

# [Two-wheeler industry analysis](https://assignbuster.com/two-wheeler-industry-analysis/)

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Abstract Two-wheeler segment is one of the most important components of the automobile sector that has undergone significant changes due to shift in policy environment. The two-wheeler industry has been in existence in India since 1955.

It consists of three segments viz. scooters, motorcycles and mopeds. According to the figures published by SIAM, the share of two-wheelers in automobile sector in terms of units sold was about 80 per cent during 2003-04. This high figure itself is suggestive of the importance of the sector. This is the main reason for us to consider innovations in the two wheeler sector. In order to produce a comprehensive report, we have made use of both primary and secondary research.

In the secondary research, a literature review has been done entailing the various innovations in the two-wheeler sector and a comparative analysis of the two main players in the Indian market. A questionnaire based primary research has been carried out to provide insights into the psyche of the consumer on innovations. Basically the viability of the innovations has been explored, keeping in sight consumer wants. Introduction India being a developing economy, two wheelers have become the predominant mode of transportation. Its plays a pivotal role in the day-to-day travel as it identifies with the economy and the infrastructure of the nation.

The Indian two-wheeler industry has witnessed spectacular growth in the last few years. The market dynamics of the industry has substantially changed with a majority of the customers preferring bikes to scooters and mopeds. This is primarily due to better fuel efficiencies, dynamics, looks and longer product lives of motorcycles. Essentially this study will help to: 1. Understand the significance of innovation in the two wheelers industry from the consumer and producer perspective.

2. How have the innovations catered to the needs of the consumer and made the two-wheel a safe and convenient option. Literature Review – comparison of major players in two wheeler sector The main key players who are dealing in this sector are Hero Honda, Bajaj, Yamaha, Honda, and TVS. Hero Honda is the biggest player in this sector in India as well as in the world and playing a very important role in two wheeler automobile sector. Hero Honda, Bajaj and TVS are the Indian Bajaj is the first Indian two wheeler automobile company in the market since 1945 with the name M/s Bacharj trading corporation private limited.

In 1959 M/s Bacharj trading corporation private limited change its name as Bajaj Auto Ltd. Bajaj Auto obtains license from the Government of India to manufacture two- and three-wheelers vehicles in 1959. companies and Yamaha & Honda are international automobile brand. [pic]Bajaj is the first Indian two wheeler automobile company in the market since 1945 with the name M/s Bacharj trading corporation private limited. In 1959 M/s Bacharj trading corporation private limited change its name as Bajaj Auto Ltd.

Bajaj Auto obtains license from the Government of India to manufacture two- and three-wheelers vehicles in 1959. [pic]Honda motors of Japan is not a new name in the two wheeler scenario in the country, they were in a tie up with the Firodias owned Kinetic group. However in the late 90s they parted ways after problems arose over issues like introduction of new models, advertising expenditure, marketing strategies and other related issues. In the mid 80 Honda motors of Japan joined hands with the largest bicycle maker of India the Hero cycles to create Hero Honda which in a couple of decades or so have gone on to become the single largest motorcycle company in the world. Though Honda has come on its own on the Indian market yet it will be providing technological support to Hero Honda for the next ten years.

Thus presenting a unique situation in which the company will be in direct competition with the company which it has been associated for nearly two decades. Honda Motorcycles and Scooters India limited, a 100% subsidiary of Honda motor ompany Japan eventually entered the Indian market with Honda Unicorn in 2004. BAJAJ AUTO LTD Since 1986, there is a technical tie-up of Bajaj Auto Ltd with Kawasaki Heavy Industries of Japan to manufacture state-of-art range of latest two-wheelers in India. The JV has already given the Indian market the KB series, 4S and 4S Champion, Boxer, the Caliber series, and Wind125. Corporate Profile: ‘ Inspiring Confidence,’ the tagline, has build up confidence, through excitement engineering, not only to domestic consumers but also internationally. Established just eight decades back in 1926 by Jamnalal Bajaj, the company has been vested with India’s largest exporter of two and three wheelers, 196, 710 units in 2004-05, a great 26 per cent jump over the previous year.

Bajaj Auto Ltd. sales have increased by approximately 21 per cent in the year 2004-05, which exceeds Rs 65. 4 billion, a record in the history of the company. The gross operating profit stands at Rs. 9. 3 billion, again a record.

The profits after tax of the BAL are close to Rs. 7. billion, and the pre-tax return on operating capital is at an impressive 80 per cent. The strength of the company is its quality products, excellence in engineering and design, and its ability to delight the customers. The Pulsar, introduced in November 2004, is continually dominating the premium segment of the motorcycle market, helping to maintain the market superiority. Discover DTSi, one more successful bike on Indian roads, is in the ‘ value’ segment of the motorcycle market.

It incorporates a high degree of power with fuel efficiency of a 100 cc motorcycle. SWOT Analysis: Let’s analyze the position of Bajaj in the current market set-up, evaluating its strengths, weaknesses, threats and opportunities available. Strengths: ? Highly experienced management. ? Product design and development capabilities. ? Extensive R & D focus.

? Widespread distribution network. ? High performance products across all categories. ? High export to domestic sales ratio. ? Great financial support network (For financing the automobile) ? High economies of scale. ? High economies of scope.

Weaknesses: ? Hasn’t employed the excess cash for long. Still has no established brand to match Hero Honda’s Splendor in commuter segment. ? Not a global player in spite of huge volumes. ? Not a globally recognizable brand (unlike the JV partner Kawasaki) Opportunities: ? Double-digit growth in two-wheeler market. ? More maturity and movement towards higher-end motorcycles. ? The growing gearless trendy scooters and scooterette market.

? Growing world demand for entry-level motorcycles especially in emerging markets. Threats: ? The competition catches-up any new innovation in no time. ? Threat of cheap imported motorcycles from China. Margins getting squeezed from both the directions (Price as well as Cost) Bajaj on internal analysis found that it lacked – 1. The technical expertise to deliver competitive goods.

2. The design know-how. 3. And the immediate inability to support the onslaught of competitors. All these forced Bajaj to look for an international partner who could bring in technology and also offer some basic platforms to be manufactured and marketed in India.

Kawasaki of Japan is a world-renowned manufacturer of high performance bikes. Bajaj entered into a strategic tie-up with Kawasaki in late 1990s to enhance its product line and knowledge up-gradation to support long-term strategies. This served the purpose of sustaining the market competition for a while. From 1996 to 2000, Bajaj invested hugely in infrastructure while simultaneously developing product design and innovation capabilities, which is the prime reason behind the energetic Bajaj of 21st century. Bajaj introduced a slew of products right from entry-level motorcycle to the high premium segment right from 2001 onwards, and since then its raining success all the way for Bajaj. Last quarter, Bajaj had impressive performance growing at a rate of 20%+ when the largest manufacturer grew at just 6%.

This stands a testimony to the various important strategic decisions over the past decade. Current Situation Current Performance: BAL is currently outperforming the industry growth rate in two-wheeler segment with 32% growth in year 2004-05 v/s industry growth of 19%. Market share in Motorcycles is improving with every passing year. It has also increased from 28% in 2004-05 to 31% in 2005-06. Annual turnover for the year 2005-06 is Rs. 81.

06 billion v/s Rs. 63. 3 billion a year before – an increase of 28% which is very healthy. BAL has significant presence in all the three basic segments – Price Segment, Value Segment and Performance Segment – and has been showing increased sales in all the segments over years. Besides this, BAL is a market leader in two-wheeler exports and it consists a great chunk of there overall revenues.

Currently, BAL is selling over 1 lac motorcycles annually in Sri Lanka, further, they are commanding 50% market share in Central America. The Industry Analysis – Five Forces Analysis-BAL External Environment Industry: Automobiles: Two WheelersSegments: Presence in all segments Entry Barriers: Entry barriers are high. The market runs on high economies of scale and on high economies of scope. The need for technical expertise is high. Owning a strong distribution network is important and is very costly. All these make the barrier high enough to be a deterrent for new entrants.

Supplier Bargaining Power: Suppliers of auto components are fragmented and are extremely critical for this industry since most of the component work is outsourced. Proper supply chain management is a costly yet critical need. Buyer’s Bargaining Power: Buyers in automobile market have more choice to choose from and the increasing competition is driving the bargaining power of customers uphill. With more models to choose from in almost all categories, the market forces have empowered the buyers to a large extent. Industry Rivalry: The industry rivalry is extremely high with any product being matched in a few months by competitor.

This instinct of the industry is primarily driven by the technical capabilities acquired over years of gestation under the technical collaboration with international players. Substitutes: There is no perfect substitute to this industry. Also, if there is any substitute to a two-wheeler, Bajaj has presence in it. Cars, which again are a mode of transport, do never directly compete or come in consideration while selecting a two-wheeler, cycles do never even compete with the low entry level moped for even this choice comes at a comparatively higher economic potential R: Bajaj Auto has a huge, extensive and very well-equipped Research and Development wing geared to meet two critical organizational goals: development of exciting new products that anticipate and meet emerging customer needs in India and abroad, and development of eco-friendly automobile technologies. While the manpower strength of the R represents a cross-section of in-depth design and engineering expertise, the company has also been investing heavily in the latest, sophisticated technologies to scale down product development lifecycles and enhance testing capabilities Bajaj Auto R also enjoys access to the specialized expertise of leading international design and automobile engineering companies working in specific areas. Based on their own brand of globalization, they have built their distribution network over 60 countries worldwide and multiplied the exports from 1% of total turnover in Fiscal 1989-90 to over 5% in Fiscal 1996-97.

The countries where their products have a large market are USA, Argentina, Colombia, Peru, Bangladesh, Sri Lanka, Italy, Sweden, Germany, Iran and Egypt. Bajaj leads Colombia with 65% of the scooter market, in Uruguay with 30% of the motorcycle market and in Bangladesh with 95% of the three-wheeler market. Several new models are being developed specifically for global markets and with these the company will progressively endeavor to establish its presence in Europe too. Entry into four wheeler segment: Bajaj has entered into a joint venture with Renault-Nissan in the development of a small car priced at $3000. This is a significant move because it directly competes with Tata NANO.

Bajaj has also displayed its small car prototype in the recently held auto expo. It promises double the mileage as compared to any car in the economy segment and is also considering the option of introducing Diesel and LPG variants. The four wheeler segment will also be able to hedge any risk that might arise because of the two wheeler industry and would profit from retaining consumers switching from two wheelers. HONDA MOTORCYCLE & SCOOTER INDIA (Pvt. ) Ltd. (HMSI) Honda is the world’s largest manufacturer of 2-wheelers.

Its symbol, the Wings, represents the company’s unwavering dedication in achieving goals that are unique and above all, conforming to international norms. These wings are now in India as Honda Motorcycle & Scooter India Pvt. Ltd. (HMSI), a wholly owned subsidiary of Honda Motor Company Ltd. , Japan. These wings are here to initiate a change and make a difference in the Indian 2-wheeler industry.

Honda’s dream for India is to not only manufacture 2-wheelers of global quality, but also meet and exceed the expectations of Indian customers with outstanding after sales support. Honda’s dream for India is to not only manufacture 2-wheelers of global quality; but also meet and exceed the expectations of Indian customers with outstanding after sales support. They aim to produce technologically superior, efficient and reasonably priced 2-wheelers, with Honda tested technology, backed up with after sales service of Honda’s global standard. CORPORATE PROFILE: Honda Motor Co. , Ltd.

, operates under the basic principles of “ Respect for the Individual” and “ The Three Joys”-commonly expressed as The Joy of Buying, The Joy of Selling and The Joy of Creating. Respect for the Individual” reflects our desire to respect the unique character and ability of each individual person, trusting each other as equal partners in order to do our best in every situation. Based on this foundation of Respect for the Individual, “ The Three Joys” expresses our belief and desire that each person working in, or coming into contact with our company, directly or through our products, should share a sense of joy through that experience. In line with these basic principles, since its establishment in 1948, Honda Motor Co. , Ltd.

, has remained on the leading edge by creating new value by providing products of the highest quality at a reasonable price, for worldwide customer satisfaction. In addition, the Company has conducted its activities with a commitment to protecting the environment and enhancing safety in a mobile society. The Company has grown to become the world’s largest motorcycle manufacturer and one of the leading automakers. With a global network of 454\* subsidiaries and affiliates accounted for under the equity method, Honda develops, manufactures and markets a wide variety of products ranging from small general-purpose engines and scooters to specialty sports cars, to earn the Company an outstanding reputation from customers worldwide. SWOT Analysis: Strength: ? Reliable brand name ? Affordable price ? Honda have a big share of market in scootterretes segment ? Honda is the first company who introduced the technology of central shock absorption in India Honda having high tech engines ? HMSI is the subsidiary company of Honda Motors Ltd.

which is the largest company in the proposed sector. Weakness: ? Less number of service centre ? Market share very less as compare to their competitor ? Spares parts are not easily available ? Low product range ? Maintenance cost is very high Opportunity: ? Increase in product range ? More maturity and movement towards higher-end motorcycles Threats: ? There is high competition in the market ? Threat of cheap imported motorcycles and components from China Market growth and market size (HMSI): The automobile industry has seen an overwhelming growth in liberal India. Almost every big manufacturer has made its presence felt in the country. After the foreign direct investment regulations were removed, many manufacturers saw India as a potential market. Most of the auto manufacturers were in collaboration with the Indian companies after ’91 till ’99, when the rules were changed; some of them still enjoy that. With many foreign manufacturers eyeing India as the market, the giants were no exception and most of them are already having their manufacturing or assembling facilities in India.

Honda was into the Indian two-wheeler industry from 1983, when it joined hands with Hero to start Hero Honda and with Kinetic to start Kinetic Honda. Honda broke the ties with Kinetic in ’99 and set up its own 100% subsidiary called Honda Motorcycle and Scooter India (HMSI) Pvt. Ltd. HMSI laid its foundation stone in Manesar, Haryana in the same year and also signed an agreement with Hero that it won’t manufacture motorcycles for the next five years i. e.

till 2004 as Hero Honda was not into the scooter segment at that time. This gave Honda a license to manufacture scooters at will and it did that by rolling out its first scooter, Activa in 2001 and followed it with Dio in the same year. Honda now enjoys a large chunk of market share in the scooter segment with Activa, Dio and now Aviator as its products. Honda introduced its first motorcycle, Unicorn in 2004 in the 150cc segment which was followed by Shine in the 125cc segment in 2006 followed by Stunner in the same segment in 2008. All these motorcycles were highly appreciated and instant hits in the growing Indian market which over these years was mainly dominated by Hero Honda and Bajaj Auto Ltd.

The main rivals HMSI is countering are BAL, Hero Honda and TVS in the motorcycle segment and TVS, Hero Honda and Mahindra Kinetic in the scooter segment. HMSI is the market leader in the scooter segment and is yet to have a major share in the motorcycle segment even though it is growing at 32. 24% on a monthly basis. The bike segment has a market growth rate of 43% with HMSI having a share of 18% The biggest rival in this segment is HMSI’s sister concern Hero Honda with a share of 55%. The scooter segment is having a growth rate of 32.

24% and HMSI having a market share of 57. 7%. The nearest rival in this segment is TVS motors with a share of 18. 7%. Research Objective To study the product innovation in two wheelers sector in India and its impact on consumer preferences.

Primary Research In order to understand the consumer preferences in respect to innovation the primary research objective is “ To study consumer preferences for Two Wheelers with respect to innovation” SROs- SRO1- To study the 2 wheeler product innovation in the area of mileage. SRO2- To study the 2 wheeler product innovation in the area of style SRO3- To study the 2 wheeler product innovation in the area of safetySRO4- To study the 2 wheeler product innovation in the area of power SRO5- To study the 2 wheeler product innovation in the area of comfort DATA COLLECTION METHOD: The methodologies that will be followed to collect data will include primary data collection and secondary data collection. • PRIMARY DATA COLLECTION: Primary data collection will include information survey of target audience. Structured and Unstructured direct interviews will be used to collect data from the respondents. The interviews will be conducted through questionnaires. SECONDARY DATA COLLECTION: Secondary data will be collected through the internet and reference books in the library.

MEASUREMENT INSTRUMENTS: ? Closed ended questionnaire. ? Likert scale – to measure agreement / disagreement/ no concern with the response to the questions. ? A 7-point scale – to identify the attributes contributing to branded apparels. ? Multiple questions – to obtain responses to questions. ? Dichotomous questions.

? Pre-testing among respondents. SAMPLE DESCRIPTION Size- 60 Age Composition- 18-35 yrs Sample frame- Students, faculty and staff of SIC, Hinjewadi. ANALYSIS TECHNIQUEOnce surveys are complete, data will be analyzed byGoogleforms and SPSS. Google forms offer a web-based interface for creating and publishing custom web surveys, and then views the results in excel in real time.

SPSS predictive analytics software improves business processes by directing, optimizing, automating decisions made throughout an organization. Predictive analytics includes both the analysis of past, present, and projected future outcomes using advanced analytics, and decision optimization for determining which action will drive the optimal outcome. ANALYSIS RESULTS 1. What is the preferred mileage you want in your two wheeler: 60 | 60 | 2 | [pic] 2. You believe that alternative sources of fuel should be developed for 2 wheelers? • Strongly Agree • Agree • Neither Agree nor disagree • Disagree • Strongly disagree | Strongly Agree | 28 | | Agree | 19 | | Neither Agree Nor Disagree | 10 | | Disagree | 2 | | Strongly Disagree | 1 | pic] 3. Do you think your 2-wheelers should run on clean fuels? • Strongly Agree • Agree • Neither Agree nor disagree • Disagree • Strongly disagree | Strongly Agree | 10 | | Agree | 31 | | Neither Agree Nor Disagree | 12 | | Disagree | 5 | | Strongly Disagree | 2 | [pic] 4.

Do you buy premium fuel? • Yes • No | Yes | 14 | | No | 46 | [pic] 5. Divide 100 point between the following parameters of style in a 2-wheeler according to their importance giving highest points to the parameter which is most important. | Parameters | | | Color, | 31. 5 | | Head lights, | 19. 5 | | Tail light, | 14.

5 | | Cowls. | 30. | | Rear view mirrors | 4 | 6. Are you willing to pay extra for your 2-wheeler if it has airbags as a safety mechanism similar to 4-wheelers? • Yes • No | Yes | 37 | | No | 23 | [pic] 7. Have you considered changing your 2-wheeler tyres after CEAT launched its special grip range? • Yes • No | Yes | 35 | | No | 25 | [pic] 8.

Do you prefer tubeless tyres? • Yes • No | Yes | 56 | | No | 4 | pic] 9. Do you think ABS should be introduced in below 200cc segment of two-wheelers? Very Important – – – – Least Important | 1 | 16 | | 2 | 27 | | 3 | 12 | | 4 | 3 | | 5 | 2 | | | | | 1- Very Important | | | 5- Least Important | | pic] 10. Would you like to buy a high engine capacity gearless 2-wheeler? (ex kinetic blaze) • Yes • No | Yes | 32 | | No | 28 | [pic] 11. Is torque of a bike important to you? • Yes • No | Yes | 41 | | No | 19 | [pic] 12. How important is a comfortable seating position in your two wheelers? Very Important – – – – Least Important | 1 | 24 | | 2 | 22 | | 3 | 8 | | 4 | 3 | 5 | 3 | | | | | 1- Very Important | | 5- Least Important | [pic] 12. How important is grip of handle to you? Very Important – – – – Least Important | 1 | 17 | | 2 | 19 | | 3 | 15 | | 4 | 7 | | 5 | 2 | | | | | 1- Very Important | | 5- Least Important | | | [pic] 13.

How much important is storage space? Very Important – – – – Least Important | 1 | 12 | | 2 | 18 | | 3 | 15 | | 4 | 7 | | 5 | 8 | | | | | 1- Very Important | | 5- Least Important | [pic] 14. Would you prefer Clutch less Bikes against Clutch bikes? • Yes • No | Yes | 49 | | No | 11 | Findings • If the consumer desires more mileage they have to do with less powerful two-wheelers. In spite of this majority i. . 52% of the respondents have preference for good mileage.

This underscores an important characteristic of two-wheeler consumer and that is their want for economy and value for money propositions. • Be it two-wheeler or the four-wheeler segment, with the escalating oil prices along with mounting inflation the consumer desires alternative sources of energy to be developed. Almost 50% of the respondents express this concern. However, 17% respondents are indifferent to the same as they feel their vehicle is very fuel efficient and other sources of energy will not render anything exclusive. 52% respondents believe that use of clean fuels is necessary.

However, 20% are indifferent to the quality of fuel. • In order to boost the performance and endurance of the vehicle the use of premium fuels is highly prevalent. However, this is restricted to only high-end, luxury vehicle segment. Our sample largely consists of students and professionals; therefore they do not use premium fuels for the reason of extra cost that needs to be incurred. • Security is of paramount importance for two-wheelers considering the shoddy infrastructure and traffic conditions. Therefore, 61% respondents are in favour of paying extra to insulate themselves against any mishaps.

And the remaining 39% respondents represent the price sensitive buyer category and will not pay extra for the augmented features. • 59% respondents changed their two-wheeler tyres after CEAT launched its special grip range. This meant that would upgrade to better technology only when it’s affordable. • Majority of the two-wheeler customers are in favour of the use of tubeless tyres. This is mainly because of the security and convenience they impart to the vehicle.

ABS stands for Antilock Braking System. This is a device which avoids locking of wheels equipped with hydraulic brakes. The bike can stop without skidding under hard braking. When rider presses the brake lever it applies variable pressure to the brake pads hence making sure that the brakes maintain maximum pressure. Therefore it imparts safety and comfort and hence, 47% respondents feel that it is important to introduce ABS in bikes less than 200CC.

• 53% respondents show their interest in high power gearless two-wheelers. This serves the dual purpose of the comfort of riding gearless scooters in traffic intensive areas; and the penchant for power. The remaining 47% respondents represent the category which associate gearless vehicles with low power and would not prefer the otherwise as they feel high powered bikes need proper gears for their efficient functioning. • In city driving, high torque makes driving more relaxed as you have more responsive acceleration and fewer gear changes. Reflecting this, almost 70% of the respondents feel that torque is essential for their bikes. 40% of the respondents feel that a comfortable driving position is essential for a two-wheeler for the sheer physical efforts are needed to ride one, routinely on the erratic roads.

• 31% respondents feel that a good grip is important to manoeuvre the vehicle on the roads with ease. Secondary Research –Study of product innovation in Two Wheelers 1. Mileage 1. Modified Silencer and Air Intake System – Modifications in the design of silencer (pre warming up of the air) combustion efficiency of the engine has been increased; thereby mileage is increased in the range of 90-95 km/l of petrol (that is 55 km/l with existing silencer). At the same time, due to increased level of combustion, pollution gets reduced. Innovator further claims that the pickup in the range of 0-50 km has been reduced to 8 sec (from 12 sec).

2. Double milage technology- with same fuel mileage attended is almost double. 3. CO2 / Gas Composite Regulator An inexpensive, highly versatile CO2/Gas Regulator that controls high-pressure gas cartridges or cylinders with adjustable flow ranges of from 1 to 150 PSI. The single-stage stock regulator reduces a wide variety of high-pressure gases from extremely high pressure to as low as 20 PSI. The dual-stage stock regulator reduces the high pressure gases to an output pressure as low as 5 PSI.

And with simple modifications, accurate flow rates as low as 1 PSI are attainable. The regulator is threaded at the bottom to accept 1-12 UNF Threaded Innovations cups. Adapters are available for most threaded cartridges. A dual stage regulator is also available to reduce the flow rate even further. Power Low power bikes Mopeds-Mopeds are a type of low-powered motorcycle designed to provide economical and relatively safe transport with minimal licensing requirements. Mopeds were once all equipped with bicycle-like pedals (the source of the term, motor + pedal), but moped has been increasingly applied by governments to vehicles without pedals, based on their restricted engine displacement, speed, and/or power output.

Mopeds occasionally resemble powered bicycles, but most are now step-through designs (of both kinds, having either large or small wheels) and step-over designs similar to a regular motorcycle. Although mopeds usually have two wheels, in some jurisdictions low-powered three or four wheeled vehicles are also classified as mopedsScooterettes- If the metal bodied scooters have fallen out of the consumers’ choice, scooterettes have been climbing up the popularity charts lately. These set of two wheelers are a hit among people over the age group of 45, women and the young adults. These two wheelers are lighter which makes them easier to handle, they come with a digital ignition system to do away with the inconvenience of the kick start. They also have smaller wheels for better balance and maneuverability. They cater to the load carrying and personal transport requirement of most urban two wheeler user.

scooterettes and moped segment amount for a quarter of the two wheeler market share in India and about 8% of all the exports which takes place from the country. High Bower bikes Interconnect Technology In contrast to most conventional power packs, the Z-Force Interconnect system uses a highly conductive and flexible wiring harness that is low resistance and maintains superior connectivity over time. The harness consists of braided conductors that are mechanically pressed into the terminals of the battery cells. After years of enduring the vibrations and quick impacts commonly found on the road or trail the resistance of the connectors in the power pack remains low and firmly intact. The low resistance keeps the pack running cool and reduces the amount energy wasted in the form of heat.

This allows for Zero’s high-current power packs to be air-cooled and sometimes sealed, further reducing cost, improving performance and increasing reliability. Safety 1. Antilock brakes Antilock braking systems continue to be refined for motorcycles. Bikes that have antilock brakes can help the rider brake quicker no matter what they might run into on the road. This can help them avoid accidents and remain in control.

2. Airbags Everyone knows about airbags as a standard safety feature for cars, but some motorcycles also utilize this technology. Mostly found behind the windscreen, bike airbags are typically meant to help riders should they have a head-on collision. Leather motorcycle jackets have helped protect riders for years, but another developing technology is gear that has airbags built in them – such as suits, jackets and helmets. 3. Design A motorcycle is designed to be aesthetically pleasing, but the construction can also help the driver keep the bike in control.

Some bikes are intentionally made longer or wider to help with traction and control. Another important factor in choosing a motorcycle design is its size and weight. Be sure to get a bike with a size that is appropriate for your strength and skill level. Weight and seat height figures are typically listed for new motorcycles on the manufacturers’ websites. 4.

Anti-theft Some motorcycles come with anti-theft alarms and other technology to deter thieves. Ask about these when shopping for a bike. It’s smart to always take additional precautions, such as locking your motorcycle to an immovable object. 5. Lights Lighting features on a motorcycle serve two important purposes: first they allow the rider to see when it is cloudy or dark out, and second, they allow other vehicles to see the rider and give them adequate space on the road.

Many bikes have special lights that are reflective as well as provide near and far distance lighting so the driver can see well. Conclusion The 2 wheeler industry is a very exciting sector with huge opportunity for growth and innovation. 2-wheelers specially empower developing countries. Consumers want optimum mileage and are concerned towards the environment. They want clean/alternate fuels.

But they don’t trust the premium fuels much which means they don’t see much of a value addition because of it. People want 2-wheelers with huge front cowls which explains the success of Yamaha. Safety is of topmost priority for the consumer and that’s why they would like to see the innovation airbags and they are trying out tubeless tyres. Majority have considered changing their tyres after Ceat’s be idiot proof commercials. There is mixed response to ABS. Half the population wanted high engine capacity gearless 2-wheeler e.

g. kinetic blaze. Torque is important as well as seating comfort is. ———————– Study of product innovation in Two-Wheelers and its impact on consumer preference in India 2012