

Efficiency of Secondary Schools by ICT Intervention in Sylhet Division of Bangladesh

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Abstract : The objective of this study is to develop an appropriate stochastic frontier secondary schools efficiency model by ICT Intervention and to examine the impact of ICT challenges on secondary schools efficiency in the Sylhet division in Bangladesh using stochastic frontier analysis. The Translog stochastic frontier model was found an appropriate than the Cobb-Douglas model in secondary schools efficiency by ICT Intervention. Based on the results of the Cobb-Douglas model, it is found that the coefficient of the number of teachers, the number of students, and teaching ability had a positive effect on increasing the level of efficiency. It indicated that these are related to technical efficiency. In the case of inefficiency effects for both Cobb-Douglas and Translog models, the coefficient of the ICT lab decreased secondary school inefficiency, but the online class in school was found to increase the level of inefficiency. The coefficients of teacher's preference for ICT tools like multimedia projectors played a contributor role in decreasing the secondary school inefficiency in the Sylhet division of Bangladesh. The interaction effects of the number of teachers and the classrooms, and the number of students and the number of classrooms, the number of students and teaching ability, and the classrooms and teaching ability of the teachers were recorded with the positive values and these have a positive impact on increasing the secondary school efficiency. The overall mean efficiency of urban secondary schools was found at 84.66% for the Translog model, while it was 83.63% for the Cobb-Douglas model. The overall mean efficiency of rural secondary schools was found at 80.98% for the Translog model, while it was 81.24% for the Cobb-Douglas model. So, the urban secondary schools performed better than the rural secondary schools in the Sylhet division. It is observed from the results of the Tobit model that the teacher-student ratio had a positive influence on secondary school efficiency. The teaching experiences of those who have 1 to 5 years and 10 years above, MPO type school, conventional teaching method have had a negative and significant influence on secondary school efficiency. The estimated value of σ^2 (0.0625) was different from Zero, indicating a good fit. The value of γ (0.9872) was recorded as positive and it can be interpreted as follows: 98.72 percent of random variation around in secondary school outcomes due to inefficiency.

Keywords : efficiency, secondary schools, ICT, stochastic frontier analysis

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