

## INTISARI

Kendaraan listrik merupakan salah satu inovasi teknologi yang dapat mengatasi permasalahan krisis energi dan peningkatan polusi udara karena emisi gas buang khususnya yang berasal dari sektor transportasi. Konsep elektrifikasi kendaraan telah diterapkan di seluruh dunia pada berbagai jenis kendaraan mulai dari kendaraan pribadi hingga kendaraan umum salah satu contohnya adalah *Neighborhood Electric Vehicle* (NEV). Untuk menyesuaikan upaya komersialisasi NEV di Indonesia, perlu dilakukan penyusunan model bisnis dan analisis kelayakan yang disesuaikan untuk implementasinya di Indonesia. Penelitian ini bertujuan merancang model bisnis komersialisasi NEV dan melakukan analisa kelayakan bisnis apabila diterapkan di Indonesia.

Perancangan model bisnis menggunakan konsep *Business Model Canvas* yang tersusun oleh sembilan komponen diantaranya *customer segments*, *value propositions*, *customer relationships*, *channels*, *key partners*, *key activities*, *key resources*, *revenue streams* dan *cost structure*. Dihasilkan tiga jenis model untuk implementasi NEV di Indonesia, diantaranya model bisnis untuk manufaktur NEV, *dealer* NEV, dan *rental* NEV. Berdasarkan hasil analisis kelayakan, menunjukan bahwa ketiga model bisnis tersebut layak untuk dijalankan. Bisnis manufaktur NEV menghasilkan nilai NPV sebesar Rp 12.557.203.971 dengan IRR 41,18%, B/C ratio sebesar 1,08, dan *Payback Period* selama 2 tahun 4 bulan. Untuk bisnis *dealer* NEV menghasilkan nilai NPV sebesar Rp 4.916.212.393 dengan IRR 42,26%, B/C ratio 1,09, dan *Payback Period* selama 2 tahun 3 bulan. Sedangkan bisnis *rental* NEV menghasilkan nilai NPV Rp 2.425.008.383 dengan IRR 39,59%, B/C ratio sebesar 1,16, dan *Payback Period* selama 2 tahun 5 bulan.

Analisis sensitivitas menggunakan metode *one at a time* dengan variasi perubahan pada salah satu parameter *input*. Untuk bisnis manufaktur NEV, variasi perubahan parameter yakni pada kenaikan harga material dan kenaikan biaya operasional menghasilkan kesimpulan bahwa nilai NPV sangat sensitif terhadap kenaikan harga material namun tidak sensitif terhadap kenaikan biaya operasional. Dan untuk bisnis *dealer* dan *rental* digunakan variasi perubahan parameter input yang sama yakni penurunan pendapatan dan kenaikan biaya operasional, menghasilkan kesimpulan bahwa nilai NPV sangat sensitif terhadap kedua parameter *input* tersebut.

**Kata kunci:** *Neighborhood Electric Vehicle* (NEV), *Business Model Canvas*, Analisis Kelayakan, Analisis Sensitivitas.

## ABSTRACT

*Electric vehicles are one of the technological innovations that can help to overcome the energy crisis problem and decrease air pollution from the transportation sectors. The concept of vehicle electrification has been applied worldwide to various types of vehicles, from private vehicles to public transportation, one of the example is the implementation of Neighborhood Electric Vehicle (NEV). In order to adapt the NEV commercialization in Indonesia, it is necessary to develop business models and the feasibility analysis of those models. This study aims to design a business model for NEV commercialization and conduct a business feasibility analysis of the NEV implementation in Indonesia.*

*The business models in this study used the concept of a Business Model Canvas which is composed of nine components including customer segments, value propositions, customer relationships, channels, key partners, key activities, key resources, revenue streams and cost structures. Three types of models were generated for the implementation of NEV in Indonesia, including business model for NEV manufacturers, NEV dealers, and NEV rentals. Based on the results of the feasibility analysis, it shows that these three business models are feasible to be implemented. The NEV manufacturing business generated an NPV value of IDR Rp 12,557,203,971 with an IRR of 41,18%, a B/C ratio of 1.08, and a Payback Period of 2 years and 4 months. For the NEV dealer business, the NPV value is IDR 4,916,212,393 with an IRR of 42,26%, a B/C ratio of 1.09, and a Payback Period of 2 years and 3 months. Meanwhile, the NEV rental business generates an NPV value of IDR 2,425,008,383 with an IRR of 39,59%, a B/C ratio of 1.16, and a Payback Period of 2 years and 5 months.*

*The method used for the sensitivity analysis was the 'one at a time' method which give variations for one of the input parameters. For the NEV manufacturing business, the variations of input parameters analyzed were the increase in material prices and the increase in operating costs, lead to the conclusion that the NPV value is very sensitive to the increase of material prices but is not sensitive to the increase of operating costs. And for dealer and rental businesses, the variations of input parameters analyzed were the decrease in income and the increase in operating costs, lead to the conclusion that the NPV value is very sensitive to those two input parameters.*

**Keywords:** Neighborhood Electric Vehicle (NEV), Business Model Canvas, Feasibility Analysis, Sensitivity Analysis