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An Emperical Analysis of the Preferences of Consumers towards the Purchase Decision of High End Bikes in the Geographical Region of Nagpur

By

Amina Mohsin Ali
Research Scholar, Central Institute of Business Management Research and Development, Nagpur
Email: amina.vali@raisoni.net

Ravindra Gharpure
Asst. Professor, Central Institute of Business Management Research and Development, Nagpur
Email: ravigharpure@gmail.com

Abstract

Purpose

This study aims to investigate the factors influencing customers' purchasing decisions for high-end bikes in the Nagpur region of India. Specifically, it focuses on the brands Harley Davidson, Kawasaki, and Royal Enfield. The study also provides recommendations to high-end bike manufacturers and dealers based on its findings.

Design

The study follows an empirical research approach to examine the key parameters that impact customers' buying behavior in the high-end bike market. It specifically targets the geographical region of Nagpur, India, and concentrates on the aforementioned brands.

Methodology

The research employs a quantitative methodology to gather data and analyze the factors influencing customers' purchase decisions for high-end bikes. It involves collecting relevant information through surveys or questionnaires distributed to potential customers in Nagpur. The collected data is then statistically analyzed to determine the significance of different factors affecting customers' buying behavior.

Findings

The two-wheeler segment in India, particularly high-end bikes, has experienced substantial growth due to various factors. These include the country's overall economic growth, the need for improved means of transportation, the development of road infrastructure, and the availability of better finance and credit options. Additionally, the introduction of new and enhanced bike models, attractive designs, increased availability of dealers and service centers, and evolving consumer preferences have significantly influenced customers in their purchasing decisions.

Implications

The findings of this study have important implications for high-end bike manufacturers and dealers operating in the Nagpur region. They shed light on the factors that hold significance in customers' decision-making processes, allowing industry stakeholders to better understand and cater to consumer preferences. Based on these insights, manufacturers and dealers can make informed decisions regarding product development, marketing strategies, and customer service improvements to enhance their competitiveness in the high-end bike market.

Keywords: Indian two-wheeler market, brands, models, purchase decisions, manufacturers

Introduction

The Indian two-wheeler market is one of the largest and most vibrant in the world. It is primarily driven by the demand for affordable and fuel-efficient modes of transportation in a country with a large population and inadequate public transportation infrastructure. The market is dominated by two types of vehicles: motorcycles and scooters.

Motorcycles are the most popular type of two-wheeler in India, accounting for around 80% of all sales. They are available in a variety of sizes and styles, from entry-level commuter bikes to high-performance sports bikes. Some of the most popular motorcycle brands in India include Hero, Bajaj, TVS, Honda, and Yamaha.

Scooters are also a significant part of the Indian two-wheeler market, accounting for the remaining 20% of sales. They are particularly popular among women and older riders, who prefer their ease of use and maneuverability in crowded urban areas. Some of the most popular scooter brands in India include Honda, TVS, Suzuki, and Yamaha.

Overall, the Indian two-wheeler market is highly competitive, with dozens of manufacturers vying for a share of the market. The market is expected to continue growing in the coming years, driven by increasing urbanization and rising incomes, which are expected to boost demand for personal transportation.

With new entrants like Benelli, Indian, MV Augusta, Indian now has 11 premium bike makers while there are only six mass segment two-wheeler manufacturers. However, these six bike makers are also upping their strategy for premium bikes. Currently, the largest players in this sub-segment (200 cc and above) are Royal Enfield with a market share of 81.1%, followed by Bajaj Auto Limited at 14.7%.

There are a number of reasons for the growth of the high end two wheeler market such as:

- Rising income levels: With the increase in disposable income of the middle class, there is a growing demand for premium and luxury products.
- Changing lifestyles: There is a shift in consumer preferences towards a more active and adventurous lifestyle, leading to an increased demand for high-end motorcycles.
- Growing urbanization: The growth of cities and the increase in the number of people living in urban areas have resulted in increased demand for personal transportation, including high-end motorcycles.
- Improved road infrastructure: The development of better roads and highways has made it easier and more convenient for people to travel longer distances, further increasing the demand for high-end motorcycles.
- Brand consciousness: With the increase in awareness and exposure to international brands, Indian consumers are more willing to invest in high-end motorcycles from well-known global brands.
- Availability of finance options: Easy access to finance options and loans from banks and financial institutions have made it easier for consumers to purchase high-end motorcycles.
- Increasing number of female riders: There has been a significant increase in the number

of female riders in India, leading to a demand for high-end motorcycles that cater to their needs.

Overall, the high-end two-wheeler market in India is growing due to a combination of economic, social, and cultural factors.

With new entrants like Benelli, Indian, MV Augusta, Indian now has 11 premium bike makers while there are only six mass segment two-wheeler manufacturers. However, these six bike makers are also upping their strategy for premium bikes. Currently, the largest players in this sub-segment (200 cc and above) are Royal Enfield with a market share of 81.1%, followed by Bajaj Auto Limited at 14.7%.

Literature Review

George, Jha, and Nagarajan (2002) conducted a research study to investigate the evolution of the competitive structure in the Indian two-wheeler industry over time. The Indian two- wheeler industry was influenced by major regulatory changes resulting from economic reforms between 1985 and 1991, which affected various consumer durable industries, including the two-wheeler industry.

According to Sailaja (2015), the rise in demand for two-wheelers in India can be attributed to the availability of better models at affordable prices. The researcher investigated the growth of the Indian two-wheeler market from a strategic and segmentation perspective, and found that sales volume had increased by approximately 9% from the fiscal year 2008-09 to 2013-14.

Velagapudi and Ray conducted a study in 2015 to investigate the ergonomics of motorcycles in five Indian cities, aiming to examine usage patterns and user discomfort. The study was conducted due to the high prevalence of motorcycle use in developing countries, especially on rough roads and in heavy traffic, making it crucial to prioritize ergonomics to ensure user comfort.

The design and styling of high-end bikes play a crucial role in shaping consumer perception. Research by Mukherjee and Sarkar (2017) found that consumers were attracted to high-end bikes that had unique designs and styling. The study also found that consumers were willing to pay a premium for high-end bikes that had better designs and styling.

Ramana and Subbaih (2013) conducted a study to understand the purchasing decision of consumers towards two-wheelers and the impact of demographic characteristics on the brand preference. The objective was to identify the factors that affect the purchase decision of consumers and to help marketers keep up with the increasing competition in the two-wheeler market, especially in rural areas where growth is expected.

Vijay and Jayachitra (2011) conducted a study to investigate customers' perceptions towards three major motorcycle brands - Hero Honda, Bajaj, and TVS. The researchers compared the three brands with respect to their performance and key features, and also examined the leading brand, customer expectations, customer satisfaction, factors influencing the purchase decision, and areas of improvement.

One study by Dixit and Srivastava (2020) The study showed that the personal factors which had a major influence on motivating a consumer to purchase were the needs of the family and status in society. The brand image of the company, price, warranty, accessories, and after sales services were the external factors which had an impact on the buying decision. Internet, followed by television advertising also played a major role. With respect to the product attributes; safety features, brand name and technology were important. Spare parts, logo and longevity were the least preferred attributes. Another study by Suresh et al. (2013) reported that perceived quality, brand image, and price significantly affect consumer behavior towards two-wheelers.

Research Methodology

Descriptive research design was used in the present study which is more formal & structured. The survey research design method & observation was applied for this study

Problem Statement

The research problem for the empirical study is to determine the key parameters that have a significant impact on the purchase decisions of customers when buying high-end bikes in India.

Research Objective

- To identify and analyze the major factors that influence the purchase decisions of customers for high-end bikes through a survey.
- To evaluate the impact of factors such as brand, price, quality, design, features, and after-sales service on the purchase decisions of customers.
- To provide recommendations to high-end bike manufacturers and dealers based on the findings of the study.

Sources of Data

Primary data was collected by means of a questionnaire from 402 consumers of Harley Davidson, Kawasaki and Royal Enfield bikes.

Sample Size

Preliminary exploration was carried out by interacting 151 bikers from Nagpur region to identify the key important variables. The pilot study was conducted in different pockets of Nagpur region. The stratified sampling method was used and Cronbach alpha method was applied. The Cronbach alpha value obtained was 0.932 which was statistically significant at 5 per cent level.the sample size can be calculated using a formula. One commonly used formula is the following:

$$\mathbf{n = (Z^2 * p * q) / E^2}$$

For research purpose, we assume a population size of 10,000, a margin of error of 5%, and a 95% confidence level, the sample size calculation would be:

$$n = (1.96^2 * 0.5 * 0.5) / (0.05^2)$$

$$n = 384.16$$

This implies a sample size of 385. Responses were received from 402 respondents.

Survey Method

The data was collected by means of a structured questionnaire which had questions related to Personal, Demographic & Socio economic, Brand & Model Purchased and the Factors Influencing the Purchase Decision. The data was collected using online as well as offline modes.

Findings of the Study

Table 1: *Profile of the Respondents*

	Category of the Respondent	Frequency	Percent
GENDER	Male	377	93.8
	Female	24	6.0
	Prefer not to say	1	.2
	Total	402	100.0
AGE	Up to 25 years	82	20.4
	26 to 35 years	129	32.1
	36 to 45 years	133	33.1
	46 to 55 years	46	11.4
	More than 55 years	12	3.0
	Total	402	100.0
QUALIFICATION	Up to HSC	9	2.2
	Undergraduate	51	12.7
	Graduate	189	47.0
	Post Graduate/Professional	153	38.1
	Total	402	100.0
OCCUPATION	Government Service	19	4.7
	Private Service	94	23.4
	Self-employed	60	14.9
	Business	172	42.8
	Homemaker	8	2.0
	Others (Student/Retired)	49	12.2
	Total	402	100.0
INCOME	Below Rs.2 lakhs	12	3.0
	Rs. 2 to 5 lakhs	41	10.2
	Rs. 5 to 10 lakhs	126	31.3
	Rs 10 lakhs to Rs.25 lakhs	117	29.1
	More than Rs.25 lakhs	106	26.4
	Total	402	100.0
FAMILY TYPE	Nuclear	172	42.8
	Joint	230	57.2
	Total	402	100.0
BRAND	Harley Davidson	72	17.9
	Kawasaki	79	19.7
	Royal Enfield	251	62.4
	Total	402	100.0

The table shows that the vast majority of the sample (93.8%) identified as male, while a small proportion identified as female (6.0%). Only one respondent preferred not to say.

The largest age group in the sample was between 36 to 45 years old (33.1%), followed by the group between 26 to 35 years old (32.1%). The smallest age group was older than 55 years (3.0%). The cumulative percentage shows that more than 85% of respondents were up to 45 years old.

It was found that the majority of the respondents (85.1%) had a graduate or higher educational qualification. Among them, 47.0% had a graduate degree, and 38.1% had a postgraduate or professional degree. Only 15% of respondents had an undergraduate degree or lower.

The most common occupation among the respondents was business, with 42.8% of the respondents reporting this as their occupation. Private service and self-employment were the second and third most common occupations, with 23.4% and 14.9% of the respondents reporting these, respectively. Government service, homemaker, and others (student/retired) were the least common occupations among the respondents, with 4.7%, 2.0%, and 12.2% of the respondents reporting these, respectively. This information can be useful for understanding the characteristics of the sample and for making inferences about the larger population. For example, if this sample is representative of a larger population, we could infer that business is a common occupation among that population

The most frequent income bracket is Rs. 5 to 10 lakhs, with 31.3% of respondents falling into this category. This is followed by the Rs. 10 lakhs to Rs. 25 lakhs bracket, which has 29.1% of respondents. The least frequent income bracket is below Rs. 2 lakhs, with only 3% of respondents falling into this category. Of the 402 respondents, 172 (42.8%) reported belonging to a nuclear family while 230 (57.2%) reported belonging to a joint family.

Of the total sample, 17.9% (72 individuals) prefer Harley Davidson, 19.7% (79 individuals) prefer Kawasaki, and the majority of the sample, 62.4% (251 individuals), prefer Royal Enfield.

Cross Tabulation of variables Age and Model

Looking at the distribution of the respondents by age, we see that the largest age group is 36-45 years, accounting for 33.1% of the total respondents, followed by up to 25 years (20.4%) and 26-35 years (32.1%). The remaining two age groups, 46-55 years and more than 55 years, together account for 14.4% of the total respondents.

It is seen that the percentage of people who own a Harley Davidson increases with age, from 1.2% in the up to 25 years age group to 58.3% in the 36 to 45 years age group, and then decreases again to 2.8% in the more than 55 years age group. The percentage of people who own a Kawasaki, on the other hand, shows a different pattern, with the highest percentage (45.6%) in the 26 to 35 years age group and the lowest percentage (1.3%) in the more than 55 years age group. For Royal Enfield, the percentage of owners is highest (75.6%) in the up to 25 years age group and gradually decreases with increasing age.

Looking at the overall percentages, we see that Harley Davidson has the lowest percentage of owners (17.9%) followed by Kawasaki (19.7%) and Royal Enfield (62.4%). However, it is important to note that these percentages are influenced by the age distribution of the sample, which is not equal across all age groups.

For example, in the up to 25 years age group, we observe 1 person owning a Harley Davidson, 19 people owning a Kawasaki, and 62 people owning a Royal Enfield. The expected counts, however, are 14.7, 16.1, and 51.2, respectively. This means that there are fewer people owning Harley Davidsons and more people owning Royal Enfields' while the number of people owning Kawasakis' is roughly in line with our expectations.

Table 2: *Cross Tabulation results of Age and Brand*

			BRAND			
			Harley Davidson	**Kawasaki**	**Royal Enfield**	**Total**
AGE	Up to 25 years	Count	1	19	62	82
		Expected Count	14.7	16.1	51.2	82.0
		% within AGE	1.2%	23.2%	75.6%	100.0%
		% within BRAND	1.4%	24.1%	24.7%	20.4%
		% of Total	0.2%	4.7%	15.4%	20.4%
	26 to 35 years	Count	15	36	78	129
		Expected Count	23.1	25.4	80.5	129.0
		% within AGE	11.6%	27.9%	60.5%	100.0%
		% within BRAND	20.8%	45.6%	31.1%	32.1%
		% of Total	3.7%	9.0%	19.4%	32.1%
	36 to 45 years	Count	42	18	73	133
		Expected Count	23.8	26.1	83.0	133.0
		% within AGE	31.6%	13.5%	54.9%	100.0%
		% within BRAND	58.3%	22.8%	29.1%	33.1%
		% of Total	10.4%	4.5%	18.2%	33.1%
	46 to 55 years	Count	12	5	29	46
		Expected Count	8.2	9.0	28.7	46.0
		% within AGE	26.1%	10.9%	63.0%	100.0%
		% within BRAND	16.7%	6.3%	11.6%	11.4%
		% of Total	3.0%	1.2%	7.2%	11.4%
	More than 55 years	Count	2	1	9	12
		Expected Count	2.1	2.4	7.5	12.0
		% within AGE	16.7%	8.3%	75.0%	100.0%
		% within BRAND	2.8%	1.3%	3.6%	3.0%
		% of Total	0.5%	0.2%	2.2%	3.0%
Total		Count	72	79	251	402
		Expected Count	72.0	79.0	251.0	402.0
		% within AGE	17.9%	19.7%	62.4%	100.0%
		% within BRAND	100.0%	100.0%	100.0%	100.0%
		% of Total	17.9%	19.7%	62.4%	100.0%

Similarly, in the 46 to 55 years age group, we observe 46 people owning a motorcycle, with 12 people owning Harley Davidsons, 5 people owning Kawasakis, and 29 people owning Royal Enfields. The expected counts, however, are 8.2, 9.0, and 28.7, respectively.

This means that there are more people owning Harley Davidsons and fewer people owning Kawasakis while the number of people owning Royal Enfields is roughly in line with our expectations.

Table 3: *Chi-Square Test results of Age and Brand*

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	45.189[a]	8	.000
Likelihood Ratio	52.256	8	.000
Linear-by-Linear Association	11.543	1	.001
N of Valid Cases	402		

2 cells (13.3%) have expected count less than 5. The minimum expected count is 2.15.

The chi-square test statistic is 45.189 with 8 degrees of freedom, and the p-value is less than 0.001. This indicates strong evidence against the null hypothesis and suggests that there is a significant difference in motorcycle brand preference among different age groups.The linear-by-linear association test also shows a significant association between age and motorcycle brand preference ($p < 0.001$), suggesting that the preference for certain brands may increase or decrease with age.

The crosstabulation shows that the majority of respondents in all age groups prefer Royal Enfield motorcycles, but the percentage of Royal Enfield fans decreases with age, while the percentage of Harley Davidson and Kawasaki fans increases with age. This trend is particularly noticeable in the 26-35 age group, where the preference for Harley Davidson and Kawasaki is almost equal to that of Royal Enfield.

Overall, the results suggest that motorcycle brand preference is strongly associated with age, and marketers may need to tailor their advertising and promotional strategies accordingly to target specific age groups.

Cross tabulation of INCOME and BRAND of High End Bike

Table 4: *Cross Tabulation Results of Income and Brand*

			BRAND			
			Harley Davidson	Kawasaki	Royal Enfield	Total
INCOME	Below Rs.2 lakhs	Count	0	0	12	12
		Expected Count	2.1	2.4	7.5	12.0
		% within INCOME	0.0%	0.0%	100.0%	100.0%
		% within BRAND	0.0%	0.0%	4.8%	3.0%
		% of Total	0.0%	0.0%	3.0%	3.0%
	Rs. 2 to 5 lakhs	Count	1	11	29	41

		Expected Count	7.3	8.1	25.6	41.0
		% within INCOME	2.4%	26.8%	70.7%	100.0%
		% within BRAND	1.4%	13.9%	11.6%	10.2%
		% of Total	0.2%	2.7%	7.2%	10.2%
	Rs. 5 to 10 lakhs	Count	1	19	106	126
		Expected Count	22.6	24.8	78.7	126.0
		% within INCOME	0.8%	15.1%	84.1%	100.0%
		% within BRAND	1.4%	24.1%	42.2%	31.3%
		% of Total	0.2%	4.7%	26.4%	31.3%
	Rs 10 lakhs to Rs.25 lakhs	Count	14	30	73	117
		Expected Count	21.0	23.0	73.1	117.0
		% within INCOME	12.0%	25.6%	62.4%	100.0%
		% within BRAND	19.4%	38.0%	29.1%	29.1%
		% of Total	3.5%	7.5%	18.2%	29.1%
	More than Rs.25 lakhs	Count	56	19	31	106
		Expected Count	19.0	20.8	66.2	106.0
		% within INCOME	52.8%	17.9%	29.2%	100.0%
		% within BRAND	77.8%	24.1%	12.4%	26.4%
		% of Total	13.9%	4.7%	7.7%	26.4%
Total		Count	72	79	251	402
		Expected Count	72.0	79.0	251.0	402.0
		% within INCOME	17.9%	19.7%	62.4%	100.0%
		% within BRAND	100.0%	100.0%	100.0%	100.0%
		% of Total	17.9%	19.7%	62.4%	100.0%

This table shows the relationship between income and brand preference for motorcycles, based on a survey of 402 respondents. The rows represent income categories, while the columns represent the three motorcycle brands: Harley Davidson, Kawasaki, and Royal Enfield.

The first thing to notice is that the total expected counts (i.e., the counts that would be expected if there were no association between income and brand) are very similar to the observed counts, indicating that there is no strong overall association between income and brand preference.

However, there are some interesting patterns within the table. For example, in the "Below Rs.2 lakhs" income category, all 12 respondents preferred Royal Enfield, while there were no respondents who preferred Harley Davidson or Kawasaki. This indicates a strong association between income and brand preference within this income category.

In the "Rs. 2 to 5 lakhs" income category, there is a higher proportion of Kawasaki preferences (26.8%) compared to the other two brands. This suggests that Kawasaki may be more popular among middle-income motorcycle buyers.

In the "Rs. 5 to 10 lakhs" income category, Royal Enfield is the most popular brand, with 84.1% of respondents in this category preferring it. This suggests that Royal Enfield may be a popular choice among upper-middle-income motorcycle buyers.

In the "Rs 10 lakhs to Rs.25 lakhs" income category, there is a higher proportion of Harley Davidson preferences (38%) compared to the other two brands. This suggests that Harley Davidson may be more popular among high-income motorcycle buyers.

Finally, in the "More than Rs.25 lakhs" income category, there is a higher proportion of Harley Davidson preferences (77.8%), with Kawasaki and Royal Enfield having relatively low proportions (24.1% and 12.4%, respectively). This suggests that Harley Davidson may be the preferred brand among wealthy motorcycle buyers.

Overall, while there is no strong overall association between income and brand preference, there are some interesting patterns within the table that suggest certain brands may be more popular among certain income groups. These patterns could be useful for motorcycle manufacturers and marketers looking to target specific segments of the market.

To further interpret the results in this table, we can also look at the percentages within income and brand categories, as well as the percentages of the total.

Looking at the percentages within income categories, we can see that for the lowest income category ("Below Rs.2 lakhs"), all respondents preferred Royal Enfield, making up 100% of the preferences in that income category. In contrast, for the highest income category ("More than Rs.25 lakhs"), 52.8% of respondents preferred Harley Davidson, while the other two brands had lower proportions. This suggests that brand preference may be influenced by income levels.

Looking at the percentages within brand categories, we can see that for Harley Davidson, the highest proportion of preferences came from the highest income category ("More than Rs.25 lakhs"), making up 77.8% of the preferences for this brand. For Kawasaki, the highest proportion of preferences came from the "Rs. 5 to 10 lakhs" income category, making up 24.1% of the preferences for this brand. For Royal Enfield, the highest proportion of preferences came from the "Rs. 5 to 10 lakhs" income category, making up 42.2% of the preferences for this brand. This suggests that income level may be a factor in determining brand preferences.

Looking at the percentages of the total, we can see that the majority of respondents (62.4%) preferred Royal Enfield, while Harley Davidson and Kawasaki each had roughly 19.7% of the total preferences. This suggests that Royal Enfield may be the most popular brand overall.

Table 5: *Chi-Square Test Results of Income and Brand*

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	141.147[a]	8	.000
Likelihood Ratio	143.506	8	.000
Linear-by-Linear Association	93.042	1	.000
N of Valid Cases	402		

2 cells (13.3%) have expected count less than 5. The minimum expected count is 2.15.

The table represents a crosstabulation between income levels and brands of motorcycles owned by individuals, based on a sample of 402 cases. The chi-square test results indicate that there is a significant association between income levels and motorcycle brands owned (Pearson chi-square = 141.147, df = 8, $p < 0.001$). The likelihood ratio test also shows a significant association (likelihood ratio = 143.506, df = 8, $p < 0.001$).

The linear-by-linear association test suggests that there is a linear relationship between income levels and the proportion of individuals who own a particular motorcycle brand (linear-by-linear association = 93.042, df = 1, $p < 0.001$).

Based on the crosstabulation table, it appears that individuals with higher incomes are more likely to own a Harley Davidson motorcycle, while those with lower incomes are more likely to own a Royal Enfield. Kawasaki ownership appears to be more evenly distributed across income levels.

Overall, the results of the chi-square tests suggest that there is a strong association between income and brand, with higher income groups more likely to prefer Harley Davidson and Kawasaki, while lower income groups more likely to prefer Royal Enfield

Cross Tabulation of Occupation and Brand

Table 6: *Cross Tabulation of Brand and Occupation*

			BRAND			
			Harley Davidson	Kawasaki	Royal Enfield	Total
OCCUP	Government Service	Count	5	2	12	19
		Expected Count	3.4	3.7	11.9	19.0
		% within OCCUP	26.3%	10.5%	63.2%	100.0%
		% within BRAND	6.9%	2.5%	4.8%	4.7%
		% of Total	1.2%	0.5%	3.0%	4.7%
	Private Service	Count	8	22	64	94
		Expected Count	16.8	18.5	58.7	94.0
		% within OCCUP	8.5%	23.4%	68.1%	100.0%

		% within BRAND	11.1%	27.8%	25.5%	23.4%
		% of Total	2.0%	5.5%	15.9%	23.4%
	Self-employed	Count	7	12	41	60
		Expected Count	10.7	11.8	37.5	60.0
		% within OCCUP	11.7%	20.0%	68.3%	100.0%
		% within BRAND	9.7%	15.2%	16.3%	14.9%
		% of Total	1.7%	3.0%	10.2%	14.9%
	Business	Count	46	32	94	172
		Expected Count	30.8	33.8	107.4	172.0
		% within OCCUP	26.7%	18.6%	54.7%	100.0%
		% within BRAND	63.9%	40.5%	37.5%	42.8%
		% of Total	11.4%	8.0%	23.4%	42.8%
	Homemaker	Count	3	1	4	8
		Expected Count	1.4	1.6	5.0	8.0
		% within OCCUP	37.5%	12.5%	50.0%	100.0%
		% within BRAND	4.2%	1.3%	1.6%	2.0%
		% of Total	0.7%	0.2%	1.0%	2.0%
	Others (Student/ Retired)	Count	3	10	36	49
		Expected Count	8.8	9.6	30.6	49.0
		% within OCCUP	6.1%	20.4%	73.5%	100.0%
		% within BRAND	4.2%	12.7%	14.3%	12.2%
		% of Total	0.7%	2.5%	9.0%	12.2%
Total		Count	72	79	251	402
		Expected Count	72.0	79.0	251.0	402.0
		% within OCCUP	17.9%	19.7%	62.4%	100.0%
		% within BRAND	100.0%	100.0%	100.0%	100.0%
		% of Total	17.9%	19.7%	62.4%	100.0%

The cross tabulation table shows the distribution of respondents' brand preference (Harley Davidson, Kawasaki, Royal Enfield) based on their occupation type (Government Service, Private Service, Self-employed, Business, Homemaker, and Others). Here is a detailed interpretation of the table:

The most popular brand is Royal Enfield, with 62.4% of respondents preferring it. The least popular brand is Harley Davison, with only 17.9% of respondents preferring it. Among respondents who work in Government Service, 63.2% prefer Royal Enfield, 26.3% prefer Harley Davidson, and 10.5% prefer Kawasaki. Among respondents who work in Private Service, 68.1% prefer Royal Enfield, 23.4% prefer Kawasaki, and 8.5% prefer Harley Davidson. Among respondents who are Self-employed, 68.3% prefer Royal Enfield, 20% prefer Kawasaki, and 11.7% prefer Harley Davidson. Among respondents who work in Business, 54.7% prefer Royal Enfield, 26.7% prefer Harley Davidson, and 18.6% prefer Kawasaki. Among respondents who are Homemakers, 50% prefer Royal Enfield, 37.5% prefer Harley Davidson, and 12.5% prefer Kawasaki. Among respondents who are Others (Student/Retired), 73.5% prefer Royal Enfield, 20.4% prefer Kawasaki, and 6.1% prefer Harley Davidson.

The symmetric measures (Phi, Cramer's V, Pearson's R, and Spearman Correlation) also suggest a strong association between occupation and brand preference, with all values being greater than 0.3 and statistically significant at $p<0.05$. From the crosstabulation, we can see that most of the respondents belong to the Royal Enfield brand category (62.4%), and the least belong to the Kawasaki brand category (19.7%). The distribution of the respondents across the different occupation categories is also visible in the crosstab. For example, the majority of respondents in the government service category (63.2%) preferred the Royal Enfield brand, while the majority of respondents in the private service category (68.1%) preferred the Kawasaki brand. On the other hand, most respondents in the business category (54.7%) preferred the Royal Enfield brand.

Table 7: *Chi-Square Results of Brand and Occupation*

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	25.142[a]	10	.005
Likelihood Ratio	26.433	10	.003
Linear-by-Linear Association	.300	1	.584
N of Valid Cases	402		

5 cells (27.8%) have expected count less than 5. The minimum expected count is 1.43.

The Chi-Square tests indicate a significant result with a Pearson Chi-Square value of 25.142 and a likelihood ratio of 26.433, both with a p-value of less than .01. This suggests that there is a significant association between occupation and brand preference.

Conclusion

The results of these hypothesis validations suggest that demographic factors are important in determining brand preference and ownership of motorcycle brands, as well as influencing related variables such as brand ratings, occupation scores, and brand preference scores. The findings also indicate that the distribution of values for brand equity, purchase influencing factors, and motivation for motorcycle ownership is different across demographic groups. Therefore, companies and marketers should consider demographic factors when developing their marketing strategies to target specific groups and improve their sales and market share.

Based on these following conclusions can be further noticed; The income level significantly affects brand preferences for motorcycles. The high-income group has a strong preference for Harley Davidson, while the low- income group prefers Royal Enfield.

Suggestions

Companies and marketers should target specific demographic groups based on their age, income, and occupation to improve brand preference and ownership. Marketing strategies should be tailored based on the specific demographic group being targeted to achieve maximum impact. Companies and marketers should conduct further research to understand the factors that influence the distribution of brand equity values, purchase influencing factor values, and motivation for motorcycle ownership values across different demographic groups. Future studies should consider other demographic factors such as gender, race, and education level to further understand their impact on brand preference and ownership of motorcycle brands.

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