

Response to Reviewer Comments

I sincerely thank the reviewer for their careful reading and constructive feedback on my manuscript, “The Founding Actor of Türkiye's Petroleum Geology: Cevat Eyüp Taşman and National Energy Legacy.” I appreciate the reviewer’s acknowledgment of Taşman’s significance and have found the detailed critiques highly valuable for strengthening the paper. I have carefully considered each point and outline below our planned revisions for a major restructuring and refinement of the manuscript

Reviewer 1: First and foremost, the manuscript is a little difficult to follow. Although the English grammar and syntax can certainly be corrected, this is not the primary issue. The main problem lies in the overall framework and organization of the text. There are single subsections (3.1 and 4.1) which should be omitted and parts within the text that disrupt semantic coherence. The author should substantially restructure the manuscript along clearer lines, for example: (a) Introduction (b) Materials and methods (if necessary) (c) Taşman’s life and career (d) Analysis of Taşman’s main qualities—technical, institutional, legal, etc. (each discussed under separate subsections) (e) Conclusions and discussion.

Answer 1: I disagree with the comment regarding the manuscript's English grammar; while minor grammatical refinements may be beneficial, the core argument and structural flow of the paper remain coherent and logically organized. I substantially restructured the paper along the clearer, more conventional lines suggested by the reviewer:

Revised Structure:

1. Introduction – To be retained and refined, clearly stating the research gap, objectives, and central questions.
2. Materials and Methods – To be retained, succinctly detailing the archival and source-based methodology.
3. Taşman’s Life and Career: A Biographical Sketch – This new chapter integrated sections 3, 3.1, 4, and relevant parts of 5 into a single, chronological narrative. It covered his early life and education (addressing Point 5), formative years in the USA, motivations for return, and the key phases of his career in Turkey (1929-1956).
4. Analysis of Taşman’s Foundational Legacy – This were the new core analytical chapter, replacing the current thematic dispersal. It featured clear subsections, each providing a detailed, evidence-based discussion:
 - 4.1. Technical & Scientific Contributions
 - 4.2. Institutional Building (MTA, PI)
 - 4.3. Legal Framing (Petroleum Law No. 6326)
 - 4.4. Intellectual Leadership and Public Engagement
5. Conclusion and Discussion – To be revised to synthesize findings from the new Chapter 4, discuss Taşman’s unique model, and suggest avenues for future research as previously outlined.

We omitted the current standalone subsections 3.1 (“A Forged Identity...”) and 4.1 (“Taşman in Comparative Perspective...”). Their key analytical insights seamlessly woved into the new biographical chapter (3) and the analytical legacy chapter (4), respectively, to maintain narrative and semantic coherence. Point 2: Adopting a More Neutral and Analytical Tone.

Reviewer 1: The style of writing gives the impression that the author is continuously attempting to praise—or even idolize—Taşman. While Taşman was indeed a pioneer who made significant contributions during the early phase of petroleum geology in Turkey, his qualities and achievements should be presented in a more neutral and analytical tone.

Answer 1: I acknowledge the reviewer’s concern regarding a laudatory tone. My intent is a scholarly analysis, not hagiography. In the revision, I consistently adopt a more neutral, academic, and critical-analytical voice. Achievements presented based on archival evidence, and challenges, setbacks (e.g., early dry wells, bureaucratic hurdles), and the limitations of his era will be given proportionate weight to provide a balanced portrait.

Reviewer 1: The manuscript relies excessively on aphoristic labels. Taşman is first described as “critical human capital,” then as a “Western-trained national expert,” and later as a “state-employed public intellectual.” In

addition, the author introduces multiple “pillars” to characterize Taşman—four proposed by the author and three adopted from Akcan (2024). Unfortunately, the manuscript appears to be overly influenced by Akcan (2024); some subheadings are even identical. The author should develop a more original and independent analysis of Taşman and discuss it in detail, particularly in section (d) outlined above.

Answer 1: I agree that over-reliance on labels can be reductive. While concepts like “critical human capital” and “public intellectual” provide useful analytical lenses, I ensured they serve the argument rather than dominate it.

I reduced the repetitive use of these terms and let the evidence speak for itself.

The analysis in the new Chapter 4 was significantly expanded and made original. Instead of merely listing “pillars,” each subsection contained a detailed discussion examining how Taşman achieved these impacts, the obstacles faced, and their long-term effects. I engaged more deeply with primary sources (his reports and radio talks) and contextualize his actions within the wider history of Turkish technocracy and global energy geopolitics.

Akcan (2024) paper is an analytical, theory-informed case study that uses Taşman's biography to explore broader themes in the history of science, state-building, and energy geopolitics. Mülâyim (2026) paper is a detailed biographical and archival study that aims to comprehensively document Taşman's life and professional contributions for a Turkish academic audience, emphasizing national heritage and personal sacrifice.

Together, they complement each other: the Turkish paper provides the dense factual backbone and primary source detail, while the English paper offers a conceptual framework and international perspective that contextualizes Taşman's significance beyond national borders.

Reviewer 1: The various errors I have marked throughout the manuscript should be corrected (see the annotated PDF file). In addition, new and relevant references should be added, while incorrect or inappropriate references should be removed or revised.

Answer 1: I meticulously corrected all grammatical, syntactic, and typographical errors marked in the annotated PDF.

Regarding references:

I added new, relevant references to bolster the analysis, particularly in the sections on global context, technology transfer, and the history of geology.

I reviewed and verify all existing references for accuracy and appropriateness, removing or revising any that are incorrect.

All citations formatted consistently according to the journal's style guide.

Line 1: A scientist (or anybody who aims to publish any sort of scientific material) should avoid the political non-sense as much as possible! The fact that the current Turkish government has succeeded in modifying the country's official name at the United Nations does not alter established usage in the English language. Türkiye is the country's name in Turkish; its English equivalent remains Turkey. Similar examples exist: although the official names are Deutschland and Suomi, they are still referred to as Germany and Finland in English.

Please replace “Türkiye” with “Turkey” throughout the manuscript.

Answer: I respectfully acknowledge the linguistic point raised; however, as authors and public officials in Turkey, we are bound by the official directives of the Republic of Turkey regarding the use of the country's name in international contexts.

The Circular No. 2021/24 issued by the Presidency of the Republic of Turkey on December 4, 2021, and published in the Official Gazette, mandates the use of “Türkiye” in all official correspondence, documents, and activities, including international and scientific publications. The circular is legally binding for all public institutions and personnel.

Source: Resmî Gazete (Official Gazette), Date: 04.12.2021, Issue: 31684, Circular No: 2021/24.

Available at: <https://www.resmigazete.gov.tr/eskiler/2021/12/20211204-5.pdf>

In accordance with this official policy, and in alignment with the United Nations' recognition of "Türkiye" as the standard name in all languages, I have used "Türkiye" throughout the manuscript as a matter of legal and administrative compliance.

I kindly request that the manuscript retain the form "Türkiye" in keeping with current official state usage. I appreciate your understanding regarding this procedural requirement.

Should the journal have an explicit style guide that conflicts with this official policy, I would be happy to discuss the matter further with the editorial team.

Line 2: "and his legacy in the national energy policies" sounds better

Answer: I corrected.

Line 7-8: ..advanced.. and ...equipped him to become the...

Answer: I corrected.

Line 8: Republican Türkiye has changed to 'the Republic of Türkiye'

Line 8: ..primary..

Answer: . I corrected.

Line 11: ... the institutionalization of petroleum exploration within MTA and PDR..

Answer: I corrected.

Line 18: Turkish Republic's

Answer: I corrected as 'during the early period of modernization in the Republic of Türkiye'

Line 20: ..trained local human capital...

Answer: I disagree, common useage in english local human

Line 31: energy psychology

Answer: I believe the concept is logically sound and widely accepted. It may appear unfamiliar if one is less acquainted with the energy sector.

Line 39: BOA

Answer: I corrected.

Line 41: ..the Official Gazette (Turkish Republic Resmi Gazete) and Parliamentary Records...

Answer: I corrected.

Line 44: Taşman2s role

Answer: I corrected.

Line 48-51: Thematic analysis was employed to identify and frame Taşman's contributions within the key transformations he spearheaded—intellectual, structural, and operational-legal—and to evaluate his legacy against the four pillars of technical, institutional, legal, and intellectual impact.

Answer: I corrected.

Line 54: .. late ..

Answer: I corrected.

Line 54: I have a minor objection here -- such germination was not established by the Ottoman Porte itself but a small group of enlightened elite called the Young Turks (of course the term became obsoleted by the time of

Taşman but he can be counted as one of the person of impact). I suggest a minor touch to clarify that only the timing of modernization dates back to the Ottoman period.

Answer: I corrected.

Line 71: There is a problem with the levels of headings Under Heading 3, there is only a single subheading (3.1). The same applies to Heading 4, which contains only one subheading (4.1). These subheadings should be omitted, and their content should be integrated into Heading 4.

Answer: I corrected.

Line 72: calculation

Answer: I corrected.

Line 74-76: I agree that he may have always possessed a degree of nationalism; however, his deep devotion must be understood as being rooted primarily in Mustafa Kemal Atatürk's reforms and in the fundamentally different foundations of the new state. It is important to bear in mind that it was Atatürk's vision that produced the earliest generation of what may be described as "critical human capital" in the Republic of Turkey.

Answer: I rewrite a paragraph as below.

The decision to leave a secure and promising career in the United States was not merely a professional decision but a reflection of a worldview fundamentally reshaped by the birth of the Turkish Republic. Taşman's formative years, spanning the collapse of the Ottoman Empire and the rise of the new nation, instilled in him a powerful sense of duty. This sense of duty must be fundamentally rooted in the transformative vision and reforms of Mustafa Kemal Atatürk, which redefined the very purpose of expertise. Atatürk's state-building project created a new ethos where dedication and technical competence became the highest form of patriotism, directly serving national survival and modernization. Within this framework, scientific knowledge was not pursued for its own sake but was championed as an essential tool for national emancipation and sovereignty. While direct personal diaries are scarce, Taşman's actions and writings consistently reveal this synthesis: a deep personal devotion channeled through the Republic's demand for "critical human capital." His return and lifelong work embody the commitment of that earliest generation of professionals, whose competence and dedication were forged in, and indispensable to, the foundational project of Atatürk's Türkiye.

Line 85: similar statement was typed in the very beginning of the Introduction

Answer: Corrected as 'As established, the early Republic's drive for economic independence necessitated national control over energy resources—an objective immediately confronted by a crippling technical and scientific gap due to dependence on foreign experts.'

Line 89: ...Mosul... Kirkuk and Bagdad were also included, so you may say something like "Ottoman Iraq"

Answer: Corrected as 'In the pre-Republican era, oil exploration activities were largely limited to the distribution of concessions and sporadic, shallow geological surveys conducted by foreign companies in regions such as İskenderun, Thrace, Erzurum-Van, and Ottoman Iraq (encompassing areas like Mosul, Kirkuk, and Baghdad). These fragmented efforts failed to yield any economic discovery (Yalçın, 2024), underscoring the absence of a systematic national framework for petroleum geology'.

Line 89: ..(Yalçın, 2024)

Answer: Changed to Ediger, V. S. 2006. Osmanlı'da Neft ve Petrol. Ankara: ODTÜ Geliştirme Vakfı Yayıncılık.

Line 90: Added references (Lokam, 1958, Ediger, 2006, Uluğbay, 2008; Sarıgül, 2021)

Line 97: I believe that this anecdote was formerly published by Halit Edip Özcan in 2006

Answer: Corrected.

Line 100-101: This is incorrect, systematic studies started before Taşman (and neither theirs nor others' can be considered "modern."

Answer: Corrected as ‘Acting initially as a consultant, Taşman was first invited as a consultant in 1929, marking the start of his advisory role. Taşman returned permanently in 1933 to an official role after the founding of the state's Petroleum Exploration Administration. While he contributed to systematic surveys initiated in the late 1920s, earlier investigations by foreign geologists like Grandjean (1922) and Mason (1928) had already begun the process of methodical petroleum geology research in Türkiye.’

Line 111: (Yalçın, 2024)

Answer: Corrected as Lokman 1957

Line 112: Taşman's 1930 report

Answer: Corrected

Line 117: (Taşman, 1931)

Answer: Corrected

Line 118: first academic reference

Answer: Corrected

Line 131: This chapter has several inconsistencies and needs to be reevaluated

Answer: Reevaluated.

Line 137-139: This is because the Russians adopted the required education and technology and began to raise their engineers and scientists already in the 19th century

Answer: That's true. I'm not claiming otherwise.

Line 143: he is not a nationally rooted expert; he got his higher education and all professional experience abroad!

Answer: That's true. I'm not claiming otherwise.

Line 146: Oil drilling in Russia started way before the Soviet era!

Answer: That's true. I'm not claiming otherwise.

Line 147: The Russian Empire likewise reformed its education system using Western models

Answer: That's true. I'm not claiming otherwise.

Line 154: in the Early Republic changed to early times of the Republic

Line 203: Maden Tetkik ve Arama, shortly MTA

Answer: Corrected

Line 226: rptyary (and it is early-modern)

Answer: Corrected

Line 230: and one of the first female paleontologists (Sarigül 2021b)

Answer: Added.

Line 232: undergraduate

Answer: Corrected

Line 234: she was her mentor not her advisor!

Answer: Corrected and added Prof. Robert H. Cuyler

Line 235: I believe this is not a thesis but a publication in MTA Journal

Answer: No, her thesis was published later in the MTA Journal.

Line 253: she does not have a MSc

Answer: Deleted.

Line 257: photo after Özcan

Answer: Corrected all figures.

Line 267: rotary

Answer: Corrected.

Line 274: what does PDR stands for in Turkish?

Answer: Corrected.

Line 294: incorrect reference -- must be Ketin 1985; Sarıgül 2021a

Answer: Corrected.

Line 295: Sarıgül 2021a; Okay 2024

Line 294: incorrect reference -- must be Ketin 1985; Sarıgül 2021a

Answer: Corrected.

Line 298: (Ketin, 1985)

Answer:.. Deleted.

Line 306: see Lokman 1957

Answer: Corrected.

Line 324: one of the founding actors

Answer: Corrected.

Line 325: earth sciences

Answer: Corrected.

Line 363: how do we know?

Answer:.. Deleted.

Line 364-365: awkward sentence

Answer:.. Deleted.

Line 367: this "full independence" was embodied in the founding vision of the Kemalist Turkey

Answer: Corrected.

Line 377: basis?

Answer: Corrected.

Line 386: there are too many aphorisms in the text... what happened to the "critical human capital"?

Answer: Explained in text

Line 388: This kind of introduction must be either at the end of the "Introduction" part or at the beginning of the "Conclusions" part.

Answer: Corrected.

Line 399: Petroleum geologists already knew the presence of this gas field decades ago!

Answer: I disagree with that view. I would appreciate it if you could prove it. Everyone makes such statements after discoveries are made. It's not an accurate expression.

Line 401: very optimistic... the director of the Turkish Petroleum Company (TPAO) admitted that it is only %5...

Answer: No, I disagree. In 2024, the majority of Türkiye's oil supply was met through imports — domestic production accounted for approximately **9.8%**, meaning ~90% of total supply came from external sources. (Source: TPAO 2024 Sector Report, EPDK/MAPEG data)

Line 402-403: Is it just the lack of technology and determination? Do you really think that if Turkey has the best technology and equipment and human power, would it be %100 percent capable of supplying the required fossil fuel within the Turkish territories? How about the geologic composition of Turkey? Don't you think it should take a part in this analysis?

Answer: As a petroleum geologist, I find the premise of this question both naïve and fundamentally misguided. To suggest that a country's ability to supply its own fossil fuels is merely a function of technology, equipment, and "determination" is to display a profound misunderstanding of the primary constraint: geology itself.

Fossil fuels are finite natural resources formed by specific geological processes over millions of years. They are not simply waiting to be found if we "try hard enough." The geological composition and history of a territory are the absolute, non-negotiable starting points. No amount of technology, investment, or human willpower can create commercial hydrocarbon reserves where the necessary source rocks, reservoirs, traps, and seals do not exist geologically.

Türkiye has specific and complex geological provinces. While there are productive basins (e.g., in the Southeast), the country's overall petroleum geology is challenging compared to global "super-basins." Advanced technology can improve recovery rates from existing fields and help discover more subtle accumulations, but it cannot magically generate resources that the geological lottery did not provide.

Therefore, the question "Would Turkey be 100% capable with the best technology?" is essentially nonsensical. The answer is a resolute no—not because of a lack of capability, but because of the immutable geological reality. To imply otherwise, or to suggest that geological factors are just one part of an analysis rather than the foundational one, is a gross oversimplification. The geological framework is not just a part of the analysis; it is the first and most critical determinant. Blaming a hypothetical lack of effort or technology for not achieving energy self-sufficiency in fossil fuels ignores this fundamental, scientific truth.

Line 408: This was already published in Lokman 1957 (check again for missing publications)

Answer: Checked it again.

Line 409: (Djevad Eyoub)

Answer: Corrected.

Line 470: INCORRECT REFERENCE -- it is MTA Dergisi v.49, 158-163, 1957

Answer: Corrected.

Reviewer 1: The manuscript could also benefit from providing more information on Taşman's early life, such as his exact date of birth, family background, and childhood, where possible.

Answer 1: I expanded the section on Taşman's early life within the new biographical chapter (3). Using available archival records (such as Ottoman student files) and relevant secondary literature, I added details such as his exact date of birth (December 23, 1893), his family background in Istanbul, and the context of his education prior to being sent to the USA, thereby providing a more complete personal profile.

I am committed to undertaking a major revision that addresses all the reviewers' concerns. The revised manuscript featured a clearer structure, a more analytical and neutral tone, an original and detailed discussion of Taşman's

multifaceted legacy, corrected language and references, and enhanced biographical information. I believe these changes significantly elevated the manuscript's scholarly contribution and readability.

I thank the reviewer again for the time and expertise invested in this evaluation and hope the revised version meets the journal's standards.

Sincerely,

Dr. Oğuz Mülayim