Towards the Development of Timetabling Software for improving Decision-Making in Tanzanian Higher Education Context

Authors
Anna Kayanda, Lazaro Busagala, Matti Tedre, Solomon Oyelere

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Abstract:
Timetabling data are important in supporting decision-making process in higher education institutions in Tanzania. However, Tanzanian higher education institutions have for long been using off-the-shelf timetable software, whose inherent limitations are more likely to constrain decision-making process. It is in this light that this study was conducted to explore challenges faced by higher education institutions in the Tanzanian context on the use of the timetabling data for decision making support while ensuring manageable timetabling process for improved decision making. A mixed method strategy was adopted, in which a five-point Likert-scale questionnaire and semi-structured interview were used for data collection. The interview data were analyzed thematically and different themes were formed, whereas, quantitative data were analyzed for descriptive statistics and a t-test. The analyses show that most of the respondents considered timetable data very important in proper timetabling process and decision-making. Furthermore, the t-test shows that both students and lecturers think that the integration of timetabling software to their information system will solve most of their timetabling problems (p>0.001). As a result, this study proposes a timetabling architecture to aid higher education institutions in Tanzanian context in improving their timetabling process for better decision-making.

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