STUDY OF CONSUMER BUYING BEHAVIOR TOWARDS BICYCLE UNDER EPS AND LPS

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1. INTRODUCTION

The evolution of the product category with the current set of organizations producing the product category is unfolded. The different varieties of the product available in the market where to understand the consumer behavior analysis for the products. According to Chatain, O. & Zemsky, P. (2011), The different types of consumers (Segments) and the attractiveness of the segments, application of VALS is studied in this paper. The relationship between consumer behavior and customer value (Januszewski, F., 2011), satisfaction, trust and retention are narrated. The benefits received and expected from the products in the glance of the consumer perception about the product (Individual perception, Price perception, Product and service quality perception, Risk perception) is decoded. The consumer perception of different brands available in the product category and consumer learning are learned. The consumer learning, memory and involvement to perculate the consumer motivation for the Product (Need and Goal) to engime consumer attitude, personality and consumer behavior. The personal value has a high attachment to the change in behaviour (Kim, Y., 2002). The individual determinants of the consumer behavior (Personality, self-concept, motivation, involvement, information processing, learning and memory, attitudes) entrust the industry whereas the environmental elements have influence on consumer behavior (Culture, Subculture, Social Class, Social group, Family). Alongwith that the health, environmental, economic and lifestyle factors influence to select and use the bicycle in the present days (Nirav B. Halvadia, et al.2022). Consumer decision process for the assigned product / product category is surely affiliate the marketing mix analysis of different brands for their target segments (At least 2 Brands). Triggering to the organizational buying behavior for the assigned category. (If applicable) to do several observations, findings, insights, suggestions and conclusion.

2. LITERATURE REVIEW

The green purchase consumer intention is the foremost intension to purchase a product (Zhuang, W., Luo, X., Riaz, M.U., 2021). Whereas the perceived benefit is the second influential factor for the change in the buying behavior (Tan, L.L.,2022). Starting from the need recognition to problem solving, a management model is usually used in the study of the consumer behavior i.e., Engel-Blackwell-Miniard (EBM) (Model Kotler, Philip. 2000). In this model, the Extensive problem solving (EPS) and Limited Problem Solving (LPS) are used to study the consumer behavior (Prakash, S .2010). The sequence of the model is explained in Figure 1.1.

Need Recognition	→	Motivation	→	Information Search	→	Purchase	→	Evaluation	→	Outcomes
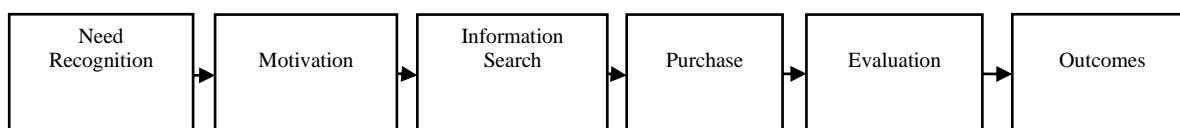
Figure 1.1: Sequence of EBM Model

Under this model, EPS, the consumer goes through numerous outlets and brands up to his satisfaction level, whereas in LPS, the consumer search is a lower degree in comparison to EPS, but relates to his past experience, brand loyalty and depends on prior knowledge and information (Prakash, S .2010). The product availability and choice decision stimulate the buying behavior of consumer to select the product.

3. BACKGROUND STUDY

The historical background and current scenario of the product is placed in this paper to sense the change in the consumer behavior over a period of time. The body of knowledge expaines (1) Bicycle Timeline, (2) Current set of organizations producing the product category, (3) Different Varieties of the product available, (4) Different types of consumers (Segments) and the attractiveness of the segments, application of VALS for bicycles and (5) Relationship between consumer behavior and customer value, satisfaction, trust and retention.

3.1 Bicycle Timeline

1. Giovanni Fontana constructs the first human-powered four-wheeled land vehicle in 1418 using a cord fastened to wheels with gears.
2. 1790 - Count Mede de Sivrac created the Calorifier, a vehicle without a steering wheel, brakes, or pedals but with two similar wheels and a seat. By utilizing their legs to begin walking or jogging, the rider advances before sliding along the selifer. The rider pushes forward while walking or jogging, then falls off the saddle reef.
3. 1817 - Steerable Laufmaschine - This device is also known as a speed walker, velocipede, running machine, and Draisine. The wooden steerable laufmaschine, which is the first application of the two-wheel idea, contains a steerable front wheel.

4. 1858 - Pedals - The steerable laufmaschine is given pedals. It's unknown who inserted them first. Either the Frenchman Pierre Michaux, his son Ernest Michaux, or Pierre Llamenti deserve credit for this.

5. 1863 - Blacksmith Boneshaker In 1863, Ernest Michaux created the bone shaker, which is today known as the first commercially successful velocipede. The Boneshaker is a true "boneshaker" for riding over common cobblestones since it was constructed with rigid materials and right angles.

6. James Starley, a British engineer, creates the penny farthing, sometimes referred to as the tall wheel, in 1866. In comparison to contemporary bikes, the Penny Farthing appears rather ridiculous and was actually quite challenging to ride. This challenge lowered large wheel riders' appeal. The designers understood that the larger the front wheel, The wheels grew larger and larger as a result of the increased pedal cycle distance. An employee's pay for six months would be spent on these bikes.

7. Clément Ader is granted the first patent for rubber wheels in 1868. We also explored rubber tires with a hollow core since the smoothness of the ride may still be improved.

8. Calipers - An early design of the caliper was patented in 1876 by English inventors Browett and Harrison.

9. Henry J. Lawson designed the first trailing wheel, a chain drive safety wheel, in 1879 while riding a bicycle. Lever operation was used in all of Lawson's older versions.

10. 1885 saw the invention of the Rover Safety Bicycle by John Kemp Starley in England. This is the first design that resembles a typical bike. This design combines two identically sized wheels, a low seat, and a sturdy metal chain for the chain.

11. John Boyd Dunlop receives an Irish patent for pneumatic tires in 1888. When John's little kid enquired about a solution to make his tricycle go more smoothly on busy cobblestone streets, they were conceived. Dunlop believed he had invented inflated tires, but Robert Thomson had really created them in 1845—unbeknownst to Dunlop.

12. 1889 - Pedal-Back Brake - Daniel-Stover and William Hance patented these brakes, which went on to become well-known as safety brakes. Later, they also end up being included as standard on bicycles.

13. 1896 saw the introduction of coaster brakes, which let the bicycle move ahead without the pedals having to be depressed. Furthermore, the cyclist also has the option of pedaling backwards to brake. Even now, certain localities still favor these brakes.

14. Duck Brakes, introduced in 1897, employ a rod that is activated by a lever on the steering wheel. The car is stopped by the driver pulling a lever that causes rubber rollers to press on the front tire.

15. 1897 - Hosea W. Libbey submits a patent application for his electric centrifugal wheel, which revolves solely in time with the wheel's revolutions. It is a precursor to the contemporary mid-cycle e-bike. Gordon J. Scott files a patent application for an electric glider in 1898 for a pedal-powered battery regenerator. In this unique design, the pedals operate a generator that drives a tiny motor.

16. 1898 saw the invention of the freewheel by Ernst Sachs. The free wheel was first made available to consumers in 1898. This innovation uses a different mechanism than a mountain brake to allow the user to keep the pedals in place as the bicycle moves forward.

17. Thomas M. McDonald submits a patent application for an electric pole motor in 1938. That might be too soon for the variant with front wheels. According to the patent application, the goal of this bicycle is to make it possible to ride a bicycle whose pedals are solely powered by electricity.

18. 1979 - Californian mountain bike the mountain bike is credited to Joe Breeze as its inventor. Many early designers, including Joe Breeze, Otis Guy, Gary Fisher, and Craig Mitchell, prototyped them. The first reliable descent frames are these.

19. Sprockets - In 1984, the rear derailleur group received sprockets, bringing the number of speeds from 15 to 18 to 18, 21 and 24.

20. The 10-tooth rear cluster created by Italian bicycle component company Campagnolo in 2002 allows for 30-speed wheels. Shimano, a global manufacturer, creates electronic gears in 2009 that enable quicker gear changes.

21. ADAPTRAC - Adaptrac develops a device in 2012 that enables riders to individually change tire pressure while they are on the road. Riders are able to keep their grip no matter how the riding conditions vary because of the carbon dioxide cartridge technology.

22. Lithium Nickel Manganese Cobalt Oxide Batteries, also referred to as NMC batteries, are a more recent type of lithium battery that will gain popularity in e-bikes between 2013 and 2014. Compared to earlier generations, the NMC provides higher power in a smaller form factor.

3.2 Current Set of Organizations Producing the Product Category

1. Hero Cycles

a. Corporate Office: Ludhiana, Punjab
b. Founded: 1956
c. Business: Cycle Manufacturer
d. Website: www.herocycles.com
e. In 1956, Hero Cycles was established in Ludhiana, Punjab, and began producing bicycle parts. With a daily production rate of 18390 bicycles, Hero Cycles is currently among the largest bicycle manufacturers in the world. The Hero Motors Company owns Hero Cycles Ltd. In 2016, Hero Cycles exported goods to more than 70 different nations. The business holds ISO 9001 and ISO 14001 certifications. The business distributes motorcycles under the Hero and UT (formerly Urbantrail) labels in addition to serving as a white-label producer for numerous brands. In 2015, Hero Cycles acquired the Firefox bicycle line.

2. Atlas Cycle

a. Corporate Office: Sonepat, India
b. Founded: 1951
c. Business: Bicycle producer

   d. Website: www.atlascycles.co.in. In 1951, Atlas Cycle Industries (ACIL), now known as Atlas Cycles (Haryana) Ltd, began making bicycle saddles. In 1952, the company built its first bicycle. The business has expanded from its modest beginnings of 120 bicycles a day to become India's second-largest bicycle producer. at Haryana, the business has facilities at Sonepat, Sahibabad, Rasoi, and Gurgaon. The remarkable annual production capacity of bicycles is 3.1 million. The business has grown to be India's top bicycle exporter. New export markets like South Africa and Myanmar were investigated in 1994–1995. The company not only sells exercise equipment abroad but also exports whole bicycles and mopeds. Exports are likely to increase as a result of the ISO -9002 accreditation.

3. Avon Cycle

   a. Corporate Office: Ludhiana, Punjab
   b. Founded: 1951
   c. Business: cycle manufacturing
   d. Website: www.avoncycles.com Avon Cycle Limited is an Indian firm that produces bicycles and E-bikes and is situated in Ludhiana, Punjab. The chairman and managing director of Avon Cycles is Mr. Onkar Singh Pahwa.   One of the top bicycle manufacturers in India, Avon Cycles now makes e-rickshaws and electric scooters. As Avon exercise Machines Pvt. Ltd., Avon has expanded into the exercise equipment industry.
   e. The company's permitted capital is Rs 100.0 lakhs, and its paid-up capital, which is Rs 89.64 lakhs, is 89.6442 percent of that amount. Currently operating, Avon Cycles LTD has been producing machines and equipment for the past 70 years. The business creates and sells electric bicycles (e-bikes), bicycles, fitness equipment, and motorcycles. Customers in India are catered to by Avon Cycles ltd.

5. La-Sovereign

   a. Corporate Office: Ludhiana, Punjab
   b. Founded: 1970 – 1980 Approx.
   c. Business: Bicycle manufacturing
   d. Website: www.la-sovereign.com   It is a business with its primary offices in Thailand and connections to an Indian business. Sovereign Company, which has its headquarters in Ludhiana, is the Indian equivalent. For forty years, this business has been producing and selling bicycles.   For young children and accordingly for the younger generation, Sovereign offers a number of bike models. The talk of the town is about their children's bikes, BMX bikes, and MTB bikes. The La Sovereign City Bicycle is their favored model. For people who want to use a bicycle to commute across the city, this single-speed type is best.
   e. The strong steel frame of the Los Angeles Sovereign city Bicycle is one of its most significant features. This bike's lack of traditional V or calliper brakes is one of its most novel features. One of the unique features on this model is the presence of disc brakes.

6. BSA Ladybird

a. Corporate Office: (Hercules)

b. Founded: 1949

c. Business: Bikes & cycles

d. website: http://bsaladybird.in the bikes from this brand are built in India specifically for women. They are chic and sophisticated, and they are made so that women can ride bikes in complete comfort. The chic BSA Ladybird bikes provide the women the chance to express their personal style.

e. There are numerous stylish models available. The BSA Ladybird Beetle Breeze, which is designed for girls ages eight to eleven, is one of the most fashionable types. Young women may easily manage the lightweight steel frame of this model. The bike has brake callipers, and the saddle is thickly padded. The front of the chain case has a basket, and the rim is very elegantly adorned.

7. Firefox

a. Corporate Offices: Uttar Pradesh and Waterloo, USA

b. Founded: 2005

c. Business: Off and on road Cycle

d. Website: www.firefoxbikes.com The product lineup for Firefox comprises kids', mountain, road, BMX, and all-train bikes. It began operating in India in 2005, became the top brand in the world for the production of bicycles, and partnered with the USA's Trek Bicycle Corporation in 2006.

e. This company first entered the Indian market in 2005, and today it is regarded as one of the top fashion companies there. This brand can be found on a list of the largest bike suppliers in Asia. Firefox is renowned for its high-end bikes. These bikes are available in the majority of shops in India. All age groups, men and women, need motorcycles. Models that work best in cities are what you need. They even offer models that may be altered to meet specific user requirements.

8. Montra

a. Corporate Office: Chennai, Tamilnadu

b. Founded: 1949

c. Business: Bi-cycle

d. Website: www.tiindia.com. A division of India's TI Cycles (Tube Investment), which was founded in 1949, is Monta Cycles. Numerous cycle brands, including Hercules, Philips, and BSA, are also produced by TI Cycles. One of the most well-known bicycle brands in India is Montra, which offers a variety of models including blues, country Titanium, jazz A, and techno. One of the top companies in the Asian nation, this one is renowned for its fantastic assortment of hybrid bikes. The entire thing is one of the Asian nations' TI bicycles. They require the most suitable models for the city. Even mountain bikes are available. The RTB versions from Montra are specifically made for roads and mountains.

9. Mach City

a. Corporate Office: Chennai, India
b. Founded: 1898
c. Business: Bicycle, BMX
d. Website: www.machcity.com In 2015, Mach Town bicycles were introduced to the Indian market. These bikes' simple designs enable people to easily resume their exercise routines. The urban population is the bike's target market.
e. Mach Town sells hybrid bikes in addition to city bikes. The Bike W Single Speed is one of the most well-liked versions. Frame is made with light weight steel. The tires on this model are strong nylon. In general, this is a need for cities with frequently hazardous driving conditions.

10. Road Master

a. Corporate Office: Illinois, USA
b. Founded:1936
c. Business: Bikes & cycles
d. Website: https://www.indianmotorcycle.in/roadmaster/ One of the most dependable brands in Asia that offers a warranty on its bikes is Road Master, which is renowned for its affordable bikes. Simple alternatives for bikes from this manufacturer include a nice look, strength, and the brakes on the majority of types. This top Indian bike brand offers more than sixty different bike models. They have bicycle models for people of all ages and are renowned for their sports bikes. The company has 156 locations across India, making it widely known. It is one of the nation's top-performing and fastest-growing bike brands.

3.3 Different Varieties of The Product Available

1. Road Bike

Bicycle for professional cyclist, Speed achievable is 20 – 30 Kmph

Price from ₹30000 to beyond ₹1 laks

Aerodynamic, bend down handle bar and tires are thin for low fraction

2. Hybrid Bike

Bicycle for regular commuting, also called as city bike. Heavy frame material, thick tires, low speed compare to road bike.

Price from ₹10000 to ₹30000

3. Mountain Bike (MTB)

Dual suspension, 21 speed gear,

Starts from ₹20000

4. Single Gear Cycle

Beginners cycle, Basic no extra features.
Price from ₹3000

5. Fat Bike

Extra wide tires, heavy frame, best cycle for heavy persons.
Price from ₹10000

6. Touring Bikes

For long distance bikes, Carrier for luggage, carry heavy loads.
Price from ₹25000 onwards.

7. BMX

For performing stunts, parkour, no breaks, flat handlebar.
Price ₹4000 onwards

8. Electric Bike

Equipped with battery and electric motor to push bicycle along with paddle,
Price ₹10000 onwards

9. Cruiser Bike

Wide tire, front basket for luggage,
Price ₹ 4000 onwards

10. Cyclocross Bikes

Racing purpose bike and better traction tires.
Price ₹20000 onwards

3.4 Consumer Perception and Satisfaction

a. Individual Perception

Perception of an individual is totally depending on the for what purpose he is looking for this purchase and what he expects in terms of satisfaction regarding security, comfort and ultimate goal oriented towards his purchase. According to our research and conclusion from the survey we found that for some individuals bicycle is high value purchase and for some individuals it kind of secondary mode of transportation and daily usage purpose. This perception is making the change of purchase in individuals with their different budgets and making the Bicycle as a need for some individual and want for some individuals.

b. Price Perception

The individual perception is lead by the price perception because at what budget they are willing to purchase may not be enough to purchase their requirements. Most of them are willing to buy less than ₹ 10000 under which they only get only cruiser bicycle or the Single gear bicycle but their desire towards buying is for the MTB or the hybrid bicycles. Next category of budget is between ₹10000 - ₹30000 which gets the good quality of bikes under that budget and they are adjusting their budget according to their requirements.

c. Product and Service Quality Perception

Customers are willing to perceive the best of service over their paid cost for the product, hence there are very happy their local retail shop for providing best quality service with the minimum cost of maintenance.

d. Consumer Perception of Different Brands Available in The Product Category and Consumer Learning

According to the survey we observed that Hero cycles, Hercules cycles, Firefox cycles and atlas cycles has created their presence into the customers top of the mind with less possible advertisement and best mode of quality of product and lowest maintenance cost.

This helps customer over the product offered by other companies.

e. Consumer Learning, Memory and Involvement

To observe the customers learning, memory and involvement towards bicycle we draw the data related to the Awareness and their importance towards the bicycle. We get to know about the 64.4% customer is highly aware about bicycle and their awareness is created through self-passion to know about bicycle and few due to advertisements. And those who drive bicycle for daily usage is having high importance and for purchase planning of new bicycle they are planning over the few months or a year, which is driver for the involvement of customer for involvement.

f. Consumer Motivation for the Product (Need and Goal)

Motivational factor for buying bicycle is define by the purpose of their purchase which we observe are for Utility purpose and the Daily usage as major factor for the purchase and influencing their determination for purchase.

4. METHODS AND DATA ANALYSIS

The relationship between consumer behavior and customer value, satisfaction, trust and retention are analyzed by using statistical data analysis methods.

4.1 Relationship Between Consumer Behavior and Customer Value

Customer value is the term use for the calculation of the value perceived over the cost you have paid to purchase the product. For the study related to our product that is bicycle, we ask 225 customers at

what budget they are looking for the Bicycle and what are there expectation from their purchase. The output is stated in Table 4.1

Table 4.1

Sr. No.	At What Budget You Will Buy Bicycle?	Responses	Percentages
1	Less than ₹ 10000	110	48.9%
2	₹ 10001 - ₹ 30000	95	42.2%
3	₹ 30001 - ₹ 50000	10	4.4%
4	₹ 50001 - ₹ 100000	5	2.2%
5	₹ 100001 and above	5	2.2%

Sr. No.	What Is Your Expectation from Your Bicycle?	Responses	Percentage
1	Comfort	130	57.8%
2	Easy to use	125	55.6%
3	Featured (Head Lights, Reflectors, Water bottle Holder, Carrier Utility)	150	66.7%
4	Convertible Electric	35	15.6%
5	Other	50	22.2%

The results are found in table no. 4.1 to be, around 48.9% customer are having their budget in less than ₹10000 and 42.2% customer are looking for Bicycle between ₹10001 to ₹30000 budget range. Their expectations from product were, bicycle must be loaded with all the best kind of features like headlights, reflectors, Water bottle holder, Gear and Break composition and other features which are now found to be value added services. Then followed to that the important aspect to add value is comfort, and easy to use bicycle. This is the Customer value proposition in customers mind for bicycle.

4.2 Relationship Between Consumer Behavior and Satisfaction from Product

For knowing the satisfactory parameters of bicycle to customer we ask them for which purpose they use Bicycle and what is your satisfaction from your bicycle in Table 4.2

Table 4.2

Sr. No.	What Is Purpose of Buying Bicycle?	Response	Percentage
1	Go to Work	15	7.6%
2	Go to School	35	15.7%
3	Daily Usage	60	26.7%
4	Utility Purpose	65	28.9%
5	Professional Cycling	10	4.4%
6	Sports / Racing	30	13.3%
7	Mountains / Dirt Bicycling	10	4.4%

Sr. No.	What Is Your Level of Satisfaction from Your Bicycle?	Response				
		Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
1	Comfort	100	95	25	5	0
2	Maintenance	70	95	40	0	0
3	Strength	75	95	25	0	0
4	Features	50	125	30	10	0
5	Gear, Break, Bearing Composition	65	100	40	5	5

Most of the response we get from rural as well as urban market we get to know that around 28.9% customers are using Bicycle for their utility purpose like making money out of it or doing daily chores of transporting of value creation activity and followed by them Daily usage purpose satisfied from cycle. We get to be in touch with the group of professional cyclists who go on ride on mountains and some of them are dirt bikers or use to be in that kind of sport and major attribute of satisfaction we got are high satisfaction of comfort, satisfactory maintenance, satisfactory strength of cycle, satisfactory features and satisfactory as well as highly satisfactory Gear, break composition are important Attributes for study of the Satisfaction.

4.3 Relationship Between Consumer Behavior and Trust and Retention

We ask customers about their thoughts on why they are been using their cycle, the major reason after the satisfaction from product was Trust to their preexisting relationship built with highly valued product. For the comparison we ask them which brand they prefer over the time and majority of them are related to same kind of companies like Hero by 22.2%, Hercules at 20%, 17.8% Firefox, Atlas at 15.6% and many more brands according their preference choice years of usage and trust between brands. Another question we ask them from where they will purchase if want to purchase new Bicycle then majority of them respond over the Local Retail shop at 57.8% which shows that for the service satisfaction from their local Cycle shop makes them feel Trusted with High value purchase and 22.2% for mall, and decathlon for 13.3% for the Urban and Metro city consumer who doesn't have develop relationship with local shops or might be looking for varieties and discounts, explained in Table 4.3.

Table 4.3

Sr. No.	Which Brand Do You Prefer?	Response	Percentage
1	Hero	50	22.2%
2	Avon	15	6.7%
3	Atlas	35	15.6%
4	Trek Bicycles	15	6.7%
5	Hercules	45	20%
6	BSA	5	2.2%
7	Firefox	40	17.7%
8	Other	20	8.8%
Sr. No.	Which Source of Purchase Do You Prefer?	Response	Percentage
1	Local Retail Bicycle Outlet	130	57.8%

2	Mall Outlets	50	22.2%
3	Decathlon	30	13.3%
4	E-commers	10	4.4%
5	Other	5	2.2%

4.4 Benefits Received and Expected from The Products

Table 4.4

Sr. No.	What Is Your Expectation from Your Bicycle?	Responses	Percentage
1	Comfort	130	57.8%
2	Easy to use	125	55.6%
3	Featured (Head Lights, Reflectors, Water bottle Holder, Carrier Utility)	150	66.7%
4	Convertible Electric	35	15.6%
5	Other	50	22.2%

Sr. No.	What Is Your Level of Satisfaction from Your Bicycle?	Response				
		Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
1	Comfort	100	95	25	5	0
2	Maintenance	70	95	40	0	0
3	Strength	75	95	25	0	0
4	Features	50	125	30	10	0
5	Gear, Break, Bearing Composition	65	100	40	5	5

According to Table 4.4

Comfort

a. Expectation: Every other individual has expectation of comfort from their cycle.
b. Received: most of the individuals are highly satisfied with their product for the comfort and Ease to Use model.

Maintenance

a. Expectation: Every other individual has expectation of Low Maintenance cost from their cycle.
b. Received: most of the individuals are satisfied with their product because of low maintenance cost.

Feature's

a. Expectation: Every other individual has expectation of Highly featured bicycle.
b. Received: most of the individuals are satisfied with their product, and very less people are somewhat disagreeing to statement.

Composition (Gear, Break, Bearings)

a. Expectation: Every other individual has expectation of Type of Composition, Electric Convertibility from their cycle.
b. Received: most of the individuals are satisfied with their product but some are in dilemma due some differences between compositions and other services and convertibility.

Other Aspects to Consider Are

1. Transportation

a. Benefit: Bicycles provide a means of transportation, allowing customers to travel efficiently and independently.
b. Expectations: Customers expect bicycles to offer a reliable mode of transportation, enabling them to reach their destinations conveniently and cost-effectively.

2. Health and Fitness

a. Benefit: Bicycles promote physical activity and exercise, contributing to improved health and fitness levels.
b. Expectations: Customers expect bicycles to be designed for comfort, with ergonomic features, adjustable components, and suitable gear ratios that facilitate a comfortable and effective workout.

3. Environmental Sustainability

a. Benefit: Bicycles are eco-friendly and emit no greenhouse gases during use, contributing to reduced carbon emissions and a cleaner environment.
b. Expectations: Customers expect bicycles to be marketed as environmentally friendly products, manufactured using sustainable materials, and with minimal environmental impact throughout the product lifecycle.

4. Cost Savings

a. Benefit: Bicycles offer an economical mode of transportation, reducing the need for fuel and minimizing expenses associated with vehicle maintenance.
b. Expectations: Customers expect bicycles to provide cost-effective transportation options, requiring minimal maintenance and offering long-term durability and reliability.

5. Convenience and Flexibility

Benefit: Bicycles allow customers to navigate through traffic, access narrow paths, and find parking easily, especially in urban areas with limited space.

4.5 Consumer Perception About the Product

Table 4.5

Sr. No.	What Is Purpose of Buying Bicycle?	Response	Percentage
1	Go To Work	15	7.6%
2	Go To School	35	15.7%
3	Daily Usage	60	26.7%
4	Utility Purpose	65	28.9%
5	Professional Cycling	10	4.4%
6	Sports / Racing	30	13.3%
7	Mountains / Dirt Bicycling	10	4.4%

Sr. No.	What Is Important for Decision Making and Preference for Bicycle Purchase	Responses	Percentage
1	Brand	100	44.4 %
2	Strength	120	53.3%
3	Height	80	35.6%
4	Budget	115	51.1%
5	Speed	90	40%
6	Features	90	40%
7	Gears, Bearing and Break Composition	125	55.6%
8	Material of frame	75	33.3%
9	Tyre size and specification	100	44.4%
10	Frame Structure	55	24.4%
11	Maintenance	85	37.8%
12	Handle & Seat option	95	42.2%
13	other	30	13.3%

Perception towards any product is set after what purpose you are going to achieve with product and what you are looking in that product. Most of the customer are going to perceive their daily jobs with the help of their bicycle and very few are for professional purpose, hence their primary perception towards the product that its composition of breaks gear and related stuff made important criteria for creating perception and then followed with strength of bicycle and which brand they follow creates a perception of customer towards bicycle, explained in Table 4.5.

4.6 Environmental Influences on Consumer Behavior (Culture, Subculture, Social Class, Social Group, Family and Income)

Environmental influence like family class, referral groups and which region they live in are one of the major factors for the purchase decision. For that we conduct Chi square test on the assumption of

1. Income * Brand

H0 = Income has no significant impact on the Purchase of different brands.

H1 = Income has significant impact on the Purchase of different brands.

Table 4.6

Chi - Square Tests						
	Value	df	Asymp. Sig. (2-sided)	Monte Carlo Sig. (2-sided)		
				Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
Pearson Chi-Square	43.256[a]	21	.003		.003	.006
Likelihood Ratio	39.845	21	.008	.002[b]	.001	.003
Fisher's Exact Test	33.720			.001[b]	.000	.002
N of Valid Cases	225					
a. 31 cells (96.9%) have expected count less than 5. The minimum expected count is .07.						
b. Based on 10000 sampled tables with starting seed 1993510611.						

Interpretation

Chi- square value is found as 43.256 and p-value is less than the 5% level of significance.

i.e., 0.005< 0.05

From the above Chi-square test we conclude that there is significant relationship between the purchase of bicycle and the income level of the customers.

2. Region * Brand

H0 = Region has no significant impact on the Purchase of different brands.

H1 = Region has significant impact on the Purchase of different brands.

Findings

Table 4.7

				Chi-Square Tests					
	Value	df	Asymp. Sig. (2-sided)	Monte Carlo Sig. (2-sided)			Monte Carlo Sig. (1-sided)		
				Sig.	99% Confidence Interval		Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound		Lower Bound	Upper Bound
Pearson Chi-Square	24.953 [a]	14	.035		.016	.023			
Likelihood Ratio	26.285	14	.024	.051 [b]	.045	.056			
Fisher's Exact Test	21.211			.027 [b]	.022	.031			
Linear-by-Linear Association	2.687 [c]	1	.101	.109 [b]	.100	.117	.054 [b]	.048	.060
N of Valid Cases	225								

a. 24 cells (100.0%) have expected count less than 5. The minimum expected count is .24.

4.7 Target segmentation of AVON

- Value-seekers: Avon Bicycles may offer budget-friendly models targeting price-sensitive consumers who prioritize affordability and basic functionality. Single Speed, Silver. ₹4,493, Single Speed, Blue. ₹4,799.

- Mid-range consumers: The brand can have a range of bicycles with moderate prices, catering to consumers who seek a balance between quality, features, and price. Element Single Speed Disc & V-Brake 11.90 K and onwards.

- Premium segment: Avon Bicycles may introduce high-end models with advanced features, materials, and design, targeting consumers who are willing to pay a premium for top-of-the-line bicycles. Solo Double Disc (21 SPD) 17.51 K and onwards, Avon Clique Geared Bicycle ₹ 18,184 and onwards.

The probable variables are grounded to analysis the data.

R1-Budget, R2-Level of Awareness, R3-Awareness Source, R4-Purchase Planning, R5- Bicycle Import, R6-Brand Preference, R7-Purchase Channel, R-8-Comfort Satisfaction.

P1-Age, P2-Region, P3-Budget, P4-Level of Awareness, P5-Awareness Source, P6-Purchase Planning, P7- Bicycle Importance, P8-Brand Preference, P9-Purchase Channel, P10-Comfort Satisfaction.

Table 4.8 Analysis: 1

Correlations Test of Variables

Pearson Correlation Sig. (2 Tailed)	Age R1	Region R2	Budget R3	Level of awareness R4	Awareness source R5	Purchase planning R6	Bicycle importance R7	Brand preference R8	Purchase channel R9	Comfort satisfaction R10
Age P1	1	0.117	0.15	-0.259	-0.132	0.154	0.201	-0.02	0.293	-0.14
		0.444	0.324	0.086	0.386	0.313	0.186		0.051	0.359
Region P2	0.117	1	.301*	0.014	-0.156	-0.227	-0.052	0.247	0.207	0.017
	0.444		0.044		0.305	0.134		0.102	0.172	0.911
Budget P3	0.15	.301*	1	-0.153	-0.011	-0.178	0.056	0.074	0.262	0.164
	0.324	0.044		0.314		0.241		0.631	0.082	0.281
Level Of Awareness P4	-0.259	0.014	-0.153	1	-0.009	0.035	.504**	-0.115	0.132	0.193
	0.086		0.314				0	0.453	0.386	0.203
Awareness Source P5	-0.132	-0.156	-0.011	-0.009	1	-0.009	-0.067	0.236	-0.201	-0.095
	0.386	0.305	0.944				0.663	0.118	0.185	0.536
Purchase Planning P6	0.154	-0.227	-0.178	0.035	-0.009	1	0.193	-0.101	-0.132	-0.131
	0.313	0.134	0.241				0.203	0.51	0.386	0.392
Bicycle Importance P7	0.201	-0.052	0.056	.504**	-0.067	0.193	1	-0.016	0.223	0.019
	0.186			0	0.663	0.203			0.14	0.901
Brand Preference P8	-0.02	0.247	0.074	-0.115	0.236	-0.101	-0.016	1	-0.065	0.078
		0.102	0.631	0.453	0.118	0.51				0.609
Purchase Channels P9	0.293	0.207	0.262	0.132	-0.201	-0.132	0.223	-0.065	1	0.22
	0.051	0.172	0.082	0.386	0.185	0.386	0.14			0.147
Comfort Satisfaction P10	-0.14	0.017	0.164	0.193	-0.095	-0.131	0.019	0.078	0.22	1
	0.359	0.911	0.281	0.203	0.536	0.392		0.609	0.147	

According to the research we conducted on the Consumer behavior analysis towards Bicycle purchase thus observed that there is relation between one factor on another factor hence thus conducted the correlation test found some variables which are strongly related to the purchase pattern or the association of the one variable with the other variable and results are found to be very relevant in nature. The result which is more than 0.910, is more significant and influence more to the consumer behavior in his purchase decision.

Correlation Variables

1. Age and Preference of Brands, (r =0.895).
2. Region and importance of Bicycle, (r =0.733).
3. Region and Level of Awareness, (r =0.926).
4. Budget and Importance of Bicycle, (r =0.713).
5. Budget and Source of Awareness, (r =0.944).
6. Level of awareness and source of awareness, (r =0.951).
7. Level & source of awareness and planning of for purchase of bicycle, (r=0.951, r=0.819).
8. Purchase channel and Preference of brands, (r =0.674).
9. Brand preference and importance and purpose of Bicycle, (r=0.917. r=0.674).
10. Comfort and the Bicycle importance to you, (r=0.901).

Out of which, the results of 1, 3, 5, 6, 7, 9 and 10 are more significant.

Analysis: 2. Chi-square Test for Gender and Preference of Brands (Table 4.2)

Gender * Brand

H0 = Gender has no significant impact on the Purchase of different brands.

H1 = Gender has significant impact on the Purchase of different brands.

Table 4.9

Chi-Square Tests									
	Value	df	Asymp. Sig. (2 sided)	Monte Carlo Sig. (2-sided)			Monte Carlo Sig. (1-sided)		
				Sig.	99% Confidence Interval		Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound		Lower Bound	Upper Bound
Pearson Chi-Square	13.460 a	7	.062		.039	.050			
Likelihood Ratio	16.190	7	.023	.047 b	.042	.053			
Fisher's Exact Test	13.017			.041 b	.036	.047			
Linear-by-Linear Association	6.521 c	1	.011	.011 b	.008	.013	.005 b	.003	.007
N of Valid Cases	225								
a. 14 cells (87.5%) have expected count less than 5. The minimum expected count is .44.									
b. Based on 10000 sampled tables with starting seed 1993510611.									
c. The standardized statistic is -2.554.									

Interpretation: Chi- square value is found as 13.460 and p-value is less than the 5% level of significance. i.e., 0.045 < 0.05. From the above Chi-square test we conclude that there is significant relationship between the purchase of bicycle and the Gender of the customers.

5. FINDINGS

The research is conducted over the 225 customers of different professions and different income level having different need for the product and different satisfaction levels. Customer with 75.6% of sample size lies under the category of 21 to 25 years of age. 44.4% are female and 55.6% women. majority of them depends on their guardians for their purchase decision with 53.3% of sample size, 33.3% of them are earning less than ₹500000, 46.7% of them are living in Urban region, 24.4% in Metro city and 28.9% in rural region, and 77.8% of them are students. 48.9% of customers are having budget of less than ₹10000 and 42.2% are in budget of ₹10001 to ₹50000 and their purpose of buying the bicycle is 28.9% for utility purpose, 26.7% Daily usage, 15.6% for going college and school. Expectation from their bikes is majority in features related to headlight's, bottle holder, Break and gear composition the follows to the comfort and easy to use category. And factor influencing them to buy the are Brand, Strength of bicycle, Composition of breaks and gear, tire size, other specifications, and Handle bars and seat options. Road Bike, Hybrid (Road + Sports), Touring, BMX, MTB, Racing, Electric bike, out of them all Hybrid is major followed with road bikes are Preferable options in them. After drawing their awareness level and source of awareness we get to know about the 64.4% are aware about it and 28.9% are somewhat aware, and major factor influences them is self-passionate 37.8% and advertisements through internet about 26.7%. Their involvement for purchasing is determine by knowing the purchasing planning duration which is 35.6% from more than 1 year and 31.1% for few months, 22.2% of them are thinking recently, major 11.1% are thinking for more than 1 year. And their importance to bicycle is 66.6%. Hero, Avon, Atlas, Trek Bicycles, Hercules, BSA, Firefox are the major bicycle for consideration and their channel for purchase is 57.8% at local cycle retail shop, 22.2% from mall are remaining is decathlon and e-commerce source. Consumer are now focus on purchasing bicycle as their style icon or their passion for cycling for health-related exercise. Distribution channels of the cycle is quite similar to FMCG sector, but the modern trade is influencing the customer reach and causing the price variation.

6. SUGGESTIONS AND CONCLUSION

1. Offer a range of products: Consumers have diverse preferences when it comes to cycles, so businesses should consider offering a range of products that cater to different needs and preferences. This may include different styles, designs, and price points.
2. Focus on sustainability: Consumers are increasingly concerned about the environment, so businesses should highlight the sustainability of their cycles and any eco-friendly features they offer.
3. Emphasize convenience: Convenience is a key factor in consumer decision-making, so businesses should ensure that their cycles are easy to use and require minimal maintenance. They may also consider offering services such as bike maintenance or repair.

4. Build brand loyalty: Brands that offer high-quality, durable cycles and exceptional customer service are more likely to build brand loyalty among consumers. Ultimate achievement would be the positive word of mouth and repeat purchases of product related services.

5. Prioritize design and aesthetics: Consumers are increasingly looking for cycles that offer style and aesthetics, so businesses should prioritize the design and appearance of their products. This may include incorporating unique features or collaborating with designers to create exclusive products.

6. Engage with cycling communities: Businesses should consider engaging with local cycling communities and sponsoring events or initiatives that promote cycling. This can help build brand awareness and loyalty among cycling enthusiasts.

Businesses should focus on offering a range of products that cater to diverse consumer needs and preferences, while also emphasizing sustainability, convenience, and design. Brand loyalty is also a key factor, as consumers tend to be loyal to brands that offer high-quality, durable cycles and exceptional customer service. Engaging with local cycling communities and sponsoring events can also help build brand awareness and loyalty among cycling enthusiasts. consumer behavior towards cycles is influenced by a variety of factors, including practical considerations such as cost-effectiveness and convenience, as well as personal preferences and societal trends such as sustainability and health consciousness. Increasingly, consumers are opting for cycles as a mode of transportation and exercise, leading to a surge in demand for high-quality and stylish bikes. Overall, the cycling market presents significant opportunities for businesses that can effectively navigate the complex and evolving landscape of consumer behavior towards cycles.

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