

Applying Business Intelligence Technology for Equipment Maintenance and Repair Plan of Telecommunications Services Provider

Sasiwimon Tanphet*, Paweena Wanchai*

* *Department of Computer Science , Faculty of Science, Khon Kaen University, Khon Kaen, Thailand 40002*

sasiwimon_t@kkumail.com, pwaweena@kku.ac.th

Abstract— The purpose of this study was to apply business intelligence (BI) technology for planning of equipment maintenance and repair. Multidimensional data model was designed as a star schema for multidimensional analysis, ad hoc analytics and online analytical processing. Moreover, data mining technique was utilized to figure out association rules of cause of difficulty and time of difficulty. This research applied Oracle Business Intelligence and Weka 3.6 as research tools to analyze the data of Maintenance Department of CAT Telecom Public Company Limited in Thailand from the past four years during 2013-2016 including 131,456 records. The findings revealed that applying BI to the organization was beneficial to executives since it provided various aspects of data which could be used for more appropriate and faster decision making and strategic planning.

Keyword— Business Intelligence (BI), Data Warehouse, Data Mining, Association Rules, Apriori



Ms. Sasiwimon Tanphet was born in Kamphaeng Phet, on November 9, 1992. She received the B.S. degree in Computer Information System from Rajamangala University of Technology Isan, Khon Kaen Campus (RMUIT), Khon Kaen, Thailand, in 2015. Currently, she is working toward the M.S. degree in Information Technology at the department of Computer Science, Khon Kaen University (KKU), Khon Kaen Thailand.



Dr. Paweena Wanchai is currently a lecturer at the department of Computer Science at Khon Kaen University, Thailand. She holds a PhD in Business Information Systems from the Auckland University of Technology, New Zealand. Her main research interests are in the area of business-IT alignment, IT strategy, enterprise resource planning (ERP) system, business intelligence, data and business analytics, data mining, data warehouse and strategic information systems.