A Novel approach to model airtime transform behavior using wavelet transform in Malaysian telecom market

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The ever dynamic Malaysian telecommunication industry is facing stiff competition amongst service providers with rapid introduction of innovative features and services such as airtime transfer, data sharing, mobile money, location aware apps, advanced social networking and several OTT services. The rules of competition are often being disrupted and newer basis beyond hygiene factors of network, quality, network coverage, customer service etc. bringing in paradigmatic shift in the industry. Consumers faced with newer and newer product features at very fast pace are realigning their preferences and choice of service providers more often now than in the past. **As** a result loyalty comes with shorter expiry date and currently a big challenge in high churn telecom industry.

The fast changing dynamics in the telecom market and availability of behavioral data manifested through log data has opened opportunity for novel application of wavelet transform to model this non linear and non stationary process. Wavelets transform enables accurate representation of relationships among telecom service users in time – space dimension. In this paper we examine the innovative offering of airtime transfer in telecom industry to identify and model new drivers of competition among telecom players in Malaysia. The novel approach used here also contributes a framework for analyzing behavior in several other contexts of transaction data available in financial services, retail, traffic management etc. The results are illustrated on real data available on airtime transfer.

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