

Operations Management and Strategy Recommendations for Consumer Electric Vehicles

Executive Summary

Electric vehicle technology for consumer and commercial purposes has gained a lot of momentum over the past few years mainly due to the development of a highly efficient and energy-dense Li-ion battery pack. This report discusses and recommends operational aspects of the setting up, functioning, and future development of the company in the EV market. We discuss the key findings of market analysis, challenges in the market, battery technology, charging, and safety and recommend the way forward. These points form the basic pillars of the entire organization and help them sustain any unforeseen challenges.

Due to climate change initiatives, both Canada and the United States have set aggressive targets for the integration of battery electric vehicles. Aggressive demand and growth are forecasted in the next 40 years with high revenue potential for companies to take advantage of.

Consumer perception studies show that driving range, cost, and infrastructure to be the key concern points. Our regulatory framework includes customer incentives, infrastructure policies, and unaddressed regulation. Customer incentive increase of \$8500 to support EV consumers, 25%-100% of parking space in all buildings to be EV charging compatible and use of direct recycling method for Li-ion battery was one of our key strategic recommendations in regulatory challenges.

In terms of technical characteristics, it is important to understand the current and future battery technologies and weigh out our current position. Technical analysis has been done and key recommendations for the way forward have been suggested. The report also concentrates on the charging capabilities and the infrastructure required to make the consumer experience smooth when transitioning from an ICE vehicle. However, it is important to understand the type of charging tech, the battery technology and to combine them both with the right battery management technology (BMS). Finally, the Safety of passengers is the highest priority. Safety can be categorized into two major classifications, structural and battery pack safety. Structural safety is a set of standards that all automakers are required to follow. However, EV-specific safety like the battery pack safety depends on the chemistry, type of cells, build quality. Reliability or the life span of the battery pack is proportional to customer satisfaction.

