Framework to Build an Advanced Analytics Maturity Assessment Model: Questionnaire Design

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INTRODUCTION

Every minute of every day, a huge amount of data is created – social media, email communication, any device connected to the internet, google search. The future of digitalisation and internet of things promises a further generation of new data volumes. New advanced analytical approaches are required to deal with and make sense of large volumes of unstructured and structured data.

Data-driven business environment is a competitive advantage for any organisation. To ensure faster and smarter decision-making, organisations are forced to use advanced analytics to analyse the past, understand the present behaviour and predict and influence future events, actions, decisions and behaviour. Assessment of the advanced analytics ecosystem is crucial for further development, competitions in the market and to reach the strategic goals of the organisation. The assessment and understanding of the investments needed and next steps is critical to make the digitalisation process productive.

Advanced analytics can be described as a process of turning huge volumes of structured or unstructured data, statistical and predictive analytics into decision-making with a value to business. In addition, time after time it is accepted as predictive analytics, big data analytics, data mining and similar. This is a forward-looking technique that can provide insights from huge unstructured or structured data volumes. The techniques used include data mining, machine learning, forecasting, visualisation, semantic analysis, sentiment analysis, network and cluster analysis, multivariate statistics, graph analysis, simulation, neural networks and others.

MATERIALS AND METHODS

The questionnaire developed by the author is based on an academic literature review, reports and publications shared by the analytics sector, industry experts and the author's professional experience in the advanced analytics industry. The questionnaire design is developed based on 4 models with disclosed or semi-disclosed information to obtain data for modelling: 1) Analytics Maturity Quotient Framework (AMQ), Authors: Aryng, Data Science consulting, training and advising company; 2) DELTA Plus Model, Authors: International Institute for Analytics (IIA, Davenport); 3) Defining analytics maturity indicators (DAMI), Authors: Jasmien Lismont, Jan Vanthienen, Bart Baesens, Wilfried Lemahieu; 4) TDWI Analytics Maturity Model, Authors: TDWI (Transforming data with intelligence) training company.

RESULTS

The outcome is a questionnaire with 40 questions – single choice, multiple choice, text entry, matrix table, constant sum type questions allowing one to collect wide ranging and structured information. The main blocks are Demographics, Data management, Analytics, Process around data and analytics, People, Technologies, Culture, Leadership, Success drivers, Barriers. The questionnaire was launched on 20 December 2021 and now the field work is at the final stage. The author developed the new questionnaire, adjusted it for 2022, and localised it for Latvia.

DISCUSSION

Considering the increasing demand for advanced analytics including automated decision-making based on data, the significance of understanding the advanced analytics ecosystem maturity level in the organisations of Latvia is topical. The outcome is a core phase of the research paper "Challenges of Advanced Analytics Adoption in the

Organisations of Latvia" with the research goal to develop the Advanced Analytics Ecosystem Assessment and Recommendation Tool based on 'self-assessment' to improve the results of the organisation in accordance with the strategic goals of the organisation. The questionnaire design of the quantitative survey is the most significant step in building an assessment model that allows one to collect core data material to obtain the initial model. The domains and factors which determine the maturity of advanced analytics will be identified based on quantitative survey data using proper analysis such as clustering, factor analysis, correlation analysis and other relevant analytical methods.

CONCLUSIONS

The challenge was to create a questionnaire in Latvian because of missing relevant terminology in Latvian, thus, leading to the identification of potential new terminology to be developed and implemented in Latvian.

KEYWORDS: Advanced analytics, Analytics maturity, Maturity models, Maturity assessment