assess the acceptance rate of fabricated motorcycle clutch bearing race remover related to performance, durability, and functionality. This design is suitable as it monitors perceptions of users in existing real life situations [25]. This design follows user evaluation technique through survey on the tool's operational excellence, structural durability, and effectiveness in removing motorcycle clutches.

Respondents

This research includes individuals that possess experience and knowledge in motorcycle maintenance. The respondents were divided into three groups one being fourth year Bachelor of Industrial Technology (BIT) students in automation technology, automobile instructors, and motorcycle technicians. The participated individuals were accounted to be 60 offering a comprehensive assessment of the motorcycle clutch bearing race remover's performance, durability, and functionality.

Table 1. Distribution of Respondents

Respondent Group	Frequency (n)	Percentage (%)
BIT Students (Automotive)	36	60%
Instructors/Professors	12	20%
Motorcycle Technicians	12	20%
Total	60	100%

Demographic Characteristics of Respondents

This segment offers an insight on the demographic profile evaluation of respondents involving their age, educational background, technical experience which are integral for this survey role and evaluating the performance and reliability the motorcycle clutch bearing race remover. The comprehension study of the findings increases the interpretation of academic literature that is grounded on technical and practical contextual evidence.

The above table 2 illustrates the demographic characteristics of respondents which is critical for evaluating the performance of fabricated tools. Age, experience, and professionalism impact the perception of tool's performance, functionality, and durability offering significant context for interpreting the outcomes.

Table 2. Demographic Profile of Respondents (Students)

Profile Variable	Category/Group	f	%
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Age	18–25 years	36	100.00
	26–46 years and above	0	0.00
Sex	Male	36	100.00
	Female	0	0.00
Educational Attainment	College Level	36	100.00
Type of Workplace	Training Institution (Graduating Students)	36	100.00
Position/Role	Students	36	100.00

Note: f = frequency; % = percentage.

All the considered participants were college students between ages of 18-25 with no formal employment experience in automobile sector. The graduating students evaluated the motorcycle clutch bearing race remover from a learner's perspective, providing new perspectives of its effectiveness, practicality, performance, durability, and functionality.

Table 3. Demographic Profile of Respondents (Technicians)

Profile Variable	Category/Group	f	%
Age	18–25 years	2	16.67
	26–35 years	4	33.33
	36–45 years	6	50.00
	46 years and above	0	0.00
Sex	Male	12	100.00
	Female	0	0.00
Educational Attainment	High School Graduate	0	0.00
	Technical/Vocational Graduate	0	0.00
	College Level	0	0.00
	College Graduate	12	100.00
Years of Experience	1–3 years	2	16.67
	4–6 years	5	41.67
	7 years and above	5	41.67
Type of Workplace	Authorised Service Centre	12	100.00
Position/Role	Technician	8	66.67
	Senior Mechanic	4	33.33
Training Exposure	Local Training	12	100.00

Note: f = frequency; % = percentage.

Table 3 represents the demographic profile of participants demonstrating a consequent balance in distribution of gender, age, educational background, and work experience. Most participants are male with age group of 36-45 and possess 4-6 years of experience in motorcycle maintenance. Every participant is an employee in different motorcycle service

providing centres, significantly technicians and senior mechanics, with no specialised training addressing a limitation in advanced skillset. Despite having no academic experience, their practical experiences equip them with strong ability to monitor assess the motorcycle clutch bearing race remover effectively, offering critical overview of its performance and functionality in workshop conditions.

Table 4. Demographic Profile of Respondents (Instructors/professors)

Profile Variable	Category/Group	f	%
Age	18–25 years	0	0.00
	26–35 years	3	25.00
	36–45 years	4	33.33
	46 years and above	5	41.67
Sex	Male	12	100.00
	Female	0	0.00
Educational Attainment	Master's Degree Level	5	41.67
	Doctor's Degree Level	7	58.33
Years of Experience	1–3 years	2	16.67
	4–6 years	0	0.00
	7 years and above	10	83.33
Type of Workplace	Training Institution	12	100.00
Position/Role	Instructor/Trainer	12	100.00
Training Exposure	None	0	0.00
	Local Training	12	100.00

Note: f = frequency; % = percentage.

The instructor participants are male with high level experience when provided with the task of assessing a motorcycle clutch bearing race remover. The experienced group is aged 46 and above with 41.67% covering the majority portion. The next proportion aged group is 36-45 with 33.33% range and 26-35 with 25% range, demonstrating a consistently experienced demographic. As for educational backgrounds, 58.33% possess doctoral degrees and 41.67% possess master's degrees, showcasing high qualifications. Professionally, 83.33% have 7 or more years of teaching experience, and all have maximum knowledge about technical training institutions and local training programmes, ensuring they are well-equipped to conduct expert evaluations of the product's performance, durability, and functionality in workshop settings.

Instrument

The study adopted a structured questionnaire to determine the acceptability of the fictitious motorcycle clutch bearing race remover, considering its efficiency, durability, and functionality. This was done following the set principles of evaluating mechanical tools. The instrument for the

assessment was based on previous similar researches and modified to suit the audience with technical know-how, such as motorcycle technicians, automobile students, and even instructors.

Content Validity

In research, the presence of a panel of academics, experts in automotive technology and automotive instructors, along with the process of methods, stands as the instrument of content validity. The assistance of content validity permits the evaluation of each questionnaire's items for generating relevance. Thereby, content validity also provides relevance, charity, along with sufficiency in measuring the motorbike clutch bearing races remover's operations, longevity, and performance. In addition, the existence of a panel of academics, experts in automotive technology and automotive instructors has the potential to provide suggestions for improving the overall structure, along with the strategy that assists in achieving the goal of the study without changing any perspective.

Reliability Testing

In relation to generating reliability, three individual questionnaires were developed for students, instructors and motorcycle mechanics. Each of the questionnaires was customised to the characteristics of respondents by maintaining the same consistency in format for developing accurate data comparison. Besides this, they attempted to evaluate the overall motorbike clutch bearing race remover's longevity, performance and operations with a concentration on overall acceptance.

Data Gathering Procedure

In relation to gathering data, the researcher formally requested authorisation from the establishment in Iloilo City and a motorbike servicing camp. Thereby, after authorisation, the researcher tool was finalised based on the dependability and transparency. Besides, the adoption of face-to-face and self-administration were help to gather information with the assistance of questionnaires focusing the automotive industry. Thereby, individual surveys also assist in generating accurate answers by concentrating on transparency by maintaining privacy for scholarly articles.

Hence, the acceptability of the motorbike clutch bearing race removers in terms of operations, longevity, and performance also stands as the main emphasis for the entire analysis of this project. However, the collected data will maintain its confidentiality in accordance with academic research procedures, which allows for maintaining the entire terms of durability and functionality by concentrating on transparency.

Data Processing Techniques

In order to analyse the data of the research, the questionnaires had to be collected, organised and screened to maintain completeness, along with the correctness. The existence of incorrect and uncompleted replies would be eliminated to understand the accuracy of the collected responses. Besides this, in order to access functionality, the durability and performance of a manufactured motorcycle clutch-bearing race remover, validated data were encoded for statistical analysis. The calculated data resulted from the mean and standard deviations, with the utilisation of one-way ANOVA were conducted in order to identify any differences between the selected response groups. However, the test evaluates at the significance of a hypothetical value of 0.5 for either acceptance or rejection.

Ethical Approval

The presence of the SUC President and the General Manager of the motorcycle clutch-bearing race remover's servicing unit was confirmed by the researcher for the approval that influences the conduct of the future study effortlessly. Therefore, at the time of developing the questionnaires, the participant had to be aware of the goal of the study. Moreover, the responses were arranged and assigned for the statistical analysis of the data collection as well. Thereby, the researcher had to focus on the academic confidentiality at the time of data management to evaluate the entire analysis of the performance of a manufactured motorcycle clutch-bearing race remover. Hence, the analytical approach of the researcher, with the assistance of questionnaires, assists in identifying functionality, durability and performance of a manufactured motorcycle clutch-bearing race remover.

RESULTS AND DISCUSSION

The Status of Acceptability of a Manufactured Motorcycle Clutch Bearing Race Remover by Analysing the Capabilities of Durability, Functionality, and Performance as Estimated by the Students

Table 5. The status of acceptability as estimated by the students

Statement	Performance		Durability		Functionality		Over-all		Description
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Strongly Agree
1	4.58	0.50	4.97	0.17	4.64	0.49	4.73	0.39	Strongly Agree
2	4.75	0.44	4.89	0.32	4.81	0.40	4.82	0.39	Strongly Agree
3	4.89	0.32	4.75	0.44	4.83	0.38	4.82	0.38	Strongly Agree
4	4.78	0.42	4.97	0.17	4.78	0.42	4.84	0.34	Strongly Agree

Statement	Performance		Durability		Functionality		Over-all		Description
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Strongly Agree
5	4.81	0.40	4.78	0.42	4.89	0.32	4.83	0.38	Strongly Agree
Average Mean	4.76	0.42	4.87	0.30	4.79	0.40	4.81	0.37	Strongly Agree

Based on the evaluation of Table 5, it can be illustrated that the selected student respondents highly appreciated the adoption of a fabricated motorcycle clutch bearing race remover, based on its functionality, performance, and durability. Therefore, the presence of functionality, performance, and durability are all indicators that reflect a strongly agreed field. Based on the score of the table, it can also demonstrate that statement four scored the highest mean, which is M=4.84, followed closely by statement five, as M=4.83. Instead of minor contrasts of the overall score, the grand mean stands at 4.81, which reflects the standard deviation (SD) of 0.37. The score of SD proposed a strong

consensus, along with high consistency for the adoption of a fabricated motorcycle clutch bearing race remover, based on its functionality, performance, and durability. Hence, the illustration of Grozdanovic et al. (2018) and Lu & Wood (2020) evaluated that the improvement of the user-centred designed tools assists in the acceptability of the adoption of a fabricated motorcycle clutch bearing race remover, based on its functionality, performance, and durability. As a result, the application of the adoption of a fabricated motorcycle clutch bearing race remover provides satisfaction towards the users based on its functionality, performance, and durability.

The Rank of Acceptability of a Manufactured Motorcycle Clutch Bearing Race Remover by Analysing the Capabilities of Durability, Functionality, and Performance as Estimated by the Mechanics of Motorcycle

Table 6. The rank of acceptability as estimated by the Mechanics of Motorcycle

Statement	Performance		Durability		Functionality		Over-all		Description
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Strongly Agree
1	4.58	0.52	4.83	0.39	4.50	0.67	4.64	0.53	Strongly Agree
2	4.92	0.29	4.92	0.29	4.83	0.39	4.89	0.32	Strongly Agree
3	4.92	0.29	4.67	0.49	4.75	0.45	4.78	0.41	Strongly Agree
4	4.92	0.29	4.83	0.39	4.75	0.45	4.83	0.38	Strongly Agree
5	4.92	0.29	4.83	0.39	4.67	0.49	4.81	0.39	Strongly Agree
Average Mean	4.85	0.34	4.82	0.39	4.70	0.49	4.79	0.41	Strongly Agree

Based on the evaluation of Table 6, it can be demonstrated that the selected motorcycle mechanics as respondents approvingly admired the adoption of a fabricated motorcycle clutch bearing race remover, based on its functionality, performance and durability. Consequently, the presence of functionality, performance and durability is an indicator that strongly agrees with the field. Based on the score of the table, it can also demonstrate that statement two scored the highest mean, which is M=4.89, followed closely by statement four, with M=4.83. Instead of insignificant disparities of the overall score, the grand mean stands at 4.79, which reflects

the standard deviation (SD) of 0.41. The score of SD proposed a strong consensus, along with high consistency for the adoption of a fabricated motorcycle clutch bearing race remover, based on its functionality, performance and durability for the technical purpose [15].

Accessibility represents the level of user satisfaction based on longevity, simplicity, functionality, and benefits. Therefore, mechanical tools that are efficient, easy to maintain, and durable are considered suitable for use in workshops and technical vocational settings [16], [17].

The Grade of Acceptability of a Manufactured Motorcycle Clutch Bearing Race Remover by Analysing the Capabilities of Durability, Functionality, and Performance as Estimated by the Instructors of Automotive

Table 7. The grade of acceptability as estimated by the Instructors of Automotive

Statement	Performance		Durability		Functionality		Over-all		Description
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Strongly Agree
1	4.92	0.29	4.92	0.29	4.75	0.45	4.86	0.34	Strongly Agree
2	4.92	0.29	4.83	0.39	4.83	0.39	4.86	0.36	Strongly Agree
3	4.83	0.39	4.75	0.45	4.83	0.39	4.80	0.41	Strongly Agree
4	4.92	0.29	4.83	0.39	4.83	0.39	4.86	0.36	Strongly Agree

Statement	Performance		Durability		Functionality		Over-all		Description
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Strongly Agree
5	4.83	0.39	4.92	0.29	4.92	0.29	4.89	0.32	Strongly Agree
Average Mean	4.88	0.33	4.85	0.36	4.83	0.38	4.85	0.36	Strongly Agree

The assistance of Table 7, this research work demonstrated the adoption of a fabricated motorcycle clutch bearing race remover, based on its functionality, performance and durability among the automotive instructors. This table illustrates that all statements obtained a rating of strongly agree. Thereby, statement five holds the highest score in comparison with the other existing statements; the mean value stands as M=4.89, which indicates the value of standard

deviation 0.32, along with the average SD is 0.36. As per the in-depth analysis of [7], [26], and [8], the exactness and efficacy of managing tools focus on the mechanical performances that evaluate overall stability, along with the performance efficiency. In relation to minimising the entire mistake, the effectiveness of maintenance and the structural stability can regulate the overall advantages of mechanical consistency.

The Entire Illustration of Acceptability (with the Presence of Combined Respondents) Performance, Durability, and Functionality

Table 8. The entire illustration of acceptability is estimated as a whole

Indicators	Grand Mean	SD	Description
Performance	4.83	0.36	Strongly Agree
Durability	4.85	0.35	Strongly Agree
Functionality	4.77	0.42	Strongly Agree
Overall Grand Mean	4.82	0.38	Strongly Agree

The illustration of this study evaluates the fabricated motorcycle clutch bearing race remover, based on its functionality, performance and durability, with a grand mean score of 4.82, which indicates high acceptability among all respondents. The tables also illustrated that durability had the highest mean, 4.85, where the mean scores of performance

and functionality stand at 4.83 and 4.77. The low value of SD reflects the consistent positive perception among the respondents. According to [15], [16], and [17], as illustrated by the fact that performance, longevity, and easy maintenance are suitable for practical and technical uses.

The Specific Way to ANOVA Results on the Grade of Acceptability of the Fabricated Motorcycle Clutch Bearing Race Remover as Considered by the Three Groups of Respondents

Table 9. The specific way to the ANOVA Results for all respondents

Indicator	Source of Variation	SS	df	MS	F-value	p-value	Decision	Interpretation
Performance	Between Groups	0.18	2	0.09	0.42	0.66	Fail to Reject H ₀	Not Significant
	Within Groups	11.75	57	0.21				
	Total	11.93	59					
Durability	Between Groups	0.12	2	0.06	0.31	0.73	Fail to Reject H ₀	Not Significant
	Within Groups	10.98	57	0.19				
	Total	11.10	59					
Functionality	Between Groups	0.25	2	0.13	0.58	0.56	Fail to Reject H ₀	Not Significant
	Within Groups	12.36	57	0.22				
	Total	12.61	59					

The findings of ANOVA illustrated no significant differences regarding the rating among all respondents. Hence, the result demonstrated that the p-value of durability (0.73), functionality (0.56), and performance (0.6), all represent above 0.5. [27] illustrated that the usefulness of

tools provides advantages for the measurable perspective. Hence, the analytical research work considers the performance, functionality and durability of a manufactured motorcycle clutch-bearing race remover to maintain the application for this selective research topic effectively.

SUMMARY

The overall study focused on the analysis of the performance, functionality and durability of a manufactured motorcycle clutch-bearing race remover in order to understand its overall acceptance of accessibility. The presence of a panel of academics, experts in automotive technology and automotive instructors, along with the process of methods, stands as the instrument of content validity. The design of this research paper aimed to address the overall research problem with the existence of traditional research tools, which might include the labour times, and the possibility of component damage during the procedure of the entire research work. In order to conduct the entire research work, the researcher concentrated to develop questionnaires to collect data related to the understanding regarding the performance, functionality, and durability of a manufactured motorcycle clutch-bearing race remover. Their research concentrated on 60 respondents who belonged to a group of teachers, motorcycle technicians of motorcycles, and students studying automotive technology by using the quantitative descriptive methodology. Thereby, the calculated data resulted from the mean and standard deviations, and one-way ANOVA was conducted in demand to identify any differences between the selected response groups. However, the test evaluates at the significance of a hypothetical value of 0.5 for either acceptance or rejection. Hence, it can be concluded that the results of this research work influenced the tools of general acceptability of the overall performance, functionality and durability of a manufactured motorcycle clutch-bearing race remover, along with the possible arena of progress.

FINDINGS OF THE STUDY

Based on the critical analysis of the entire project work, it was found that the adoption of a fabricated motorcycle clutch bearing race remover is highly satisfactory, as it stands for the mean score of 4.81 for performance and 4.85 for durability. Besides this, the mean score illustrated that there was strong agreement among the respondents about the adoption of a fabricated motorcycle clutch bearing race remover due to its durability and effectiveness, as well as dependency. Functionally, the adoption of a fabricated motorcycle clutch bearing race remover also obtains a high mean score, such as 4.81, which indirectly confirms the usefulness for maintaining the motorcycles. However, the analytical tools' overall grand mean stands at 4.82, which reflects the excellent acceptance of a fabricated motorcycle clutch bearing race remover among the selected respondents. On the other side, One-way since all p-values were more than 0.05, as well as the findings of ANOVA, illustrated no significant differences regarding the rating. Hence, the determination of ANOVA evaluated that there is no individuality in terms of rating among students of automotive, motorcycle mechanics, and automotive teachers to find out the result of the adoption of a fabricated motorcycle clutch bearing race remover.

CONCLUSIONS

According to the study, it can be concluded that the satisfaction level of a motorcycle manufacturer depends on the functionality and durability of the motorcycle clutch-bearing race remover. The comprehensive study focused on the analysis of the performance, functionality and durability of a manufactured motorcycle clutch-bearing race remover in demand to understand its overall acceptance of accessibility. The existence of a panel of academics, experts in automotive technology and automotive instructors, along with the process of methods, stands as the instrument of content validity. The design of this research paper aimed to address the overall research problem with the existence of traditional research tools, which might enclose the labour times, and the possibility of component damage during the procedure of the fundamental research work. Thereby, the research work allowed to specify the data of the research, the questionnaires had to be collected, organised and screened to maintain completeness, along with the correctness. Besides this, the comprehensive study analysis illustrated the thought of the entire research work, which is ideal for frequent research work focusing on the workshop uses and the usefulness of removing clutch-bearing races. Furthermore, this research work also evaluated that the features of the tool satisfy the requirements of motorcycle maintenance and services. The overall evaluation indicated that there is no presence of appreciable variables for verifications of acceptability among teachers, automotive students and motorcycle mechanics. Hence, their presence is widespread, entirely dependable, and useful across various technical backgrounds, making this research work effective and efficient.

RECOMMENDATIONS

Based on the analytical research work, it can be recommended that the adoption of a fabricated motorcycle clutch bearing race remover can be applied within the maintenance workshop, along with the technical-vocational training institutions. The existence of the measuring tools of performance, functionality and durability of a manufactured motorcycle clutch-bearing race remover permits enhanced fundamental changes for the overall stability within the motorcycle servicing centre. However, the researcher concentrates on the future development of the utilisation of stronger materials for enhancing the ergonomics and longevity, to make the overall capabilities more improved and compatible with different clutch-bearing race sizes. However, this research also assists to recommend that the implications of a fabricated motorcycle clutch bearing race remover act as a tool that enhances overall efficiency for maintaining the actual working conditions. Thereby, the researcher also recommends that an extensive investigation have the potential to develop objective related work that enhances overall performance as well.

Conflict of Interest

The author has demonstrated that the study design, the system of overall development of the study, data analysis, preparation of the paper and the decision of publications are all independent. Based on this statement, there would be no conflicts of interest because of the institutional backing to evaluate the performance, functionality and durability of a manufactured motorcycle clutch-bearing race remover.

Declaration of AI Used

The research work is established with the assistance of the author's own words, and the author confirms that the research content was created without any implication of any kind of advanced AI tools. The research content was executed with the implementation of ChatGPT, QuillBot Premium, and Grammarly Plagiarism Pro. The author emphasises that the utilisation of ChatGPT, QuillBot Premium, and Grammarly Plagiarism Pro cannot study data or results from other existing studies. Hence, it can be established that the result of the research work focuses on maintaining the correctness of the product, integrity, and originality. However, the researcher took entire responsibility to maintain the accuracy, originality, and integrity of the entire research work.

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