SCIENTIFIC ADVISOR'S REFERENCE

Program:	**Master in Business Analytics and Big Data**
Student:	**Alexander Marinskiy, Maksim Solonin**
Title of thesis:	**Creation of a churn model for the company and new processes for churn reduction**

Justification of the topic choice. Accuracy in defining the aim and objectives of the thesis. Justification of the topic choice; accuracy in defining the aim and tasks of the thesis; originality of the topic and the extent to which it was covered; alignment of the thesis' topic, aim and objectives.
The research considers the topic of churn modeling and is relevant both in Russia and world-wide, especially for mature markets. The aim and objectives of the thesis are well defined.
Structure and logic of the text flow. Logic of research; full scope of the thesis; alignment of thesis' structural parts, i.e. theoretical and empirical parts.
The text is rather well structured and fulfills the thesis scope. The distribution of contents between chapters could be improved, e.g. Chapter 1 should be more theoretical and focus on churn modeling in telecommunications in general, while Chapter 2 should focus on the case of TELE2 and start from company description and problematization.
Quality of analytical approach and quality of offered solution to the research objectives. Adequacy of objectives coverage; ability to formulate and convey the research problem; ability to offer options for its solution; application of the latest trends in relevant research are for the set objectives.
Alexander and Maksim reviewed existing methods and models for churn prediction, which are used in telecommunications. They selected five different classifiers for churn prediction and compared their performance for the TELE2's dataset.
Quality of data gathering and description. Quality of selecting research tools and methods; data validity adequacy; adequacy of used data for chosen research tools and methods; completeness and relevance of the list of references.
Original data – is the most problematic part of the current research. Company provided data with no semantics (only feature 1, feature 2 etc.), too anonymized. So, it was hard to reuse existing findings about churn prediction in telecommunication, for example, about known key influencing factors etc. It was especially frustrating because of a large body of existing knowledge in this field. Students and I tried to get some additional information about features from dataset, but we were unable to persuade the company.
Scientific aspect of the thesis. Independent scientific thinking in solving the set problem/objectives; the extent to which the student contributed to selecting and justifying the research model (conceptual and/or quantitative), developing methodology/approach to set objectives.
It seems that students could contribute to the domain of churn modelling in telecommunications, but since data was too anonymized, it is hard to compare students' results with existing papers.
Practical/applied nature of research. Extent to which the theoretical background is related to the international or Russian managerial practice; development of applied recommendations; justification and interpretation of the empirical/applied results.
Again, due to the very anonymized data, it was rather hard to make any specific recommendations for management. In spite of this, students tried to make the results more applicable in practice – they suggested the process diagram of customers retention using the model results, which is based on ANN algorithm.
Quality of thesis layout. Layout fulfils the requirements of the Regulations for master thesis preparation and defence, correct layout of tables, figures, references.
In general, the layout fulfils the requirements of the regulations for master thesis preparation and defence.
Originality of the text. All sources of match identified by the Safe Assign system follow the allowed cases, the paper does not contain any elements of plagiarism.
The thesis text is original and does not contain elements of plagiarism

The Master thesis of **Alexander Marinskiy, Maksim Solonin** meets the requirements for master thesis of Master in Business Analytics and Big Data program thus the authors of the thesis can be awarded the required degree.

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Scientific Advisor: Dmitry Kudryavtsev, Associate Professor