

## SCIENTIFIC ADVISOR'S REFERENCE

<b>Program:</b>	Master in Business Analytics and Big Data
<b>Student:</b>	Madiya Bano, Jerome Lambert
<b>Title of thesis:</b>	Comparison and optimization of IT coding platforms in educational context

<p><b>Justification of the topic choice. Accuracy in defining the aim and objectives of the thesis.</b> 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.</p> <p>Since the COVID-19 pandemic, cloud computing has become very widespread in teaching programming in universities, as is now the case in Graduate School of Management (GSOM). GSOM switched from computer classes to Jupyter Hub in the last few years and aims to understand how to improve its cloud computing use. This paper tries to understand how to optimize this cloud computing use and provide GSOM with recommendations for the platform usage.</p> <p>The goal of the master thesis is to find options to optimize costs incurred by GSOM for its cloud platforms and UX and scale up user usage of said platforms, as per a request from GSOM's IT department to have extended information about this, which is the reason behind the writing of this paper.</p> <p>Overall, the master thesis topic seems to be justified. The title, research problem, and research questions are clearly declared and specified. The goals are feasible, accurately expressed and aligned with the thesis' topic and content, the tasks are also well defined.</p>
<p><b>Structure and logic of the text flow.</b> Logic of research; full scope of the thesis; alignment of thesis' structural parts, i.e. theoretical and empirical parts.</p> <p>The work consists of the several parts that are related to the research questions. The first part describes the problem whether Jupyter Hub is, to start with, the most optimal choice for GSOM users' use of it or if other platforms might constitute a better choice in terms of costs, errors per hundred use, user-friendliness, et cetera. The second one is how to optimize the use of the platform, which is the most optimal to limit GSOM costs, increase user involvement, decrease users' pain, and, if possible, increase users' benefits in using the platform. This paper's third part question is about better understanding the students' opinions on this issue.</p> <p>Recommendations are also provided with identifying the various criteria that can be used to evaluate these platforms, such as ease of use, scalability, performance, security, and cost, and provide recommendations for selecting the most effective platform for a university's needs.</p> <p>Logic of research is clear from the structure and logic of the text flow within the paper.</p>
<p><b>Quality of analytical approach and quality of offered solution to the research objectives.</b> 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.</p> <p>The limited data analysis methods were used: data visualization and correlation analysis. Through the paper, authors did not use the deep or advanced analytical approaches but demonstrate ability to formulate and convey the research problem and to offer approaches to apply for the problem solving with respect to the latest trends in relevant research.</p>
<p><b>Quality of data gathering and description.</b> 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.</p> <p>The data used in this study consists of the attributes of platforms that GSOM's administration considered as alternatives for Jupyter Hub, internal logs possessed by Saint-Peterburg State University, Graduate School of Management, from now on referred to as SPBU and GSOM, and data collected by a survey among GSOM students.</p> <p>The data sources for the analysis were technical logs of the platform and the survey results that was sent to all GSOM students from all years, programs, and levels of study. The gathered data was properly described and analysed with an adequate methods.</p>
<p><b>Scientific aspect of the thesis.</b> 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.</p> <p>The main scientific contribution of the thesis is the attempt to offer an IT educational platform optimization approaches. The offered approach used selected based on up-to-date relevant scientific papers as well as on</p>

study of experience with modern industry solutions. Overall, the scientific contribution of the thesis is not outstanding but sufficient for the authors to be awarded the required degree.
<b>Practical/applied nature of research.</b> 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.
The findings made during this research can help forecast demand by summarizing the schedule of upcoming lectures and adding more cloud computing power to the server when many lectures are starting at once. This solution is easy to implement and should prove effective, even though this needs to be checked in future research.
<b>Quality of thesis layout.</b> Layout fulfils the requirements of the Regulations for master thesis preparation and defence, correct layout of tables, figures, references.
This literature review examines the current state of cloud-based programming platforms for universities, focusing on their comparison and optimisation for teaching and research purposes. Layout fulfils the requirements of the Regulations for master thesis preparation and defence. All the tables and figures are properly edited and represented.
<b>Originality of the text.</b> All sources of match identified by the Safe Assign system follow the allowed cases, the paper does not contain any elements of plagiarism.
All sources of match identified by the Safe Assign system follow the allowed cases, the paper does not contain any elements of plagiarism.

The Master thesis of Madiya Bano, Jerome Lambert meets the requirements for master thesis of MiBA program thus the author of the thesis can be awarded the required degree.

Date: 08.06.2023

Scientific Advisor: Tatiana Stanko

