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Estimating Long-Term Market Shares of GSM Operators by Using Markov Chains

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ABSTRACT

Providing communication opportunity and data transmission to people by GSM technology even in case of roaming cause the number of users increase all over the world. Therefore, communication sector is one of the prominent sector in Turkey. This statement can be supported by the followings. On the one hand, there are over 72 million mobile subscribers in Turkey. On the other hand, in 2015 Q2 Turkey has become leading country, which has average of 399 minutes call per users in the Europe. When the number portability system was activated, a cutthroat competition appeared between the GSM operators, and moreover, number porting transaction, which was over 85 million, was carried out up to now. 3rd- Generation mobile systems, were opened for use in 2009, have failed to satisfy increasing demands due to the fact that mobile subscriber count of 3G has reached saturation. Besides, it is expected that the competition between operators will increase further with an increasing data usage and 4.5G mobile systems, will be used in April 2016. In this study, Markov chains method was used for estimating long-term market shares of three major GSM operators in Turkey. Transition probability matrix and initial probability vector that are used for the solution of Markov chains, were obtained by making a questionnaire to 656 undergraduate and graduate students. According to the results that were obtained from the analysis, offering more economical fares to the subscribers or making more investment that will increase service quality were suggested.

KEYWORDS GSM Operators; Markov Chains; Market Share

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