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**Review of the doctoral dissertation prepared by Miss Rosa Elia Martinez Torres, MA,
titled *Sustainable management model applied to Metallic Mining Industry in Mexico:
Case study in San Luis Potosi,***

accomplished under the supervision of Professor dr hab. Mariusz Bednarek

1. The relevance of the choice and originality of the research problem

The reviewed dissertation includes 204 pages and consists of five chapters ending with Findings and conclusions, as well as the list of references and relevant appendices. According to the title of the thesis, its subject matter relates to sustainable management and sustainable development, while in the analytical part, research on the recommended management model was carried out, basing on selected regional case. The latter is a mini region and at the same time the administrative unit of San Luis Potosi in Mexico, where rich deposits, including silver, are exploited.

The subject titled matter concerns interesting and important issues. Although, managing the economy in a sustainable manner is not a new field of research, but it is still an attractive topic area and worthy of research, anyway. Particularly case studies are valuable, such as the one in the reviewed thesis. Managing the economy in a sustainable manner is an intensively developing discipline of science, also present in economics, where the so-called ecological economy emerged. Therefore, the choice of the research problem is accurate, and the doctoral dissertation of Rosa Torres is an original author's work.

2. Correctness and completeness of objectives and research hypotheses

The main objective of the dissertation was to develop a proposal for a sustainable management model to be implemented in the mining industry in Mexico. It is an interesting purpose, worthy of research, demonstrating the practical nature of the work and preview of applied knowledge. In addition to the main objective, specific objectives were formulated, two of which relate to carrying out particular analyzes. The latter is a misunderstanding of scientific objectives, unfortunately quite common, and it consists in confusing an objective with the way to achieve it, which is what analysis is to be done for.

The Authoress has defined research hypotheses in accordance with the canon of scientific works. I do not quote particular hypotheses in the review due to the limited space. However it should be emphasized, that their composition is logical and they are clearly focused on achieving the assumed objective, that is a prove of maintaining the logical discipline in the very thesis.

3. Thesis structure

The sequence of particular chapters does not raise any objections as it follows the rule "from general to particular". The first part discusses the organization of work and theoretical issues, followed by a descriptive part, and then by an analysis and discussion of the results achieved. So, we get - as the first - the chapter informing about the essence of the research problem and a second chapter, which is a theoretical extension of the concepts of sustainable development. The descriptive part is included in the third chapter and describes the characteristics of the mining industry in a selected region of the country. The last two chapters - the fourth and the fifth one - constitute the most important research part concerning the construction of a sustainable management model and its application in the analyzed region.

In total, we get a logical layout of dissertation, wherein the contents of particular chapters is consistent with their titles. The proportions between the chapters also do not raise any critics.

4. Assessment of the advancement level of the theoretical knowledge contained in the dissertation

Authoress generally made the right choice when discussing and using the various currents of the theory. First, as regards the basic concepts, she has limited description to the necessary explanations, not repeating commonly known elements. Secondly, somewhat an opposite, she focused on the shortcomings and imperfections of the previous theoretical approaches. This especially applies to sustainable management, i.e. the main slogan of the dissertation. Such an approach undoubtedly increased the originality of the dissertation, at the same time enabling the Authoress to show her own competences.

While talking about theoretical knowledge contained in the dissertation, it is worth paying attention to the terminological aspect omitted in the dissertation (or somewhere hidden in the contents). It is about the title concept of sustainable management. Is it a synonym for “environmental management”, or is it a novelty in management science showing a new approach, or maybe just a fashionable slogan? Or maybe it should be treated as a way to achieve the goals of sustainable development? Sustainable management concept is rarely met in the literature. It would be worth explaining in a discussion during the defense.

Sustainable management is no doubt strictly linked with sustainable development. The latter is a dynamic concept, constantly enriched with new elements. But when speaking of “environmental management”, also constantly developing, its dynamics is to a greater extent the effect of normative arrangements, especially those related to quality. Theoretical achievements in both of these research areas: “sustainable development” and “environmental management” are rich, although their history is only several dozen years old.

5. Assessment of the formal side of the dissertation

From the formal point of view, the dissertation meets the standard requirements, including editorial requirements. It is written in the correct language. Footnotes, tables and charts are properly prepared. The bibliography attached at the end of the work is rich and consists of 264 items. Authoress has fully mastered the workshop requirements for writing a research thesis.

6. Assessment of the knowledge of research methodology and applied research methods as well as the manner of presenting the obtained results

Miss Rosa Torres used a rich set of research methods. Thesis is dominated by the micro and mezo-economic approach (i.e. on a regional scale). She made the right choice of qualitative research methodology using the Simple Holistic Case Study. Miss Torres used her own observations and conducted follow-up interviews. In addition, she used standard quantitative methods, which are sufficient for this type of research.

It should also be emphasized that Authoress skillfully uses scientific terminology, is able to formulate evaluative opinions and draw general conclusions. Thesis is not overloaded with too much statistical data, which allows to emphasize its intellectual values.

The discussion of the results is logical and presents evidence confirming the correctness of the assumed hypotheses. Miss Torres pointed to the current shortcomings in management models and proved the necessity to use the sustainable management model.

7. General substantive evaluation. Advantages of the dissertation and the main shortcomings

The main objective of this research was to create a model of sustainable management that could be used in the mining industry in Mexico, and ultimately be a universal tool. It is an ambitious and difficult goal, and therefore the Authoress rightly calls her research only a proposal of such a model. The term "model" can be understood in different way. In the case of this work, it can be briefly defined as a set of concepts and activities that should be included in everyday economic activity, in this case concerning the mining sector. They are arranged according to the adopted order so as to avoid randomness that would disturb the sustainability of individual activities. The extensive analysis carried out (in Chapter IV, pp. 97–132) takes into account the variety of problems and processes that make up sustainable development. As a result, we get a compact set of mostly original recommendations.

What makes the so-called value added of this dissertation? So, the attention should be paid here to the detailed analysis of the management model used so far in the examined institutions. Miss Torres' critical analysis revealed existing vulnerabilities. The remedy for these shortcomings should, in accordance with the assumptions of this work, be provided

by the use of a her originally constructed proprietary model of sustainable management. This is the most valuable achievement of this dissertation.

The weaker sides of the dissertation are only a margin of this research. Speaking of the shortcomings, one should return to the title term "sustainable management" which, in the reviewer's opinion, is not a synonymous with "environmental management". The explanation of these terms was not properly displayed by the Authoress. In practice, especially in European Union, "environmental management" is based on certified activities, resulting, for example, from ISO 14001 and 26000 standards, moreover, these are model activities such as EMAS, Ecolabelling, Cleaner Production or the Deming's circle. These are all qualitative solutions. Perhaps not all of the activities listed here would be applicable in the mining industry, but the youngest ISO 26000 standard certainly is. It just contains recommendations in the field of sustainable development, which is an element of CSR - Corporate Social Responsibility. Coming back to the title slogan "sustainable management" - what is it then, assuming that it is not environmental management?

The second point that the reviewer would like to raise in the discussion section is the use of the Sustainable Principles and Legislative Parameters Measure. The Authoress mentions it when discussing the results of the work. I cannot find an overview of this measure in the methodology chapter. What is this indicator, what is its origin and how was it used in the work? What is its character?

Apart from the indicated above slight and perhaps debatable shortcomings of the reviewed thesis, it should be emphasized that it generally represents a high scientific level. It is largely based on own research, and some chapters may even be used as original source material from primary research.

The final results of this research confirm the Authoress' preliminary assumptions, including in particular the need for a comprehensive approach to environmental issues in business activity. All three hypotheses have been proven. It is worth emphasizing the logical orientation of the hypotheses, the first of which pointed to the shortcomings in the previous research on environmental practices in Mexico, the second talked about the need to apply practices consistent with the principles of Sustainable Development, and the third and most important stated that it was necessary to use a sustainable management model to

solve the problems identified in previous hypotheses. Thus, the research effort undertaken in the dissertation should, in practice, enable the improvement of the activities of the mining industry, that should be wished to.

8. Final conclusion

The advantages of this dissertation, demonstrated in the review, are undoubtedly dominant. The few shortcomings do not reduce the overall value of this work and do not affect the final positive opinion. Summing up the review, it should be stated that the assessed doctoral dissertation meets the requirements for doctoral dissertations according to the applicable rules, which allows for submitting an application for admitting Miss Torres to PhD defense process.

I would like to add that, in the opinion of the undersigned, the work deserves a distinction, which would mean its publication in the form of a monograph.

8. Wniosek końcowy

Zalety tej rozprawy, wykazane w recenzji, są niewątpliwie dominujące. Nieliczne niedostatki nie obniżają ogólnej wartości pracy i nie wpływają na ogólną pozytywną opinię. Podsumowując recenzję należy stwierdzić, że oceniana praca doktorska spełnia wymagania stawiane rozprawom doktorskim wg obowiązujących przepisów, co pozwala na postawienie wniosku o dopuszczenie Doktorantki do obrony.

Pragnę dodać, że zdaniem niżej podpisanego praca zasługuje na wyróżnienie, które oznaczałoby jej publikację w formie monografii.


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