Assessment 1: Final Exam: Practical Problems/Questions Information Systems and Business Analytics

TIME: 28.01.2021 11:30 (CET) till 29.01.2021 7:30 (CET)

Word count or equivalent: 20 hours

Instructions for students: By the end of the module, you will carry out an exam that intends to assess your understanding of the concepts covered in the module, and the ability to apply them. It will also assess your skills to answer questions within a timeframe and in a precise and concise manner. The assessment will mainly consist of questions related to the concepts and applications of Information Systems and the techniques used for business analysis (theory and practice). It will also be related to these topics:

* Analysis and Design of Information Systems
* Introduction to Business Intelligence
* Data handling and Business Intelligence
* Business Analytics: What-if Analysis
* Data clustering and Principal Component Analysis
* Business Analytics: Data Classification
* Balanced Scorecard and Strategy Indicators
* Introduction to Big Data
* NoSQL Databases
* Software for Business Intelligence

This exam is based on a case study. You are required to answer the following six questions. You can make drawings to support or clarify your answers.

Core textbooks:

Grossmann, W., Rinderle-Ma, S. (2015). *Fundamentals of Business Intelligence*. Springer. Howson C. (2013). *Successful Business Intelligence*: *Unlock the Value of BI & Big Data*.2nd Edn. McGraw-Hill Education
Jolliffe, I.T. (2002). *Principal Component Analysis*, 2nd Edn. Springer

Kecman, V., (2001). *Learning and Soft Computing — Support Vector Machines, Neural Networks, Fuzzy Logic Systems*, The MIT Press
Langer Arthur M. (2008). *Analysis and Design of Information Systems*, 3rd Edn. Springer. Ragsdale, C.T. (2017): *Spreadsheet Modelling and Decision Analysis: A Practical Introduction to Business Analytics* 8th Edn. South-Western.

Rainer R. K. , Prince B. (2017). *Introduction to Information Systems*, 7th Edn. Wiley. Satzinger, J. W., Jackson, R. B., & Burd, S. (2015). *Systems Analysis & Design in a Changing World,* 7th Edn. Cengage Learning

Hawking, P. and Sellitto, C., (2010). *Business Intelligence (BI) Critical Success
Factors*. ACIS 2010 Proceedings.
Kaplan, R. S., & Norton, D. P. (1996, p.74-85). *Using the balanced scorecard as a strategic management system.* Harvard business review.
Quinlan, J. R., (1986). *Induction of Decision Trees. Machine Learning 1: 81-106*, Kluwer Academic Publishers.
Rokach, L., and Oded, M. (2005, p. 321-352) *Clustering methods. Data mining and knowledge discovery handbook*. Springer US.
Pramodkumar J.S., Fowler M. (2013). *NoSQL Distilled: A Brief Guide to the Emerging World of Polyglot Persistence,* 1st Edn, Addison-Wesley Educational Publishers Inc.
Van Der Aalst W. and Stahl C. (2011, p. 1-40) *Information Systems: Introduction and Concepts. In Modeling Business Processes: A Petri Net-Oriented Approach*. MIT Press.