

A STUDY ON FAST MOVING BIKES THROUGH DESIGN THINKING IN SALEM CITY

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ABSTRACT

This abstract provides a succinct overview of the latest advancements in fast-moving bikes, focusing on the key technological, performance, and safety improvements that have reshaped the world of two-wheeled transportation. It explores the evolution of fast bikes, from traditional gasoline-powered models to cutting-edge electric and hybrid alternatives, highlighting the role of innovative engineering and materials in achieving greater speed and efficiency. Additionally, this abstract discusses the significance of safety measures, including advanced braking systems and rider assistance technologies, in mitigating the risks associated with high-speed biking. Finally, it underscores the broader societal impact of fast-moving bikes, from promoting sustainable urban mobility to offering thrilling experiences for enthusiasts. Pedelecs (e-bikes), which facilitate higher speeds with less effort in comparison to traditional bicycles (t-bikes), have grown considerably in popularity in

recent years. Despite the large expansion of this new transportation mode, little is known about the behavior of e-cyclists, or whether cycling an e-bike increases crash risk and the likelihood of conflicts with other road users, compared to cycling on t-bikes. In order to support the design of safety measures and to maximize the benefits of e-bike use, it is critical to investigate the real-world behavior of result of switching from t-bikes to e-bikes. Naturalistic studies provide an unequalled method for investigating rider cycling behavior and bicycle kinematics in the real world in which the cyclist regularly experiences traffic conflicts and may need to perform avoidance maneuvers, such as hard braking, to avoid crashing. In this paper we investigate cycling in emetics and braking events from natural list determine the extent to which cyclist behavior changes as a result of transferring from t-bikes to e-bikes, and whether such change influences cycling safety.

KEYWORDS

Communication, Bikes, Fast-moving, Services, Buying Behavior.

INTRODUCTION

Pedelecs (e-bikes) are electric power-assisted bicycles that have become very popular in the past few years around the world, including China, Europe, Japan and the US (Fishman & Cherry, 2016). Many cities support the use of e-bikes as a means to reduce congestion and pollution (Ji, Cherry, Bechle, Wu, & Marshall, 2012) and increase mobility (Dill and Rose, 2012, Fyhri and Fearnley, 2015), especially for older people and people with limited access to urban public transport (Weinert, Ma, Yang, & Cherry, 2008). Cycling on e-bike requires less effort than cycling on a traditional bicycle (t-bike), enabling greater traveling distance and reducing the effects of such deterrents as wind or challenging terrain. In most countries,

national regulations classify e-bikes as bicycles, so there are fewer restrictions associated with riding e-bikes compared to other motorized vehicles such as minimum age or mandatory licensing (Cherry, Yang, Jones, & He, 2016). Such regulations are generally based on maximum power of the motor (e.g., 250W in Europe and Japan) and maximum speed under power assistance (e.g., 25km/h in Europe, 32km/h in USA and Canada, 20km/h in China (Rose, 2012)). However, there is little international consensus about which features of the e-bike should guide regulation of e-bike use or how these features relate to safety. Let us see my article title “**A STUDY ON FAST MOVING BIKES IN SALEM CITY**”.

EMPATHY

Design thinking stage	Potential questions
Empathy	How do you come to know about bikes? Which type of bikes did you like to use? Which was the fastest moving bikes?

STATEMENT OF THE PROBLEM

We all know that there are many varieties of bikes which are available in the market and also the number of users increases day to day. In this marketing world, most of the bike companies are introducing innovative bikes every year. Likewise, many stores were opened to sell all

types of bikes all over the world. In particular, youngsters and students are playing a vital role in purchasing and consuming the bikes. As we know, the taste and preference of the consumers also will change.

DEFINE PROBLEM STATEMENT

Design thinking stage	Interferences
Define	What are the problems faced by the customers in bikes? What are the solutions to the problems of bikes?

OBJECTIVES OF THE STUDY

- To identify the level of fast-selling bikes in Salem City.
- To identify consumer's buying behavior to

wards bikes in Salem City.

- To study about their sales promotion and advertisement to improve their sales.

SCOPE OF THE STUDY

- The present study helps to analyze the competition among existing in the bike industry.
- In this study, we can identify how much bikes are influenced by the consumers in a particular location.
- It will be able to identify which is the popular brand.

SIGNIFICANCE OF THE STUDY

- Fast-moving bikes in Salem, like in many other cities, hold significance for several reasons.
- Bikes are essential for travelling, enabling residents to stay connected with family, friends, and colleagues
- Fast-moving bike technology in Salem plays a vital role in the daily lives of its residents, contributing to various aspects of work, travel, and long distance.

LIMITATION OF THE STUDY

- This study is confined only in Salem City.
- Due to time constraints, 50 showrooms were selected for the purpose of the study.
- There is a chance for biased showrooms, which may affect the result of the study.

RESEARCH METHODOLOGY

A research methodology is the specification of methods and procedures for acquiring the information needed to structure or to solve problems. It is the overall operational pattern or framework of the project that stipulates what information is to be collected from which sources, and by what procedures. Although

research design may be classified by many criteria, the most useful one concerns the major purpose of the investigation. Research methodology is a way to systematically solve the research problem. Information can be collected from only a part of the population.

TOOLS USED

1. Percentage analysis
2. Chi-square
3. ANOVA

REVIEW OF LITERATURE

In another article **Buehler and Pucher (2011)** discuss and compare policies in Germany and USA, but primarily from Freiburg in Germany. Freiburg had an early focus on cycling, walking and public transport following the bombings of the city centre during WWII. This focus consisted e.g. of early bicycle plans and large pedestrian zones. Furthermore, certain events are mentioned that influenced the shift from car focused planning in the 1960s to a less car focused planning in the 1970s. These events were for example abandoning a second car focused city plan, the planning of a nuclear power plant nearby and the oil crisis in 1973. Such events had a major impact on the policies of the city of Freiburg and led to a focus on sustainable urban transport planning (Buehler & Pucher 2011).

Cui et al. (2014) developed a bicycle ridership model for the State of Maryland, USA. Factors like demographic, socio-economic, land use and attributes of the transport system were correlated against bicycle trips to investigate how the factors affect the number of cycling trip. The study shows factors that affect the proportion of bicycle trips positively are population density, household density, and school enrollment density. Also, variables like number of retail stores and recreational locations have a positive effect on bicycle share. Furthermore, the study shows that transit (bus and train) accessibility effects bicycle trips positively, which indicates that bike-and-ride is one way to encourage cycling (Cui et al. 2014).

Goetzke and Rave (2011) uses a bicycle choice model and municipal-level social network effects variable as an indication of cycle culture. Interpreting social network effects as a signal that bicycling is safe and reliable, the study's main claim is that the utility of taking a bicycle increases with its mode share. Therefore, the more people use a bicycle, the more attractive a bicycle ride becomes to other people. These social spillover effects lead to positive demand-side network externalities, which in this study also is referred to as bicycling culture. They also show that social network effects may not have a very large impact on work/school trips but larger on other trips like shopping, errands and recreation (Goetzke & Rave 2011).

Gössling (2013) made a qualitative overview of Copenhagen's cycling history with focus on measures and how these are communicated. The research found three arguments for cycling that Copenhagen uses to for its cycle planning: a more desirable urban future, individual and societal benefits, and opportunities for participation. Gössling also argues that a big part of Copenhagen's success comes from the city's self-proclaimed bike friendliness. Other interesting findings are that even though 33% of cyclists say that rain is their main reason for not cycling, information from the Danish Meteorological Institute [DMI] show that an 12 equivalent of 3.5% of the trips cycled by an average cyclist was in fact done in rain (Gössling 2013).

DATA ANALYSIS & INTERPRETATION

SIMPLE PERCENTAGE ANALYSIS :

TABLE 1.1 SHOWING HOW DO YOU COME TO KNOW ABOUT BIKES

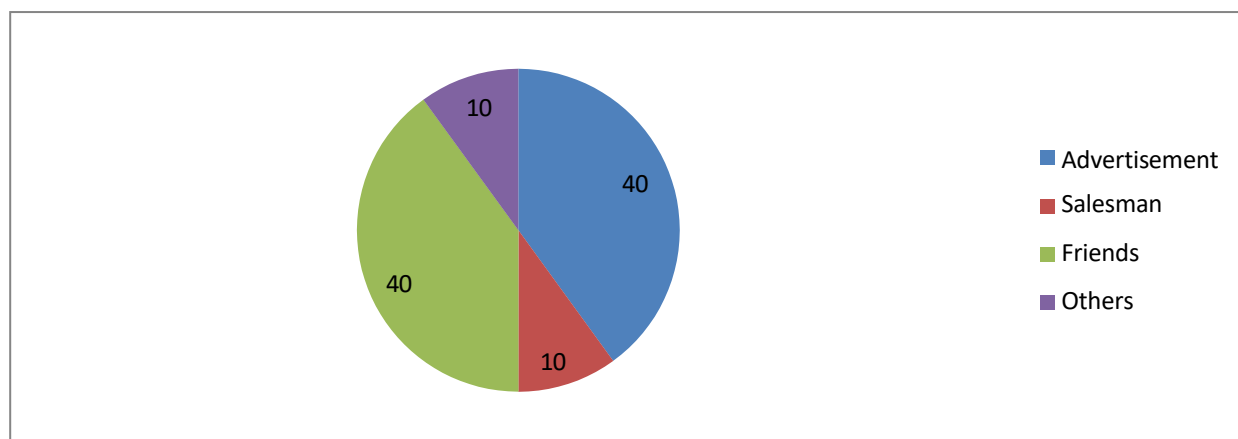
How know about the bikes	Frequency	Valid Percent
Advertisement	20	40.0
Salesman	5	10.0
Friends	20	40.0
Others	5	10.0
Total	50	100.0

INTERPRETATION:

It appears that in this sample, the most common sources of information about bikes were advertisements and friends, each accounting for 40% of the responses. Salesmen and other sources

made up the remaining 20% of responses combined. This data suggests that advertising and word-of-mouth through friends are significant factors in how people come to know about bikes.

CHAT 1.1



INTERPRETATION:

The above table shows how the respondent came to know about the bikes. 40% of the respondents knew about the bikes from advertisements and their friends too. 10% of the respondents know

about the bikes from salesmen and other sources.

TABLE 1.2 SHOWING WHAT KIND OF BIKES DO RESPONDENTS LIKE TO USE

	ObservedN	ExpectedN	Residual
TVSsports	14	8.3	5.7
Honda	13	8.3	4.7
Hero	8	8.3	-.3
Yamaha	6	8.3	-2.3
Bajaj	5	8.3	-3.3
KTM	4	8.3	-4.3
Total	50		

Test Statistics

	Kind of bikes
Chi-Square	10.720 ^a
Df	5
Asymp. Sig.	.057

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 8.3.

INTERPRETATION:

The chi-squared test statistic (10.720) suggests that there may be a relationship between the kind of bikes respondents like to use and the observed frequencies. With 5 degrees of freedom, you can compare the chi-squared value to a chi-squared distribution to determine statistical significance. The p-value

(.057) is close to but slightly greater than the conventional significance level of 0.05. This suggests that the relationship is marginally significant. You may consider further analysis or data collection to better understand the nature of this relationship or explore other factors that could be influencing respondents' bike preferences.

TABLE 1.3 SHOWING HOW LONG HAVE RESPONDENTS BEEN USING BIKES

	ObservedN	ExpectedN	Residual
Less than 1 year	10	12.5	-2.5
One year	17	12.5	4.5
Two years	17	12.5	4.5
Three years	6	12.5	-6.5
Total	50		

Test Statistics

	Years
Chi-Square	7.120 ^a
Df	3
Asymp. Sig.	.068

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 12.5.

INTERPRETATION:

The chi-squared test statistic (7.120) suggests that there may be a relationship between the duration of time respondents have been using bikes and the observed frequencies. With 3 degrees of freedom, you can compare the chi-squared value to a chi-squared distribution to determine statistical significance. The p-value (0.068) is greater than the conventional

significance level of 0.05, which suggests that the relationship is not statistically significant at a typical significance level. However, it's worth noting that the p-value is relatively close to 0.05, so there may be a weak or borderline association that could be explored further with additional data or analysis. The expected cell frequencies are all above 5, indicating that the chi-squared test assumptions are met.

TABLE 1.4 SHOWING THE RESPONDENTS MODE OF PAYMENT WHILE PURCHASING THE BIKES.

DESCRIPTIVES

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Cash	37	3.5676	.98715	.16229	3.2384	3.8967	1.00	4.00
EMI	13	3.6154	.96077	.26647	3.0348	4.1960	1.00	4.00
Total	50	3.5800	.97080	.13729	3.3041	3.8559	1.00	4.00

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.022	1	.022	.023	.880
Within Groups	46.158	48	.962		
Total	46.180	49			

INTERPRETATION:

The number of respondents in your survey is 50. The mean value for the respondents' rating of their payment mode is 3.5800. This indicates an average rating for payment satisfaction. The standard deviation is 0.97080, showing the degree of variation or dispersion in the ratings. The standard error of the mean is 0.13729, which represents the standard deviation of the

sample mean. This provides a range within which you can be 95% confident that the true population mean falls. For "Cash," it is between 3.2384 and 3.8967, and for "EMI," it is between 3.0348 and 4.1960. The minimum rating is 1.00, indicating the lowest possible rating. The maximum rating is 4.00, indicating the highest possible rating

TABLE 1.5 SHOWING THE FACTORS TO BE CONSIDERED WHILE PURCHASING BIKES

DESCRIPTIVE

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Bike features	5	1.2000	.44721	.20000	.6447	1.7553	1.00	2.00
Browsing facilities	2	1.5000	.70711	.50000	-4.8531	7.8531	1.00	2.00
Mileage	2	1.0000	.00000	.00000	1.0000	1.0000	1.00	1.00
All the above	41	1.2683	.44857	.07006	1.1267	1.4099	1.00	2.00
Total	50	1.2600	.44309	.06266	1.1341	1.3859	1.00	2.00

ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.271	3	.090	.445	.722
Within Groups	9.349	46	.203		
Total	9.620	49			

INTERPRETATION:

The number of respondents in your survey is 50. The standard deviation for each factor shows the degree of variation or dispersion in the ratings. The standard error of the mean represents the standard deviation of the sample mean. This provides a range within which you can be 95% confident that the true

population mean falls. The minimum rating is 1.00, indicating the lowest possible rating. The maximum rating is 2.00, indicating the highest possible rating.

FINDINGS:

1. Majority(30.3%)ofthe respondentsare inthe changeintrend overthe brands.
2. Majority(29%)oftherespondentsprefertobuybikesunderthe preference of advertisement.
3. Majority(29%)oftherespondentsarelooking forthevalueofmoneyby bikes under the influence of TV advertisement.
4. Majority(37%)oftherespondentsarepreferredotherswhichhelptobuilda good brand image.
5. Majority(29%)oftherespondentsareinfluencedtoswitchoverbrands.

SUGGESTIONS:

When looking for fast-moving bikes, there are several factors to consider to ensure you get the best fit for your needs. Sport bikes are designed for speed and agility. Look for models from well-known manufacturers like Yamaha, Kawasaki, Honda, or Suzuki. Consider the engine size and power output. If you're looking for extreme speed and performance, superbikes like those from Ducati, BMW, or Aprilia are excellent choices. These bikes often feature advanced technology and powerful engines. Naked bikes, also known as streetfighters, offer a combination of speed and versatility.

everyday riding while still providing high performance. Some cruiser bikes, like those from Harley-Davidson or Indian Motorcycle, can also provide fast and powerful rides, although they have a different style compared to sport bikes. Larger engine sizes generally offer more power and speed. High-performance bikes should have advanced suspension and braking systems to handle speed and control. Remember that with great speed comes great responsibility. Always adhere to speed limits and practice safe riding techniques. Additionally, check local regulations and licensing requirements for high-performance motorcycles in your area.

They are typically more comfortable for

CONCLUSION

In conclusion, fast-moving bikes represent a dynamic and evolving segment of the transportation industry. They combine thrilling performance with advancements in technology and safety, making them an intriguing and impactful part of modern society. Fast-moving bikes have undergone remarkable advancements in recent years, driven by technological innovations, improved performance metrics, and enhanced safety features. These developments have transformed the world of two-wheeled transportation and recreation. The technology behind fast bikes, including powerful engines, aerodynamic designs, and lightweight materials, has enabled these machines to achieve impressive speeds and levels of efficiency. These improvements are not limited to traditional gasoline-powered models but also extend to

electric and hybrid alternatives, aligning with the growing emphasis on sustainability. Fast-moving bikes have a significant impact on society. They promote sustainable urban mobility, reduce traffic congestion, and contribute to environmental conservation, especially in the case of electric or hybrid models.

Additionally, these bikes offer exhilarating experiences for enthusiasts and have become a symbol of personal freedom and adventure. Looking ahead, the fast bike industry is poised for further evolution. Electrification, autonomous capabilities, and changing regulatory landscapes will likely shape the future of fast-moving bikes. As technology continues to advance, we can expect even more efficient and safer high-performance bikes to grace our roads.

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