

ABSTRAK

Industri transportasi sedang mengembangkan teknologi kendaraan hemat energi dan ramah lingkungan. Salah satunya adalah sepeda motor listrik. Penggunaan motor listrik akan bergantung pada performa baterai. Pemerintah berupaya menyediakan layanan pengisian baterai yang efisien, yaitu *battery-swap*. *Battery-swap* memungkinkan pengguna mengisi daya dengan cepat melalui penukaran baterai di stasiun khusus. Bisnis *battery-swap* memerlukan strategi pengembangan usaha yang tepat. Oleh karena itu, penelitian ini bertujuan merancang model bisnis yang optimal bagi *stakeholder* terlibat dalam bisnis *Battery-swap station*.

Penelitian ini memberikan lima alternatif model bisnis dengan mengacu pada tiga elemen model bisnis, yaitu *value proposition*, *value creation & delivery*, dan *value captures*. Analisis teknikal *batter-swap* juga dilakukan untuk sebagai pertimbangan dalam membangun stasiun baterai. Kelima model bisnis kemudian akan dianalisis biaya serta kelayakannya baik dari sudut pandang bisnis keseluruhan maupun *stakeholder*.

Hasil analisis menunjukkan bahwa dari lima alternatif model bisnis yang ditawarkan, Model bisnis terbaik pertama, yaitu pengembangan model bisnis 3, dimana produsen dapat menjual dan menyewakan motor ke konsumen, mengelola stasiun penukaran baterai serta memungkinkan pembeli untuk menyewa ataupun membeli motor. Model bisnis ini memiliki NPV senilai Rp 95.691.988.033; IRR senilai 17%; dan B/C Ratio senilai 1,19. Model bisnis terbaik kedua, yaitu pengembangan model bisnis 5, dimana *Battery-swap station* memberikan pilihan layanan menyewakan atau menjual motor kepada konsumen. Peranan produsen yaitu menjual motor kepada *Battery-swap station*, dan konsumen dapat membeli serta menyewa motor listrik melalui *Battery-swap station*. Model ini memiliki NPV senilai Rp327.093.209.589; IRR senilai 29%; dan B/C Ratio senilai 1,6.

Kata kunci: Model Bisnis, Motor Listrik, *Battery-swap station*, Analisis Biaya, Analisis Kelayakan.

ABSTRACT

The transportation industry is developing energy efficient and environmentally friendly vehicle technology. One of them is an electric motorcycle. The use of an electric motorcycle will depend on battery performance. The government is trying to provide efficient battery charging services, namely battery-swap. Battery-swap allows users to charge quickly through battery exchanges at special stations. The battery-swap business needs the right business development strategy. Therefore, this study aims to design an optimal business model for stakeholders involved in the Battery-swap station business.

This study provides five alternative business models by referring to three elements of the business model, namely value proposition, value creation & delivery, and value captures. Batter-swap technical analysis is also carried out for consideration in building battery stations. The five business models will then be analyzed for costs and feasibility both from the perspective of the overall business and stakeholders.

The analysis shows that of the five alternative business models offered, the first optimal business model, namely the development of business model 3, where producers can sell and rent electric motorcycle to consumers, manage battery exchange stations and allow buyers to rent or buy electric motorcycle. This business model has a NPV of IDR 95,691,988,033; IRR of 17%; and B/C Ratio of 1.19. The second optimal business model, namely the development of business model 5, where the Battery-swap station provides the choice of renting or selling a electric motorcycle service to consumers. The role of producers is to sell electric motorcycle to the Battery-swap station, and consumers can buy and rent electric motorcycles through the Battery-swap station. This model has an NPV of Rp327,093,209,589; IRR of 29%; and B/C ratio of 1.6.

Keywords: Business Model, Electric Motor, *Battery-swap station*, Cost Analysis, Feasibility Analysis.