

**Abstract**

**A Study on Fair Copyright Royalty Rates of Background Business Music Services Using Shapley Value Model**

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The purposes of this paper are to comprehend the BGM (Background Business Music) Market, to understand the different interests of various economic agents, and to provide the proper royalty or compensation rates under the current circumstances of CMO's rates increase proposal. Especially this paper try to generate the proper royalty or compensation rates from economic models. For this, we set up models that CMOs and BGM providers transact in the Upper market, and BGM providers and stores transact in the Lower market. With different assumptions of economic agents behaviors, we derive the proper royalty or compensation rates. Firstly profit maximization behavior of CMO is assumed, and later revenue sharing behavior with Shapley value model is assumed. After deriving the two solutions, we show that the fair royalty or compensation rates from Shapley value model is more suitable to the real economic situation than the profit maximization model solution. Having the solution of Shapley value, we calibrate the model with actual data to give the exact parameter values. The final results from the calibration process turn out to be the medium value of current and proposed compensation rates.

**Keywords**

Background Business Music, Royalty Rates, Compensations, Fair Rates, Digital Audio Transmission, Shapley Value, Calibration