



INTISARI

Batu bara merupakan komoditas yang cukup penting bagi Provinsi Jambi. Berdasarkan data Badan Pusat Statistik, pada kuartal pertama tahun 2022, nilai ekspor batu bara mencapai 10,75% dari total keseluruhan nilai ekspor. Selain di ekspor, hasil tambang batu bara juga digunakan untuk keperluan dalam negeri. Pengangkutan yang digunakan saat ini hanya melalui jalan umum. Penggunaan jalur tersebut mengakibatkan banyak timbul permasalahan seperti kecelakaan lalu lintas, kemacetan, dan konflik sosial. Sehingga jumlah kendaraan yang diperbolehkan untuk melintas di jalan umum dibatasi. Hal tersebut mengakibatkan rencana target produksi tidak tercapai, hanya 17,3 juta ton dari 40 juta ton pada tahun 2022. Oleh karena itu perlunya jalur-jalur lain untuk pengangkutan seperti sungai, jalan khusus, dan rel kereta api.

Penelitian dengan judul "Pemilihan Moda Angkutan Batu Bara di Provinsi Jambi" ini, dimaksudkan untuk menganalisis perjalanan angkutan batu bara menggunakan truk, tongkang, dan kereta api. Penelitian ini membahas rute terdekat, pemilihan moda, dan biaya angkut berdasarkan jarak tempuh dan waktu tempuh masing-masing moda. Pencarian rute perjalanan terdekat dilakukan dengan analisis spasial. Pemilihan moda dan rute dianalisis dengan menggunakan metode multinomial logit. Sedangkan biaya angkut dihitung berdasarkan prinsip biaya gabungan (*generalized cost*).

Hasil pemodelan pada pemilihan moda dan rute, pada saat musim hujan moda yang paling efisien adalah tongkang dengan probabilitas terpilih sebesar 72% dan rutenya 71%, dan saat musim kemarau moda truk dengan probabilitas 82% dan rutenya 52% untuk jalan umum dan 26% untuk jalan khusus. Probabilitas pemilihan antar moda diperoleh, angkutan dengan moda tongkang (transit) adalah moda terefisien saat musim penghujan dengan probabilitas keterpilihan mencapai 67% serta rutenya 62% dan probabilitas sebesar 84% dengan kombinasi angkutan truk dan tongkang saat musim kemarau serta rutenya 42% jalan umum dan 46% jalan khusus. Hasil pemilihan antar moda dan perjalanan langsung diperoleh, probabilitas keterpilihan moda tongkang langsung 80% dan rutenya 68%.

Kata kunci: pemodelan; angkutan barang; multinomial; spasial; biaya gabungan



ABSTRACT

Coal is an important commodity for Jambi Province. Based on data from the Central Bureau of Statistics, in the first quarter of 2022, the value of coal exports reached 10.75% of the total export value. Apart from being exported, coal mining products are also used for domestic purposes. The transport used at this time is only through public roads. The use of these routes results in many problems such as traffic accidents, congestion, and social conflicts. Therefore, the number of vehicles allowed to pass on public roads is limited. This has resulted in the production target plan not being achieved, only 17.3 million tonnes out of 40 million tonnes in 2022. Hence the need for other routes for transport such as rivers, special roads, and railways.

This research, entitled "Modelling of Coal Transportation in Jambi Province", is intended to analyse coal transport trips using trucks, barges, and trains. This research discusses the closest route, mode selection, and transport costs based on the distance travelled and the travel time of each mode. The search for the closest travel route is done by spatial analysis. Mode and route selection were analysed using the multinomial logit method. Meanwhile, transport costs are calculated based on the principle of generalised cost.

Modelling results on the selection of modes and routes, during the rainy season the most efficient mode is barge with a selected probability of 72% and the route is 71%, and during the dry season the truck mode with a probability of 82% and the route is 52% for public roads and 26% for special roads. The probability of inter-modal selection obtained, transport by barge mode (transit) is the most efficient mode during the rainy season with a probability of selection 67% and 62% and a probability of 84% with a combination of truck and barge transport during the dry season and a route of 42% public roads and 46% special roads. The results of intermodal selection and direct travel obtained, the probability of choosing the direct barge is 80% and the route is 68%.

Keywords: modelling; freight transport; multinomial; spatial; generalized cost