

## INTISARI

Bank Indonesia menetapkan dua alat pembayaran yang sah yaitu, alat pembayaran tunai dan non-tunai. Uang kartal digunakan sebagai alat pembayaran tunai di Indonesia pada periode IV tahun 2015 (y-o-y) jumlahnya meningkat 11%. Hal ini mengindikasikan transaksi tunai masih menjadi pilihan masyarakat dalam menjalankan kegiatan ekonomi walaupun dalam beberapa tahun terakhir penggunaan uang elektronik mengalami peningkatan. Bank Indonesia, pihak yang berwenang mengeluarkan dan mengelola uang Rupiah bertugas memenuhi kebutuhan uang tunai masyarakat di seluruh wilayah Indonesia. Bank Indonesia membutuhkan jaringan distribusi uang yang berkualitas untuk menjalankan tugasnya dengan baik. Kualitas jaringan distribusi salah satunya ditentukan oleh jumlah dan lokasi jaringan distribusi.

Bank Indonesia ingin memastikan bahwa seluruh wilayah Indonesia dapat dijangkau. Hal ini bertujuan untuk menjaga kelancaran sistem pembayaran demi tercapainya kestabilan nilai Rupiah. Bank Indonesia berusaha terus meningkatkan pelayanannya untuk memenuhi kebutuhan uang tunai masyarakat dengan nominal yang cukup, pecahan yang sesuai, tepat waktu, dan layak edar. Belum tercapainya jarak tempuh  $\leq 150$  km ke setiap kota/kabupaten di Pulau Sumatra dari jaringan distribusi Bank Indonesia *existing* menjadi evaluasi Bank Indonesia. Bank Indonesia ingin mencapai 100% *coverage* Pulau Sumatra melalui rencana pengembangan jaringan distribusi. *Maximal Covering Location Problem* (MCLP) digunakan untuk mengevaluasi penambahan jaringan distribusi terhadap *coverage* penduduk, bank, dan ATM di Pulau Sumatra.

Solusi penelitian ini mengusulkan sebanyak 41 lokasi jaringan distribusi uang Bank Indonesia untuk mencapai 100% *coverage* Pulau Sumatra, yang terdiri dari 20 lokasi jaringan distribusi *existing* dan 21 lokasi baru. Beberapa lokasi jaringan distribusi yang diusulkan memiliki batasan-batasan tertentu. Solusi 100% *coverage* menghasilkan *coverage* tambahan yang kecil seiring dengan bertambahnya jaringan distribusi. Solusi alternatif *coverage* optimal mengusulkan 29 lokasi jaringan distribusi uang Bank Indonesia di Pulau Sumatra. *Coverage* yang didapatkan dari solusi ini 91,14%. Jaringan distribusi pada solusi *coverage* optimal terdiri dari 20 jaringan distribusi *existing* dan 9 jaringan distribusi baru.

**Kata kunci** : MCLP, *coverage*, lokasi, distribusi uang

## **ABSTRACT**

Indonesia has 2 forms of payment that are cash payment and non-cash payment. Cash, an instrument used for cash payment in Indonesia, was increased 11% in fourth period 2015 (y-o-y). It indicates that cash is still being the main choice in economic activities even though the use of electronic money has increased in recent years. Central Bank of Indonesia, an institution which has authority for releasing and managing Rupiah, has a duty for fulfilling public cash necessity around Indonesia. Central Bank of Indonesia needs robust distribution network for ensure that public cash necessity is well-fulfilled. One way to determine the quality of the distribution network is knowing the number and appropriate location of distribution channel.

Central Bank of Indonesia wants to ensure that all Indonesia's regions can be covered. It aims to maintain the smooth and efficient operation of national payment systems in order to achieve stable currency value. Central bank of Indonesia tries to improve its services consistently for ensuring that the needs of public's cash is fulfilled in adequate amounts and appropriate denominations. The mileage  $\leq 150$  km to each cities in Sumatra island from existing central bank of Indonesia's distribution channel yet achieved, so that it become Central bank of Indonesia evaluation. Central bank of Indonesia wants to achieve 100% coverage in Sumatra island through distribution network development plans. Maximal Covering Location Problem (MCLP) was used to evaluate the addition of the distribution network in Sumatra island toward population, bank, and ATM coverage.

This research proposes 41 distribution channel and its location to achieve 100% coverage in Sumatra island, which consists of 20 existing distribution channels and 21 proposed locations. However, the 100% coverage solutions gives only small coverage addition after the addition of some distribution channels. An alternative solution for achieving optimal coverage in Sumatra island is by proposing 29 distribution channels of Central Bank of Indonesia and its location with coverage is 91,14%. Optimal coverage solutions consists of 20 existing distribution channel and 21 proposed locations.

**Keyword: MCLP, coverage, location, cash distribution**