**Investigating the Role of ICT Determinants of Private Commercial Banks with Stochastic Frontier models in Bangladesh**

**Abstract**

In global terms, ICT has been emerged as one of the biggest catalysts in banking sectors that is a blithe for Bangladesh banking industry and ICT metes out no exclusion here. This study measures the impact of ICT determinants on 17 private commercial banks (PCBs) in Bangladesh employing Stochastic Cobb-Douglas and Trans-log cost and profit efficiency models considering a panel data set during 2008-2017. The average cost efficiency score is made up to 65.8% and the average profit efficiency score has been made to 50.5% for PCBs for Cobb-Douglas cost and profit frontier analysis models while in Translog stochastic cost and profit frontier analysis models the average cost efficiency score and the average profit efficiency score have been made to 66.3% and 53.9% respectively. The IT personnel expenses (0.0018) and Credit Card Transaction (0.0013) are found positively significant for profit efficiency of Stochastic Cobb-Douglas profit frontier model while the IT personnel expanses ɸ5 (0.00087), ATM Card expenses ɸ7 (0.00306) and credit card transaction ɸ8 (0.00005) have impacted positively on the cost efficiency of Stochastic Cobb-Douglas cost frontier model . The ICT factors have positive impact on private commercial banks so it can be concluded that the Private commercial banking system are technologically more advanced.

**Keywords:** ICT, Stochastic frontier model, Private Commercial Banks, Bangladesh.

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