**Reviewer 1**

*Methodology*

NOTE: Could the author introduce the methodology of structural convergence mention in the text in brief, not just reference it

RESPONSE: The necessary text was added on Page 5.

The research is based on a convergent methodology that pushes the interdisciplinary boundaries of knowledge about wildlife and technology through the mutual penetration and influence of various subject areas and information technologies. Convergence is seen as increasing and transformative interaction between scientific disciplines, technologies, communities and spheres of human activity to achieve compatibility and integration. Convergence is important for the information society, and analysis of the social consequences of convergence can solve problems that cannot be solved decided by the disciplinary science, as well as create. New technologies and knowledge based on the following principles: interdependence in nature and society; enhancing creativity and innovation in knowledge and technology through. Convergence/divergence processes; holistic system deductive approach; development of interdisciplinary high-level languages for new solutions and transmission new knowledge; ideological concepts of modern basic research. This is largely due to the combination of natural science and information technology, aimed at developing methods and technologies for creating “nature-like objects”, based on which technological convergence is formed. In turn, its embodiment in the economy is structural convergence, during which the principle of changing macro- and mesoeconomic proportions changes from sectoral to technological one.

*Results and Discussion*

NOTE 1. "Overcoming such "technological stagnation" requires the diffusion of convergent technologies in the structure of the extractive sector." Can the author explain more of this statement, and based on what?

RESPONSE: The necessary text with explanation was added on Page 7.

We consider technological stagnation as the long-term persistence of organizational, investment, and technical problems in the commercialization of new technologies in industry, because of which labor productivity grows at a slow rate or periodically declines. The way out of it is connected with using the capabilities of the most advanced technologies (in our case, convergent ones) to radically increase productivity in all sectors of the economy.

NOTE 2. Does Table 1 is developed based on what literature, or is it the opinion of the authors

RESPONSE: Under the Table 1, on Page 8, the following line added: “Source: Compiled by the authors based on research results”.

NOTE 3. Can the authors provide the definition, scope, and type of Industrial 4.0 before deepening into several technologies mentioned in the discussion. Also, providing the context on what technologies are already applicable in the extraction industry from other papers or reports is welcome.

RESPONSE: On Page 9, the text fragment was added to explain Authors’ position on Industry 4.0.

In general, Industry 4.0 is a concept of a new reality in the economy, in which the management of most processes will be fully or partially in a digital format (Deepika, David, Philip, Salim, 2021) and subordinated to artificial intelligence (Erboz, 2017), forming full-scale cyber-physical systems (Abu-Abed, 2022).

The diffusion of Industry 4.0 technologies in the mining sector creates a subsystem of innovative development – Mining 4.0, – which is characterized by digital twins of individual processes of mining and development of minerals, as well as digital clones of equipment (Vitor, 2022), blockchain in mining inspection (Pincheira, Antonini, Vecchio, 2022), widespread use of smart sensors, machine vision and learning (basics of autonomous machines) (Kodratoff, Moscatelli, 2021) as well as the expansion of the Internet of Things during the transition to completely unmanned enterprises.

*References*

NOTE: Please provide more references on Industry 4.0 and its adoption in the extraction industry.

RESPONSE: 13 references were added to revise the article accordingly this note.

**Reviewer 2**

*Introduction*

NOTE: Please explain the background of this research and relate the background to the research objectives.

RESPONSE: The necessary text with explanation was added on Page 2.

*Methodology*

NOTE: Please show the research flow to achieve the result of this paper.

RESPONSE: On Page 5, the subsection “2.4. The research Flow” was added.

*Results and Discussion*

NOTE: The results are very general and the discussion should be based on the comparison and contrast with the previous publications.

RESPONSE: On Page 10 (end of section 3 Results and Discussion), the discussion part was added. In the text with results, there were some small revisions done to specify them.

*References*

NOTE: The references are up to date.

RESPONSE: To revise this note, 9 new references were added (2021-2023).

*Other*

NOTE: Please rewrite the paper to show its significance of this paper for the readers. From the literature study, please summarize previous research and show the new knowledge obtained from its research.

RESPONSE: Literature review summarizing was added on Page 4.

**Reviewer 3**

*Introduction*

NOTE: add some more previous studies in order to find research gap.

RESPONSE: On Page 3, the paragraph with idea to fill this gap was added.

*Methodology*

NOTE: find suitable methodology to close the research gap

RESPONSE: On Page 5, in the beginning of subsection 2.2. “Research methodology”, the paragraph with description of methodology was added.

*Results and Discussion*

NOTE: write your discussion by considering results and theories

RESPONSE: On Page 10 (end of section 3 Results and Discussion), the discussion part was added.

*References*

NOTE: adjust

RESPONSE: To revise this note, 9 new references were added (2021-2023).