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# Effect of Increase in the Price of Petroleum and Increase in the Sales of Electric Scooter

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**Abstract:** *Our paper is among the first to measure the potential effect of increase in the price of petroleum vs increase in the sales of electric scooter. With the prices of petrol inching closer to Rs 100 per liter, the demand for battery operated scooters is on the rise as people want to save on fuel cost. As a result, the sale of e-scooters has increased considerably in the city. buyers of two-wheelers are also evincing interest in purchasing e-scooters and making enquiries about vehicles in the local showrooms Okinawa, a large scooter manufacturer in India, recently reported a 30% sales jump in the last quarter alone. The company attributes this largely to the rise in gasoline prices. Without being tied to a pump, electric motorcycle riders are insulated from fluctuating gasoline prices, and can instead “fill up” on much less expensive electricity from any wall outlet.*

## I. INTRODUCTION

An electric scooter is a battery-operated one-person capacity vehicle that is specially designed for people with low mobility. It is generally used by those who have difficulty walking or standing for long periods of time. Scooters are available in three common designs, those intended for indoor use, those for outdoor use, and those that are used for both. An electric scooter is different from a motorized wheelchair, in that the wheelchair is generally intended for indoor use and usually costs a great deal more. An electric scooter may have three wheels or four. Since it runs on battery power, it does not create pollution. A typical electric scooter requires a pair of batteries, but the batteries are rechargeable. The length of time an electric scooter can run on each charge depends significantly on its battery's type and capacity. The most common batteries are advertised to run for about eight hours, and between 20-30 miles, before needs to be charged. Some people are a little wary of purchasing an electric scooter because they fear it will be difficult to operate. In fact, the control console makes it quite simple once a person gets the feel for it. Electric scooters are also equipped with advanced brake systems, so 2 PROBLEM STATEMENT Nowadays, small scooter becomes popular especially during recreation time, relaxing and for human exercise after they had faced their office job. There is a lot of scooter type around us like have seated or stand while riding the scooter. Most of that is operation by motor electric or just using our leg to move scooter like playing skate board. The problem is, most of that scooter is not flexible although it is already small. Even though some manufacturer make it can be flip, but there is just only a few part to be that like seat, handle, and sometime arm bar. Most of flip small scooter are operate by swinging rider leg to move it. Some of the scooter looked not so ergonomic and cannot be use for a long time. Even for an electric scooter, most of that can't be flip. Usually just their seat and handle can be up and down to flip. Sometime this will cause a lot of space for storage and difficult to bring far from house like to put it into the car and so on. stopping is simple and comfortable. The brake begins to engage as soon as the operator lets off the throttle, so there is little chance for abrupt or jarring stops. Most scooters also have a parking brake to keep the electric scooter from rolling when parked.

## II. OBJECTIVES

- 1) Fabrication model development of single seater electric scooter.
- 2) CAE analysis on main structure and rear arm of the electric scooter fabrication model.

### A. Scope Of Work

The following studies are including in the design and development of single seater electric scooter:

- 1) Literature study
- 2) Conceptual design
- 3) CAE analysis
- 4) Fabrication model refinement

### III. METHODOLOGY

- 1) Literature study
- 2) Conceptual design
  - Sketching several type of design based on concept that being choose.
  - State the dimension for all part
  - Draw the sketching model using SOLIDWORKS software
- 3) Computer Aided Engineering (CAE) analysis
  - Analysis the design for strain stress structure by using ALGOR.
  - Define critical point.
- 4) Fabrication model refinement
  - Fabricate the scooter according to the design.
  - Refinement at several part of joining and sharp edge.
- 5) Materials selection
  - Selected the true material based on model design and criteria.
  - Light, easy to joining and easy to manufacture.

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