

Entrepreneurs' Perceived Quality of Tricycle Brands for Transportation in South-East, Nigeria

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Abstract

This study examines entrepreneurs' perceived quality of tricycle brands for transportation in South-East Nigeria. A descriptive research design was adopted. Sample size was 120 registered tricycle operators in Onitsha, Anambra State. Results obtained from ANOVA procedure showed overall mean for all treatment combined is 55.3 and (SS) is 26,682.3. F-ratio value was 19.52235, p -value is $< .00001$. The result was significant at $p < .05$. Pairwise test of three brands showed; means =20.90; $Q_{.05} = 3.29$ ($p = .06925$), means =55.60; $Q_{.05} = 8.75$ ($p = .0000$) and means =34.70; $Q_{.05} = 5.46$ ($p = .00179$). Findings indicated: there were significant differences between two pairings, while one pairing had no significant differences. Bajaj Re is the most reliable and serviceable brand, while TVS King excels in fuel economy and durability. Paiggio ranks lowest across all attributes. The study concludes that perceived quality significantly influences entrepreneurs repurchase decisions and recommended enhancing product innovation and reducing weaknesses.

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Background to the Study

The use of tricycle dominated because some men of the underworld depend mainly on the use of motor cycles for robbery and some dangerous unacceptable attitudes in the South-East Nigeria which comprises of Anambra, Abia, Enugu, Imo, and Ebonyi states respectively. This study focuses on entrepreneurs in Onitsha, Anambra State, South-East, Nigeria. These entrepreneurs who operate tricycles in South-East Nigeria have observed that tricycles contribute immensely to its economic development and they, as well perceive it as a backbone in their businesses. An entrepreneur may be characterized as an individual or a group of creative and innovative people who are change agents and innovative establishing a business to generate profit. This study is aimed at how tricycle brands will be enhancing the producer/marketers brand marketability to proffer pragmatic result. The entrepreneurs of tricycle operators have insight at reliability, serviceability, fuel economy, safety, and durability. The knowledge obtained by the entrepreneurs will determine which brand to repurchase for transportation, based on the quality perceived. It signifies that possession of quality will definitely be a dominant factor for choice of tricycle brands for transportation in South-East Nigeria.

The Commercial Tricycle Scheme at the time of its introduction was popularly known as "Keke NAPEP", Keke being in local parlance for tricycle, while "NAPEP is an acronym for National Poverty Eradication Programme of the Federal Government" (Josiah, 2008; Sun, 2009). Thus, State Government in Nigeria and particularly in the South-East had to proscribe the use of motorcycles for transportation business in towns and cities and in its place the tricycles were introduced. (Muktar, Waziri, Adulsalam & Dankani, 2015). As posited by Bamidele (2016), the phenomenal growth and popularity of commercial tricycle is accounted for by a number of factors of variables namely: (i) Commercial tricycle operators offer door-to-door services (ii) the ease with which commercial tricycle operators can maneuver tricycle congestion. (iii) ability of commercial tricycle to access areas where there are poor access areas. (iv) the responsiveness with which commercial tricycle operators meet customers demand and (V) the fact that commercial tricycle business offer the teeming unemployment youths of Nigeria a means of livelihood.

Igwenagu (2020), also pointed out that commercial tricycles are easier to procure compared to buses and taxi vehicles as an alternative means of transportation and it is also very profitable as was the case for other forms of transportation in Nigeria. The commercial tricycle transportation business has become very popular and pronounced in South-East, geopolitical zone in Nigeria, and notability in all towns in South-East Nigeria. Today, various tricycle brands such as Paiggio, Bajaj Re, and TVS King are being used by transport operators in South-East Nigeria. These tricycle brands are basically motor cycles with side cars, which have the legal capacity of five passengers including the driver.

Every business operation is undertaken with the objective of making profit, so tricycle transport operators would nationally want tricycle brands which are of high quality, and whose quality performance would yield profits. A tricycle transport operator would have

to consider the quality attributes of a tricycle before he makes an initial and subsequent re-purchase of the brand. Quality is an important marketing variable. "Quality is defined as the features, and characteristics of a product or service that bear on its ability to satisfy stated, or implied need" (Miller, 1995. Cited in Kotler, 2003). Quality encompasses both the tangible and intangible aspects of firm's products. In a technical sense, quality refers to physical characteristics such as features, performance, reliability, durability, serviceability and conformation to specification (Ozo, Egele, & Udu, 2018). The quality of a product is critical to an organization because it is considered as the guarantee of customer purchase, re-purchase, and loyalty, the strongest defence against competition, and a reliable path to sustained growth, and earning (Kotler & Keller, 2009). The goal of this research effort among other things is to provide data that will assist the tricycle brand owners in ensuring that they improve and maintain the quality of their products such that they become more competitive and profitable while ensuring customers loyalty and satisfaction.

Statement of the Problem

Perceived quality is defined as "the consumers' evaluative judgment about a products overall excellence, or superiority in providing desired benefits. It is a judgment derived by a comparison of performance, perception against expectations, or evaluative Standard". (Arnould, Price & Zinkhan, 2002). The Purchase of the product is the actual action, repurchase is the customer's decision to engage in future activities with the retailer, supplier or firm (Hume, Mort, & Winzar, 2007). Customers may purchase a business product such as tricycles and not repurchase it again. When this happens, it becomes detrimental to the survival, and growth of the firm. Marketing strategy is always formulated and directed to tackle the issue of problem of customer repurchase of a company's brand. This can be specifically done through carrying out research of the perceived quality of the brand and sf it relates with customer's intention to engage in brand repurchase.

The reason, customers decide to select the same firm, and repurchase its products, or services is on the basis of their past experiences with the product. Customers' repurchase intention rely upon, value obtained in their past transactions (Mc Dougal, 2002; Kaynak, 2013). "Future purchase intention also has a significant relationship with customer satisfaction" (Ariflin, Yusof, Patit, & Shah, 2015). This study, envisages that any tricycle brand that could not deliver in terms of quality is not worthy to be repurchased. The entrepreneurs actually are after a tricycle brand that can Stand a taste of time as well as proffer to the business, by way of being reliable, serviceable, fuel economy, safety, and durable. These attributes if obtained would result to repurchase of the tricycle brand. If the tricycle brand could not offer these attributes repurchase will not take place, and it would negatively affect the manufacturing firm. So, the gap in knowledge arises from the presence of the need to further investigate the factors that affect the perception of the entrepreneurs and establish possible courses of action first by the brand owners and to improve the quality of the products offered by each brand,

Objectives of the Study

The main objective of this study is to examine entrepreneurs' perceived quality of tricycle brands for transportation in South- East, Nigeria:

The specific objective is to;

1. To examine if any significant differences in terms of reliability, serviceability, fuel economy, and safety exist between the three tricycle brands.
2. Determine if there are any significant differences in terms of quality between the three tricycle brands.
3. Pairwise, ascertain if there exist any significant differences among the three tricycle brands.

Research Questions

The study deemed it essential to look at these research questions. The research questions were;

- 1) Are there any significant differences in terms of reliability, serviceability, fuel economy, and safety between the three tricycle brands?
- 2) Are there any significant differences in terms of quality between the three tricycle brands?
- 3) Pairwise, are there any significant differences among the three tricycle brands?

Research Hypotheses

The study demanded that these research hypotheses should be tested. The research hypotheses were;

- Ho:1 There is no significant differences into term of reliability, serviceability, fuel economy, and safety between the three tricycle brands.
- Ho:2 There is no significant differences into term of quality between the three tricycle brands.
- Ho:3 Pairwise there are no significant differences among the three tricycle brands.

Review of Related Literature

This study, took cognizance of conceptual review, theoretical framework and empirical review respectively.

Conceptual Review

Product Brand

A product brand differentiates itself from other brands of product, or product line. Brand name helps consumers to choose easily brand of interest considering their busy life routines, especially now that people are more conscious about brand names. So, companies should take this into consideration in order to perform successfully in the competitive environment of today; they have to use well-known brand names that have the right image in customers minds to influence their choices (Shehzad 2014). A brand could be defined as a seller's promise that he will provide a distinctive set of features to his customers consistently (Jo-Shi, 2013). When a brand provides quality attributes to its customers consistently, they will be loyal to the brand, and make re-purchase decisions. If

the customer is convinced to repurchase a brand after using it for the first time, it shows the loyalty of customers towards the brand (Krizanova, 2012) "A basic principle of brand equity is that the control of a brand lies in the mind of customers, and what they have practiced, and learned about the brand over time" (Sade-ghloo, Mehrani, & Azma, 2013).

Tricycle Quality Attributes

Based on the above definitions of quality which pertain to features, characteristics, or attributes of a product our focus in the study was on five critical quality attributes of tricycles: reliability, serviceability, fuel economy, safety and durability.

(i) Reliability

Garvin (1987) defines reliability as "the likelihood that a product will not fail within a specific time period". He also states that reliability contributes vitally to brand, or company image. Most end-users consider reliability as a fundamental dimension of quality. Woods (2010) also stated that the reliability attribute has been found to have a positive impact on the likelihood that consumers will choose or purchase a vehicle.

(ii) Serviceability

National instrument (2013) defines serviceability as "the measure of and the set of the features that support the ease, and speed of which corrective maintenance, and precautionary maintenance can be conducted on a system". An automobile (tricycle) with good serviceability can be repaired easily in a service centre. This means that spare parts can easily be obtained in after-sales service centre. It also means that service repairs, or diagnostic tasks can be performed smoothly by any service centre within a given space of time. (Larson, 1995).

(iii) Fuel Economy

Fuel economy has to do with the fraction of energy content of the fuel which is used to move an automobile, or tricycle now that saved and is very important now that fuel is very exorbitant. Fuel economy measures the energy efficiency of automobile and determines how far a vehicle can run on a litre of fuel, or specifically measured by number of kilometers covered per litre (Wilcox, 1984). The price of fuel is an important consideration in the demand of vehicles and also tricycles. This is so, especially when the price of fuel is rising, an automobile user looks for vehicles, or tricycles with greater fuel efficiency. (Gautam, 2010). As pointed out by Gautam (2010), automobile users also place immense value on lifetime fuel saving when considering the particular brand to purchase.

(iv) Safety

Automobile users, including tricycle transport operators, seek vehicles which are built with adequate safety provisions or features. There is increasing demand in recent times for safety features in automobiles which has made producers to introduce more innovations in safety-related attributes and feature (Deloitte, 2009), Automobile users now consider safety attribute to be one of the most vital considerations in purchasing a

new vehicle or tricycle. Users rate the automobile safety performance before they embark on purchase (Harris, 2001).

(v) Durability

Durability is the ability of a product to be utilized during its life span until it physically deteriorates or requires replacement (Larson, 1995). Garvin (1987) states that durability can be determined by measuring the amount of use a consumer derives from a particular product or brand before it breaks down and replacement becomes better to continued repair. Hence Kotler, and Keller (2009) posited that durability is a measure of the product's predictable working life under natural, or stressful condition.

Perceived Quality

Quality has been conceptualized in terms of perceived quality which depends on the customers' value judgments (Zeitham, 1988). Thus, excellence is posited as a fit between buyer perception, and expectations (Saleem, Zahra, & Yasen, 2017). Perceived excellence, whether in orientation to a product or facility is defined as the buyer's evaluative choice about an individual's overall excellence, or advantage in providing derived benefit (Arnould, Price, & Zinkhan, 2002). Perceived superiority is a judgment consequential by assessment of performance visions against predictions of performance perceptions against expectations, or evaluative Standards. (Arnould et al, 2002). To the best of our knowledge, clients use an array of sensory cues as indicators of quality.

Cues are used according to their predictive value, the amount to which buyers associate given indication to product quality, the certainty value of a cue, and the grade to which consumers have confidence in their ability to use and judge that cue accurately. The value of cues varies across product classes. (Schiffman, & Kanuk, 1997; Arnould et al, 2002). Consumers often judge the excellence of a product on the foundation of a diversity of informational cues that they associated with the product. Some of these signals are inherent to the product, while others are extrinsic. Either singly or in composite, such cues provide the basis for insights of product quality. Consumers like to believe that they base their evaluations of product quality on intrinsic/extrinsic cues (attributes), because that enables them to justify their product decision (either positive or negative) as being rational or objective product choices (Schiffman & Kanul, 1997). Our study on perceived quality is based on intrinsic cues (attributes) in measuring transportation perceived quality of tricycle brands in Anambra State, in South-East Nigeria.

Theoretical Framework

The expectation-confirmation theory was propounded by Oliver, in (1977).

This study is anchored on Expectation confirmation theory, Expectation-Confirmation Theory (ECT) is a cognitive theory not which seeks to explain post-purchase or post-adoption satisfaction as a function of expectations, perceived performance, and confirmation of beliefs. This theory is most related to the study because entrepreneurs perceive quality in order to identify with the tricycle to purchase, and repurchase because of its quality. Expectation- Confirmation theory involves four constructs: expectations,

perceived performance, confirmation of belief and Satisfaction (Wikipedia, 2020). Oghuma and Chang (2016) based their research on expectation-Confirmation theory. Joo and Choi (2016) applied the expectation- Confirmation model to examine the features affecting students' persistence intention to use online library resources (OLR) in the context of academic libraries.

Review of Empirical Studies

Mukhtar, Waziri, Adulsalam, and Dankami (2015) undertook research on assessment of tricycle as a tool of poverty alleviation in Maiduguri, Borno State North-East, Nigeria. The Study was carried out in Maiduguri. Multi Stage Sampling technique was used in collecting the primary data. Maiduguri was stratified into thickly and sparsely populated areas; table of random numbers guided selection process of sample from strata after mapping the existing tricycle stations. The respondents were also designated analytically at regular defined intervals. Data were analyzed using descriptive statistical tools. It was discovered that the operation of Keke Napep (tricycle) came into effect in full pledge with the prohibition of motor cycle as a means of transportation in Maiduguri. Bamidele (2016) embarked a study of the political economy of tricycle transportation business in Osogbo Metropolis; lessons for a developing economy. Population of the study was made up of registered tricycle riders. The study made use of probabilistic sampling method. The study resorted to using ten percent (10%) Sample Size. The study discovered that, about 61.6 percent of the respondents agreed that they were engaged in "Keke Napep" business having left their innumerable trades as artisans not because of the panorama of floating economy but because daily income was sure, and almost certain.

Ndibalema and Harun (2017) conducted a study on exploring operators of agents' satisfaction: an empirical study of tricycle operators in Tanzania transport industry. The population of the study was tricycle operators registered by the municipality of Ubungo and Kinondoni in Dar-ES-Salaam City in Tanzania. The analytical tool used is percentage. The sample size was one hundred (100) respondents; the study found out that information exchange, trust and dependence impact the agent's satisfaction positively; the Study recommended that monitoring,

information exchange, trust, dependence and reward structure can affect agents' satisfaction.

Modibbo and Fashola (2017) carried out a study on impact of commercial tricycle operation on income of youths in Mubi North Local Government Adamawa State, Nigeria. Population of the study was the registered tricycle operators in Mubi North Local Government, Adamawa State, Nigeria. The study, analyzed data using simple percentages and multiple regression. Sample size of the study was One hundred (100). The study found out that tricycle is a means of transportation in Adamawa State. It has increased the income of youths through generation of employment opportunities and has also reduced the rate of accident compared to Okada. The study recommended that soft loan should be granted to youths to procure commercial tricycles.

Entrepreneur's Perceived Quality

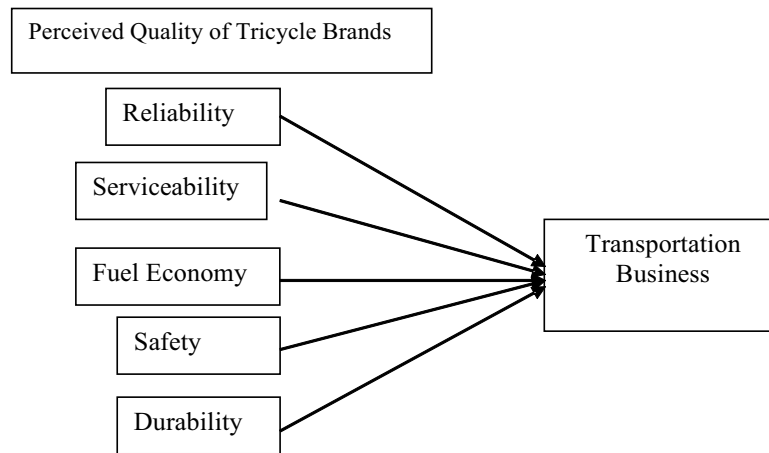


Figure I: Perceived attributes (cues) in tricycle transportation
Source: Author's Proposed Model (2024).

Methodology

This study discussed research design, areas of the study, population of the study and sampling plan.

Research Design

This study adopted the cross-sectional survey research design. Due to the explanatory nature of the study a survey questionnaire was used to generate the requisite data. The study was aimed at determining how entrepreneurs perceive quality on tricycle brands for transportation in South- east, Nigeria. It is to determine how these tricycle brands are being rated. The tricycle brands were TVS King, Bajaj Re, and Piaggio respectively.

Area of the Study

The area of the study was Onitsha, in Anambra State, which is in South-East, Nigeria. The parks visited in Onitsha were Ose park, Akpaka Park, Awada Park, Upper Iweka park and Fegge park respectively.

Population of the Study

The population of this study comprised all currently registered entrepreneurs of tricycle brands used for transportation. The data were extracted from Onitsha, Anambra State. Based on the data obtained from Onitsha, Anambra State Board of Internal Revenue. The registered tricycles were four thousand two hundred and fifty (4,250) tricycles.

Sampling Plan

Sampling plan consists of sampling designs, which referred to the ways a researcher draws samples from any given population. According to Nnamdi (1999) sampling plan comprises of Sample Unit, Sample Size, Sample method, and Sample procedure. The

Sample units involved entrepreneurs' that registered their tricycle(s) for transportation at this written placed above. The Sample size of the Study was One hundred and twenty (120) One hundred (100) respondents duly filled the Structured copies of questionnaire across the tricycle brands.

Data Presentation and Analysis

On the collection of the copies of questionnaires it was recorded that One hundred (100) Copies were found to be useful.

Test of Hypotheses

One-way ANOVA will have only one independent variable. The hypothesis for a one-way ANOVA test has been set up as follows:

Null Hypothesis, H0: $\mu_1 = \mu_2 = \mu_3 = \dots = \mu_k$

Alternative Hypothesis, H1: The means are not equal

The ANOVA formulas is arranged systematically in the form of a table. This ANOVA table can be summarized as follows:

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F Value
Between Groups	$SSB = \sum n_j(\bar{X}_j - \bar{X})^2$	$df_1 = k - 1$	$MSB = SSB / (k - 1)$	$f = MSB / MSE$
Error	$SSE = \sum \sum (X_{ij} - \bar{X}_j)^2$	$df_2 = N - k$	$MSE = SSE / (N - k)$	
Total	$SST = SSB + SSE$	$df_3 = N -$		

Source: Cuemath.com (2024) <https://www.cuemath.com/anova-formula/>

Decision Rule: If test statistic > critical value then rejects the null hypothesis and conclude that the means of at least two groups are statistically significant. Then post-hoc analyses are necessary and performed following an ANOVA. Here, we use the most common tests known as Tukey's Honestly Significant Differences (HSD) Test. he ANOVA formulas is arranged systematically in the form of a table. This ANOVA table can be summarized as follows:

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F Value
Between Groups	$SSB = \sum n_j(\bar{X}_j - \bar{X})^2$	$df_1 = k - 1$	$MSB = SSB / (k - 1)$	$f = MSB / MSE$
Error	$SSE = \sum \sum (X_{ij} - \bar{X}_j)^2$	$df_2 = N - k$	$MSE = SSE / (N - k)$	
Total	$SST = SSB + SSE$	$df_3 = N -$		

Source: Cuemath.com (2024) <https://www.cuemath.com/anova-formula/>

Tests: $H_0: \mu_i = \mu_j$ $H_a: \mu_i \neq \mu_j$ where the subscripts i and j represent two different populations

Overall significance level of α :

Test Statistic: $HSD = q \sqrt{\frac{MSE}{n_c}}$

q = critical value from Studentized Range table

MSE = Mean Square Error from ANOVA table

n_c = number of replicates per treatment. An adjustment is made for unbalanced designs.

Decision rule: if any two means differ by more than the Tukey w value, then they are significantly different. That is Reject H_0 if $|\text{mean}_i - \text{mean}_j| > HSD_{\text{critical value}}$

Table 1: Demographic Profile of the Respondents in Onitsha Anambra State

Variables	Categories	Count	Percentages %
Age Bracket	18-25 years	17	17
	26-35 years	33	33
	36-45 years	25	25.0
	46 years and above	25	25.0
Educational Qualification	FSLC	43	43.0
	WASC/SSCE	27	27.0
	Diploma/NCE	9	9.0
	First Degree/HND	17	17.0
	Postgraduate	4	4.0
	Studies		
	1-2 years	44	44
	3-4 years	27	27.0
5-6 years	23	21.0	
7 years and above	8	8.0	

Note: $n = 300$

Source: Author's Compilation, (2024),

Presentation and Analysis of Data

Table 1: Summarizes the distribution of key categorical, or nominal demographic variables measured in this Study. The expanded outputs from where this table was derived respondents within the 26-35 years age bracket pooled the highest respondents) followed by respondents within the 36-45 years age bracket. Finally, the least represented are participants with in the 18-25 years age bracket.

In terms of educational qualification, far more than a third were First school Leaving Certificate holders. This was followed by WASCE/SSCE holders were holders of Diploma/NCE Certificates. First degree/HND holders comprised 43% (that is, 43 respondents) indicated that they were currently doing a post graduate study. The sample composition is a true reflection of the reality in the Nigerian labour Market where by unemployment makes educated people to seek alternative means of survival. Additionally, data collection continued until we reached One hundred (100) participants out of 120 for each of the three tricycle brands under Study (that is Paiggio, TVS King, and Bajaj Re).

In terms of the duration on transporters experience with tricycle transport operation, 8% (that is 8 respondents) indicated that they have been in the tricycle transport business for 7 years and above. Finally, 44 respondents (that is, 44%) being the largest category indicated that they have been in the tricycle transport business for just 1-2 years.

Table 2: Analysis of Attitude Questions for Respondents in Onitsha, Anambra State, Nigeria

S/N	Questions	Bajaj Re (%)					TVS King (%)					Paiggio (%)				
		SA	A	UN	D	SD	SA	A	UN	D	SD	SA	A	UN	D	SD
1.	My tricycle brand does not easily breakdown	85	15	-	-	-	35	45	20	-	-	12	38	50	-	-
2.	The engine of my tricycle performs very well with little failure	90	10	-	-	-	42	38	10	-	-	19	23	58	-	-
Serviceability Attribute																
3.	the replacement of parts used to repair and service my tricycle brand are available	78	22	-	-	-	13	45	42	-	-	14	25	61	-	-
4.	There are skilled and competent mechanics to repair and service my tricycle brand	90	10	-	-	-	16	38	46	-	-	11	22	67	-	-
Fuel Economy Attribute																
5.	My tricycle brand minimizes fuel consumption	72	14	14	-	-	91	19	-	-	-	18	34	48	-	-
6.	My tricycle brand does many trips of transportation with low fuel consumption per kilometers	67	30	3	-	-	88	12	-	-	-	22	36	42	-	-
Safety Attribute																
7.	My tricycle brand is well balanced and stable when moving on the road	84	16	-	-	-	64	30	6	-	-	32	48	20	-	-
8.	The braking system of my tricycle is effective	91	9	-	-	-	73	27	-	-	-	33	41	26	-	-
Durability Attribute																
9.	My tricycle brand has a strong body that lasts for a long time	73	27	-	-	-	84	16	-	-	-	41	33	26	-	-
10.	My tricycle brand has engine which serves for a long time	78	20	2	-	-	93	7	-	-	-	50	43	7	-	-

The above table was used for analysis in the following section of this report.

Table 3: Summary of ANOVA Data

	Brands(Treatments)			
	Bajaj Re (%)	TVS King (%)	Paiggio (%)	Total
N	10	10	10	30
Σx	808	599	252	1659
Mean	80.8	59.9	25.2	55.3
Σx ²	65932	44569	7924	118435
Std.	8.4696	31.0714	13.229	30.332
Dev.				8

The data in the above table 3 will be used in the ANOVA analysis procedure that follow. Thus, this study analyzed three treatments (or tricycle brand) and obtained the following results

Table 4: Result Details

Source	SS	df	MS	
Btween-treatment	15774.2	2	7887.1	
Within-Treatment	10908.1	27	404.0037	F =19.52235
Total	26682.3	29		

- * The treatment1 (brand 1) Mean = 8.80, std Dev. = 8.47
- * The treatment2 (brand 2) Mean = 59.9, std Dev. = 31.07
- * The treatment2 (brand 3) Mean = 25.2, std Dev. = 13.22

The overall mean for all treatment combined is 55.3 and total sum of squares (SS) is 26,682.3. The F-ratio value is 19.52235, and the *p*-value is < .00001. this indicates that the result is significant at *p*<.05. This F= statistic above allowed the researchers to establish if there are overall differences between our sample means.

We also conducted the Post-hoc Tukey (beta) HSD procedure to facilitate pairwise comparison with our ANOVA data. This is used to check if there are differences between which of the various pairs of means (if any) there is a significant difference. The following table 5 contains the results.

Table 5: The Post-hoc Tukey (beta) HSD Procedure Results

Pairwise Comparisim		HSD. _{.05} = 22.2871	HSD. _{.01} = 28.5695	Q. _{.05} = 3.5064	Q. _{.01} = 4.4948
T ₁ :T ₂	M ₁ = 80.80 M ₂ = 59.9		20.9	Q. _{.05} = 3.29	(<i>p</i> = .06925)
T ₁ :T ₃	M ₁ = 80.80 M ₂ = 25.20		55.60	Q. _{.05} = 8.75	(<i>p</i> = .00000)
T ₂ :T ₃	M ₂ = 59.90 M ₃ = 25.20		34.70	Q. _{.05} = 5.46	(<i>p</i> = .00179)

The table above contains the results of the test conducted to identify which pairs of treatments differ significantly. The pairwise comparisons. The following were obtained:

- I. T₁:T₂(Brand1 versus Brand2); Differences in the means =20.90; Q._{.05} =3.29 (*p* = .06925). This indicated that this result was not statistically significant at *p* < .05

- further indicating that brand1 and brand2 are similar in performance.
- ii. T_{1T_3} (Brand1 versus Brand3); Differences in the means =55.60; $Q_{.05}=8.75$ ($p = .0000$). This indicated that this result was statistically significant at $p < .05$ further indicating that brand1 and brand3 are not similar in performance (i.e. brand1 has better performance than brand3.)
 - iii. T_{2T_3} (Brand2 versus Brand3); Differences in the means =34.70; $Q_{.05}=5.46$ ($p = .00179$). This indicated that this result was statistically significant at $p < .05$ further indicating that brand1 and brand2 performed significantly better than Brand3.)

Test of Hypotheses

Ho I: since the F-ratio value is 19.52235, and the p -value is $< .00001$. this indicates that the result is significant at $p < .05$. this hypothesis is therefore supported and we say that there are significant differences between the brands of tricycles and that the independent variables do have significant effects on the repurchase potentials of customers. Of the brands of tricycles.

Ho II: as indicated by Pairwise comparison means =20.90; $Q_{.05}=3.29$ ($p = .06925$). as a result of these results this hypothesis is supported and we accept it stating that there are no significant differences pairwise between brand1 and brand2. Therefore, they are similar.

Ho III: as indicated by Pairwise comparison means =55.60; $Q_{.05}=8.75$ ($p = .0000$) and as indicated these results show that this hypothesis is not supported and we reject it; stating that there are significant differences pairwise between Brand1 and Brand3. Therefore, they are not similar.

Ho IV: as indicated by Pairwise comparison means =34.70; $Q_{.05}=5.46$ ($p = .00179$).and as indicated these results show that this hypothesis is not supported and we reject it; stating that there are significant differences pairwise between Brand2 and Brand3. Therefore, they are not similar.

Findings

1. It was possible to rank brands based on mean performance. Brand1 had the highest mean score and lowest variability, indicating consistency and superior performance, while brand2 had moderate mean score but its variability was higher indicating less consistent performance; while brand3 had the lowest mean score suggesting significantly poorer performance compared to the other two brands.
2. Differences were indicated among the three brands. Brand1 significantly outperformed Brand3; brand2 also significantly outperformed brand3; while no significant difference was observed between brand 1 and brand2
3. The Study found that tricycles are majorly used for transportation in Onitsha and its environs. Tricycle, move passengers, and goods from place to place.

Specifically, the study observed that reliability of tricycle brands was significantly affected by the brand of tricycle under consideration such as Bajaj Re was rated as the most reliable of all the three tricycle brands, followed by TVS King, while Paiggio was rated the least reliable tricycle brand.

4. Serviceability of tricycle brands was significantly affected by the brand of tricycle under consideration such that Bajaj Re received the highest rating followed by TVS King, while Paiggio is the least positively rated brand of tricycle out of the three brands Scrutinized in this Study.
5. Specifically, TVS King was perceived as the most fuel economical, followed by Bajaj Re, while Paiggio is the least fuel economical brand of tricycle and least likely to be repurchased among the three tricycle brands.
6. Bajaj Re-emerged as the tricycle brand that is most likely to be used often due to its Safety attribute, followed by TVS King. The least likely to be used out of the three brands under study is Paiggio due to the poor positive rating of its safety qualities. TVS king emerged as the tricycle brand that is most likely to be used due to its durability attribute; followed by Bajaj Re. The least likely to be used is Paiggio due to rating of its durability qualities.

Conclusion

This study set out to examine entrepreneurs perceived quality on tricycle brands for transportation in South-East, Nigeria. Based on the findings, the following were concluded:

1. Thus, the more reliable a tricycle brand is perceived by entrepreneurs in respect of tricycle transportation business; the more likelihood that such a transport operator seems to use the said tricycle brand. Reliability is therefore a key determinant for transport operators to make more use of reliable tricycle. In this Study, Bajaj Re-emerged as the most reliable brand of tricycle, followed by TVS King. Paiggio is the least likely to be used by tricycle transport operators because it was perceived as the least reliable of the three brands studied.
2. Transport operators will be influenced to nurse the intention of repurchasing such a brand. Similar as with the above, transport operators rated Bajaj Re as the most serviceable, followed by TVS King. It is, therefore, instructive to note that one of the central attributes that drive transport operator's intention to use certain brands of tricycle over others is the extent to which the fold brand is easy and quick to fix when if develops faults.
3. Another overarching conclusion the study draw from findings is that transport operators' intention to use certain brands of tricycle over the other is strongly determined by their perceived fuel economy attribute. Thus, the more transport operator perceives a given brand of tricycle as more fuel economical (that is, consumes lesser fuel per distance travelled), the more likely that they will repurchase such brand over the others in line with the findings the study conclude

that TVS King emerged as the most fuel economical brand of tricycle followed by Bajaj Re. In terms of fuel economy attribute Paiggio emerged as the least likely to be used by transporters.

4. The Study also concluded that certain brands are used based on its safety attribute. It, therefore, follows that the safer transport operators perceive a given tricycle brand to be, the more likely that they will use that brand of tricycle. Based on findings transport operators rated Bajaj Re as the safest tricycle brand followed by TVS King. As usual, Paiggio emerged as the least likely to be used by transport operators because it is the least safe of all three tricycle brands examined in this study.
5. Finally, the study concluded that there is a significant difference in transport operators' intention to use the three tricycle brands with respect to durability attribute. Thus, the more durable a tricycle brand is perceived over others, the more likely that transport operators will be used. Durability simply means a tricycles ability to stand the test of time. Therefore, if transport operators believe that a given brand of tricycle will stand a better test of time, the greater the tendency that the tricycle will be used. Consistent with findings, TVS King emerged as the tricycle brand that is most likely to be used due to its durability attribute, followed by Bajaj Re. The least likely to be used tricycle brand due to poor positive rating of its durability qualities is Paiggio.

Recommendations

Based on the findings and the conclusion, the study recommended two important facts to manufacturers of tricycle automobiles, potential entrants into the tricycle transport business, and existing players within the business Sector.

1. First manufacturers of automobiles especially tricycles must understand that transport operators go for brands that meet certain quality criteria. In this study five quality important criteria were assembled. They were reliability, serviceability, fuel economy, safety and durability. They will attract more patronage if their tricycles incorporate these quality attributes in their tricycle brands. Put simply, manufacturers of tricycle brands must produce automobiles that are reliable, serviceable, fuel economical, safe, and durable for them to attract patronage from transport operators. More Specifically, the Bajaj Re Auto Ltd must improve the fuel economy and durability of their tricycle brand to be at par with or excel TVS brand, while TVS Motor Company Ltd must do the same in terms of reliability, serviceability and safety of their own brand. For the Paiggio & C.SPA Company they must undertake product innovation and modification of their tricycle brand in order to ensure that consumers will patronize and repurchase their tricycle brand. For the company to remain in the Nigeria tricycle Market.
2. The results were also relevant to both the existing players within the tricycle transportation industry, and intending entrants. The brand of tricycle brand to buy depends on the quality attribute that matters most to the buyer- Specifically the following points should guide such intending buyers.
 - i. Buyers that are interested in tricycles that are very reliable, serviceable,

- and safe should consider Bajaj Re as their first option followed by TVS King.
- ii. In contrast, buyers that value fuel economy and durability most should consider TVS king as their first Choice followed by Bajaj Re.
 - iii. Finally, Paiggio should be considered as the next available option of tricycle to purchase if both Bajaj Re, and TVS King are not available. This is because Paiggio is consistently the least rated brand of automobile along the five quality attributes including reliability, serviceability fuel economy safety and durability that was examined in this study.

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