Solar-Electric Auto Rickshaw IPRO 351

Our Team Mission

"To provide India with a cleaner and environmentally friendly auto rickshaw that is both economically and technically Feasible"



What We've Been Doing

Research on:

Business and the MarketTechnology





Background

 Auto rickshaws are the most popular means of transportation

• Available in diesel, CNG, and LPG

Start of a five year vision

Business Team

Research Objective

- Identify Manufacturers of auto rickshaws; their sales and distribution figures.
- Accomplishment

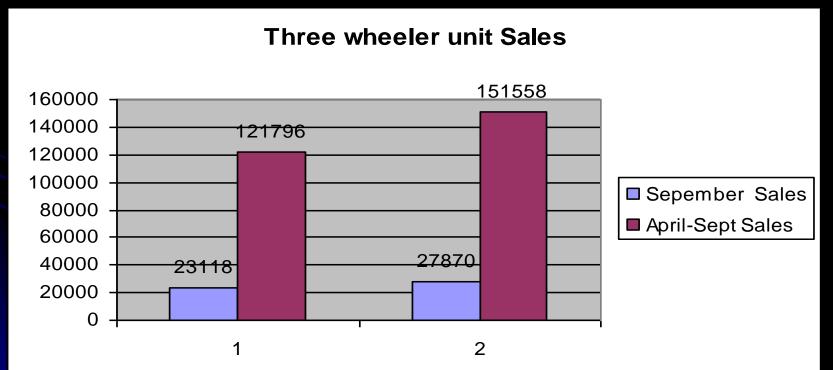
Market is dominated by Bajaj Auto

Other Manufacturers

- Force Motors
- Atul Auto Limited

Bajaj Auto

• Three- wheeler market Share of 80% (According to Hindu Business Line)



Oil Dependency

- Research Objective:
- India's dependence upon foreign oil.
- Accomplishment:
- India's imports about 70% of their oil
- Expected to rise by 240% to 5 million barrels a day by 2020.
- (currently about 2.09million bbl/day, CIA Fact book)

Government Policies

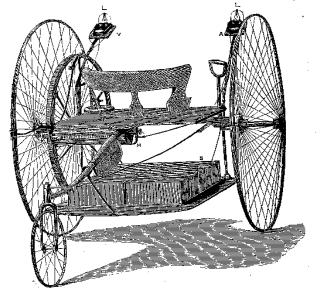
- Reduction of foreign oil dependence
- Promotion of the development of renewable energy source
- Expansion of a cost effective energy supply
- Provide renewable energy to remote areas

What needs to be done

- The profile of the auto rickshaw owner/operator.
- Summary of Economic Issues, Governmental Issues
- Cost Analysis
- Sensitivity Analysis

Technology Team









Technology Goals

Design hybrid/solar auto rickshaw for India

Develop energy effective rickshaw

Suggest (high cost or low cost?) rickshaw

Accomplishments

- Initial design for passenger rickshaw without solar pad
- Simulation result of ADVISOR

What needs to be done

Choose electrical specifications based on simulations

Customize design and leverage costs

Next Steps

- Interface solar pad in design
- Search for actual electrical components
- Make analysis for cost and efficiency aspects

Problems

User research is taking longer than anticipated

Trim Design Phase

Task Timeline

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Final Thoughts

