

## REVIEW

**of the doctoral dissertation titled „The role of the education quality assurance system in shaping relationships among university education quality, academic citizenship behaviour and academic performance” written by mgr Mengyu Cao under the supervision of prof. Rafał Haffer and prof. Oivind Strand (Toruń 2025, pp. 307).**

The formal basis that allows me to prepare the review of the dissertation titled „The role of the education quality assurance system in shaping relationships among university education quality, academic citizenship behaviour and academic performance” written by mgr Mengyu Cao under the supervision of prof. Rafał Haffer and prof. Oivind Strand is the letter number 11.WNEiZ/5301/7/2025 from the chair of the Council of Scientific Discipline of Management and Quality Sciences (Rada Dyscypliny Naukowej Nauk o Zarządzaniu i Jakości) of the Nicolaus Copernicus University in Toruń dr hab. Agata Sudolska, prof. UMK dated 22<sup>nd</sup> of July, 2025. The letter informs me that on 25<sup>th</sup> of June, 2025 I was selected by that Council to be the reviewer of the dissertation. The dissertation is written on 307 pages, including table of contents, references and appendices. I further present the assessment of the dissertation in following aspects: the scope of the research, dissertation’s objectives, research questions, theoretical arguments, employed methods, results and conclusions.

### **The scope of the research, dissertation’s objectives and research questions**

The topic of the dissertation is very important both from the scientific and practical perspectives. There is still a lack of studies that comprehensively investigate the setup of educational services at higher educational institutions. More importantly there is a shortage of reliable studies that ask the question of the consequences of the design of quality assurance system. Hence, I appreciate the choice of topic and the width with which the author approaches the research problem.

The main objective of the dissertation is to investigate how does the design of the educational quality assurance system and its implemented activities affect the variables university education quality (UEQ), student loyalty (SL), academic citizenship behaviour (ACB), and academic performance (AP), as well as the relationships among them in different cultural context. As said, the objective is very broad. In my opinion the decision to capture a wide set of results of the design of the educational quality assurance system allows for reliable assessment of its impact. Moreover, the objective straight away draws the attention to the introduction of a new concept, academic citizenship behaviour which I find very intriguing.

The introduction sets a very broad background for the study and is already providing some theoretical arguments. Critically, the introduction justifies the choice of the outcomes of

the educational quality assurance system that are taken into consideration. It does it with broad knowledge presented by the author who tries to balance between various performance metrics, including satisfaction and governance.

At the same time, the introduction raises some questions. The mixed method research design presented on Figure 2 seems to split qualitative and quantitative research into two separate streams that are integrated only at the stage of interpreting the results. I wonder if this is a purposeful action and if it would be more beneficial if the results of one stream would be fed into the other to increase its insight. This could be done either way, qualitative study results could enrich the design of quantitative study or quantitative study results could provide additional scope for qualitative study. For instance, qualitative study asks about the measurements that are implemented in the educational quality assurance system of this university. Recognising those measurements could incorporate them in quantitative part of the research. Additionally, the quantitative research model presented in Figure 1 seems not to fully correspond with hypotheses in a way on how it pictures the moderation by Hofstede's cultural dimensions.

Despite the above questions and concerns the introduction sets a ground for very interesting investigation and is successful in highlighting the importance of research questions, providing research background and outlining the main research directions.

### **Theoretical arguments**

The theoretical part of the dissertation consists of two chapters. Chapter 1 presents the theoretical framework for researching quality of educational services in HEIs. It begins by exploring the multifaceted definition of quality, examining product quality, service quality, and total quality management concepts. The chapter presents the evolution of quality management approaches from basic inspection methods through quality control, statistical quality control, quality assurance, to comprehensive quality management systems. It then focuses specifically on quality management systems in higher education, analyzing university education quality assessment frameworks, defining quality management system components. The chapter concludes by examining the management of university education quality, including educational quality management systems with its components, and the role of external accreditation and certification in higher education quality assurance.

In my opinion chapter one has a logical structure, it evolves from presenting the general concepts such as quality to putting those concepts in a very specific context of higher educational services. What is also worth highlighting is the way in which the author attempts to find a link between quality management in higher education and more general management of quality in business entities. On the other hand, some specific solutions for higher education institutions are presented which is the starting point to the introduction of quality metrics at HEIs which is continued in the following chapter.

The section of the theoretical part of the dissertation that is critical for further empirical study is chapter 2 in which the author analyzes the complex relationships between university education quality and key academic outcomes. This chapter systematically develops the theoretical foundation and research hypotheses by examining the connections between the key concepts. Moreover, the chapter incorporates cultural dimensions as moderating variables, specifically examining how power distance, masculinity, and collectivism influence these relationships. Drawing on social exchange theory, cognitive consistency theory, and Hofstede's cultural dimensions theory, the chapter establishes 11 research hypotheses. It concludes with a comprehensive literature review that identifies significant research gaps in understanding these relationships, particularly in cross-cultural

higher education contexts and when students are viewed as active academic community members rather than merely customers.

The key concepts that are taken into consideration in the research framework are presented in the introduction to chapter two. The introduction is specific and to-the-point. However, the choice of key concepts could be more thoroughly described. The author seems to put more emphasis on concepts and variables than on the processes of the real world. Also, the concepts are not sufficiently explained, for instance it is not explained if academic performance is an individual or organizational-level metric. At the same time, some concepts and variables seem to be missing. The author states that the “research indicates that rather than immediately enhancing routine academic tasks, quality assurance systems largely improve governance and accountability” (p. 66). Then the question arises on why those are not included in the research framework. Despite those shortcomings, in my opinion the choice of concepts is logical and makes a very interesting starting point to empirical analysis.

The critical part of chapter two is the introduction of the concept of academic citizenship behaviour. In my opinion this is one of the strongest points of the dissertation. The term was introduced before more than a decade ago (Gore, Kiefner, & Combs, 2012; Petrella & Gore, 2013; Gore, Davis, Spaeth, Bauer, Loveland, & Palmer, 2014) and it is a shame that the author does not refer to this introduction nor to the introduction of the term of student citizenship behaviour (Khaola, Musiiwa, & Rambe, 2022; that term is referred to later in the chapter). Nevertheless, the previous use of the term was not entirely robust from the methodological perspective so the current introduction can be treated as novel and innovative. Incorporating the idea of organizational citizenship behaviour into the academic setting is fully appropriate, has an explanatory potential and allows to treat students as full members of academic community. At the same time, the author still takes into consideration the role of students as service receivers and tries to skilfully balance between those partly contradictory roles. As the introduction of the concept academic citizenship behaviour is in my opinion one of the central points of the dissertation there is a bit of shortage of its explanation and argumentation.

The biggest part of chapter two is the development of hypotheses. In general this is done properly, I also appreciate the use of social exchange theory and cognitive consistency theory to explain the hypothesised relationships. However, some hypotheses could be better supported with the literature, especially the hypothesised relationships could be put more directly in higher education perspective. When it comes to the hypothesised moderations of relationships by Hofstede’s cultural dimensions, a very strong limitations of that part of the model is that the cultural variables are dichotomous, which heavily limits the analysis. In that case, what would be sufficient to include in the model is a binary variable distinguishing between two countries and to use it as a moderator instead any of the three cultural dimensions. This would enable portraying the relationships in any of the two countries. Moreover, it seems that hypothesised moderations are first presented (on pages 79-80) and only later are explained and supported by the literature. There is also a bit of inconsistency in how hypotheses H8-H11 are formulated. H9 assumes a specific way of moderation, while other hypotheses just state that there is a moderation. In my opinion the moderation hypotheses should be as precise as possible. Moreover, H9 on p. 83 is different from the same hypothesis on p. 6 and p. 23. Despite those shortcomings, the hypotheses make sense and are well argued. It is only surprising that chapter two is not concluded with the research framework.

## **Methods**

Methods of the research are presented in chapter three. In my opinion some theoretical arguments are mixed in this chapter which is not necessary. The methods of quantitative study are presented on pages 94-97. There is a bit of shortage of information in that part. For instance, even though there is an information on the total number of students at two investigated universities, there is no information on the numbers of undergraduate and postgraduate business students at both universities who are in essence the population of the study. Also, I do not fully agree with the statement that the sample size is sufficient. This is partly dependent on the type of analysis that will be later conducted. If the sample will be analysed jointly then the sample size is acceptable. However, this raises a methodological concern of analysing two different groups at once. This opens the question about the independence of observations and applicability of multilevel approach. If, however, the samples will be analysed separately, then the size might be too small, especially in case of Norway. In addition, there is no information on population, sampling frame and number of distributed invitations, hence no information on the response rate and possible non-response bias.

The measures in the quantitative study could be better explained. For instance the dimensions of university education quality construct are presented in the methods section for the first time, while they should be discussed theoretically in the earlier parts of the dissertation. Measuring academic performance by grades might be misleading – quality is also about reliable grading scheme, the lack of it (hence the lack of quality) might lead to upgrading the students. The measurement of cultural dimensions comes as a bit of surprise, as previously the author discussed the scores for Poland and Norway and then the perception of culture is actually measured. Also, no control variables are presented in the methods chapter which raises the question if they were used at all. Despite the above concerns, the methodology of the study is robust. I was especially impressed by wide range of tests of validity of the measures.

## **Results and conclusions**

The results of the studies are presented in chapter four. Most of its space is devoted to presenting the results of case studies. The chapter starts with testing the validity of the measures. This is done properly, although there could be a bit more guidance for the reader, for instance the abbreviations could be explained in the footnotes to the tables. The analysis is run separately for each country which, again, raises the concern of the sample size.

The actual results of structural equations modelling are presented on just 7 pages (130-137) which seems a bit insufficient taking into consideration the number of hypotheses. The presentation of the results is a bit unclear, for instance it is unknown what kind of model is tested. Taking into consideration the complexity of the research framework, SEM models should be analysed hierarchically to test the direct relationships first, then the mediations and finally the moderations. This would allow the comprehensive understanding of the existing relationships. Additionally, it would help in the interpretation of the results if they would be presented in the tables. Again, models are analysed separately for each country. This could be avoided by pooling the samples and using a binary variable as a control variable to distinguish between countries. That variable could be later used to test moderations.

The results of the analysis of the moderations are somewhat confusing. There is no information on what kind of measures of cultural dimensions are used in the models. In the theoretical part of the dissertation the scores for Poland and Norway are presented, while in chapter three the measurement procedure is presented. I assume that the later method is used

to collect the data on culture, otherwise the whole analysis would be impossible. However, this raises a question on what exactly is measured. Hofstede in his works on culture stresses that there is a variation of perception of cultural dimensions in each society. The country scores are just means or typical values. The variation is caused by individual differences in personality, values or even gender (see the sample question for masculinity). Therefore, measuring cultural dimensions at the individual level does not really capture the culture but is more likely to capture that variability, hence personality and other individual-level phenomena. Additionally, the results are difficult to interpret, it is useful in presenting the results of moderation to present plots or at least perform a simple slope test to check if the main effect is conditional on the value of the moderator.

The quantitative analysis has one more potential danger. The starting point in the model is the university education quality. However, for all respondents (within one country) the university education quality is the same as they are the students of the same university. Obviously what differs is the perception of that quality, otherwise that variable would not be a variable as it would not vary across observations. For that reason, there is a threat of reversed causality and the influence of the variables that are exogenous to the model. For instance, students who perform better might do that because they are more intelligent and more engaged. Those students might in turn perceive the quality of education as higher than other students. They might also be more loyal to the university and behave in more citizen-like manner. Those kind of effects could be controlled for in the model.

The results of qualitative study are well presented. It would additionally help if the topics would be grouped and results synthetically presented in forms of tables. Also, direct comparison at the stage of presenting results would enable to present similarities and differences between universities in a better way. Those are presented in the later part of the chapter, so some content is presented twice.

The conclusion and discussion is presented in the last part of chapter four. Personally, I would prefer a more classical approach in which the results are discussed right after they are presented and where conclusion is the separate part of the dissertation. Despite that, the results are properly discussed, although that discussion could refer more to the previous research findings to ensure bigger contribution to the knowledge base.

## **Conclusion**

In my opinion the dissertation makes a very valuable contribution to the body of knowledge on management of higher education institutions, especially to the research on quality of educational services. What is the most important and valuable in my opinion is the research on the relationships between academic citizenship behaviour, student loyalty and academic performance. The introduction of the concept and term of academic citizenship behaviour is for me a very strong point of the dissertation.

To conclude, in my opinion the dissertation is a very good piece of theoretical considerations and empirical research. Among the strengths of the dissertation the most important are:

- careful approach to the concept of quality of higher educational services and its management,
- comprehensive research model taking into consideration complex relationships among variables,
- variety of metrics of results of educational quality assurance system reflecting the expectations of various stakeholders,
- clear objectives and research questions,
- introduction of the concept of academic citizenship behaviour,

- strong foundation of hypotheses in social exchange theory and cognitive consistency theory,
- putting the researched relationships in the culture-specific context,
- application of mixed method approach.

At the same time, the dissertation has some shortcomings, for instance:

- the concept of academic citizenship behaviour could be better explained,
- in addition to the above, other concepts, such as student loyalty and academic performance could be explained as well,
- qualitative and quantitative studies could be more intertwined and aid one another,
- the way of developing theoretical arguments is a bit awkward – hypothesising first and looking for research gap later,
- sample size is merely acceptable,
- ambiguous measurement of dimensions of culture,
- lack of clarity when it comes to the use of control variables,
- insufficient presentation of quantitative results.

Taking into consideration the language, the thesis is well written, the language is not only appropriate from purely linguistic perspective, but well adjusted to scientific argumentation. There are just some minor spelling and grammatical mistakes. Some figures could be prepared with more emphasis on quality. Also some headings are spread into two pages which could be corrected.

After carefully reading the dissertation two questions arise:

1. What is the possibility of reversed causality? Could there be an effect of exogenous variables? If there could be, what kind of exogenous variables could there be?
2. Were any control variables included in the quantitative study models? If there were not, what kind of control variables could be taken into consideration?

**Taking into consideration the strengths of the dissertation and some shortcomings, I conclude that the doctoral dissertation titled “The role of the education quality assurance system in shaping relationships among university education quality, academic citizenship behaviour and academic performance” written by mgr Mengyu Cao under the supervision of prof. Rafal Haffer and prof. Oivind Strand at the Faculty of Economic Sciences and Management of Nicolaus Copernicus University fully meets all the requirements set for doctoral dissertations (Ustawa z dnia 14 marca 2003 roku o stopniach i tytule naukowym oraz stopniach i tytule w zakresie sztuki - Dz. U. 2003 Nr 65, poz. 595 z późn. zm.; Ustawa z dnia 20 lipca 2018 r. – Dz. U. 2018 poz. 1669 z późn. zm., art. 179.2.). The dissertation is a prove of the overall theoretical knowledge of the author in management science and the skills in conducting research independently. The dissertation originally solves the scientific problem. I therefore recommend the Council of Scientific Discipline of Management and Quality Sciences (Rada Dyscypliny Naukowej Nauk o Zarządzaniu i Jakości) of the Nicolaus Copernicus University to allow the public defence of the dissertation. In my opinion the dissertation should be awarded for its quality and academic rigor. The research is ambitious in theoretical argumentations and empirical research and brings valuable contributions to the body of knowledge of managing quality in higher education institutions by investigating relationships between university education quality, student loyalty, academic citizenship behaviour and academic performance.**

Biorąc pod uwagę zalety recenzowanej pracy i pewne niedociągnięcia, uważam, że rozprawa doktorska pt. "The role of the education quality assurance system in shaping relationships among university education quality, academic citizenship behaviour and academic performance" napisana przez mgr Mengyu Cao pod opieką naukową prof. Rafała Haffera oraz prof. Oivinda Stranda w Wydziale Nauk Ekonomicznych i Zarządzania Uniwersytetu Mikołaja Kopernika w Toruniu w całości spełnia kryteria stawiane przed rozprawami doktorskimi (Ustawa z dnia 14 marca 2003 roku o stopniach i tytule naukowym oraz stopniach i tytule w zakresie sztuki - Dz. U. 2003 Nr 65, poz. 595 z późn. zm.; Ustawa z dnia 20 lipca 2018 r. – Dz. U. 2018 poz. 1669 z późn. zm., art. 179.2.). Praca prezentuje ogólną wiedzę teoretyczną autorki w dyscyplinie nauki o zarządzaniu oraz umiejętność samodzielnego prowadzenia pracy naukowej. Przedmiotem rozprawy jest oryginalne rozwiązanie problemu naukowego. W związku z powyższym rekomenduję Radzie Dyscypliny Naukowej Nauk o Zarządzaniu i Jakości wniosek o dopuszczenie jej do publicznej obrony. W moim przekonaniu ze względu na jakość i rygor akademicki praca powinna być nagrodzona. Jest ona ambitna w sferze teoretycznej i przeprowadzonych badaniach, a także wnosi wartościowy wkład w wiedzę o zarządzaniu jakością w instytucjach wyższej edukacji poprzez zbadanie zależności między jakością usług edukacyjnych, lojalnością studentów, akademickimi zachowaniami obywatelskimi oraz efektywnością akademicką.

#### References

Gore, J. S., Kiefner, A. E., & Combs, K. M. (2012). Personality traits that predict academic citizenship behavior. *Journal of Applied Social Psychology*, 42(10), 2433-2456.

Gore, J. S., Davis, T., Spaeth, G., Bauer, A., Loveland, J. M., & Palmer, J. K. (2014). Subjective well-being predictors of academic citizenship behavior. *Psychological Studies*, 59(3), 299-308.

Petrella, M. V., & Gore, J. S. (2013). Relational self-construal and its relationship to academic citizenship behavior. *Psychological Studies*, 58(2), 115-121.

Khaola, P. P., Musiiwa, D., & Rambe, P. (2022). The influence of social media usage and student citizenship behaviour on academic performance. *The International Journal of Management Education*, 20(2), 100625.

