**Responses to reviewers’ comments**

**For reviewers**

We want to thank you for your comments. We appreciate your help in improving our paper. Following your comments, we made several changes designed to strengthen the conceptual basis of our study.

**Reviewer 1**

**Comment 1:**

Even though, the related literature has been explained, the scope considered in your study (time and service call) is still vague. Explanations of the study needs to be stated as well as ideas that may take the work further. The second section should emphasise the importance of the overview of the health clinic and maintenance based on single base station scattering distance (e.g. sophistication of the Internet, maintenance policy, Private finance initiative) rather than the importance of the MMMS implementation.

**Respond to comment 1**

Thank you for your insightful comments and suggestions regarding our manuscript. We have carefully considered your feedback and have made several revisions to address the concerns raised.

1. Regarding the scope of our study, as highlighted in the **Introduction** section (highlighted in red in the paper), we have provided a detailed elaboration on the study’s scope of time and service call.
2. In response to your suggestion to add ideas that may extend the work further, we have enriched the i**ntroduction** section with potential avenues for future research. Our novelty is exploring a decentralised context that provides a fresh perspective distinct from existing studies, primarily focusing on more centralised organisations with unique cross-section analysis. (highlighted in red in the paper).
3. Concerning your third remark about emphasising the overview of the health clinic and maintenance, we address this comment in two directions: First, we developed a new section in the literature review titled **Scattered location problems related to maintenance management systems** that provides a general perspective about scattered organisations with an emphasis on healthcare clinics.

Second, we elaborated on SAP and ERP in the **introduction,** emphasising the importance of ERP systems in maintenance activities. In the second section, the **Healthcare clinic’s maintenance management system,** we elaborated on the SAP software the health clinic uses and in the data collection section (highlighted in red in the paper).

**Comment 2:**

Further, this paper lacks the critical analysis of literature and related findings. Thus, the originality and significance of the literature findings are questionable. It is necessary to critically evaluate the key literature to provide a solid basis for developing the finding.

**Respond to comment 2**

We added literature and references in the **Results** Section that provide a solid foundation for developing the findings and related previous studies to the results of our research.

(highlighted in red in the paper).

**Comment 3:**

The sample, non-response bias test needs to be detailed. Why the quantitative analysis is required?

**Respond to comment 3**

Thank you for this elaborate insight. The research data encompassed the entire population of maintenance records gathered over the study period. Since the research utilised the complete set of maintenance data before and after the system implementation, non-response bias is impossible. Including all relevant maintenance logs within the analysis timeframe avoids potential issues with missing data or skewed perspectives.

In aligning with established literature and prevalent research methodologies in the field, we opted to conduct our study analysis utilising a quantitative model. Within the literature review section, we delineated the foundational literature and sources, selecting a research method and analysis approach as outlined in our article. The following excerpt is a pertinent paragraph from the body of the article “Maintenance optimisation and improvement refers to analysis from mathematical models (de Jonge & Scarf, 2020). An optimal periodic inspection model for failure was based on a hypothetical example using the gamma process (Abdel-Hameed, 1987). van Noortwijk (2009) suggested using the gamma process as a model for optimising maintenance, which has been proven to be useful in determining optimal inspection and maintenance decisions. Optimal maintenance decisions can be made by using the gamma process because of its variety of uses (Kallen & Van Noortwijk, 2005). Another maintenance model for managing the failure behaviour of technical systems, in particular electrical and electronic faults, uses the Poisson process (Hosseini et al., 1999). The Poisson process is a good basis for research that predicts the corrective maintenance of other failure process types (Andrzejczak et al., 2018)”.

**Comment 4:**

The results can be presented mapping with the purpose and related research objectives. The consistency of results needs to be improved. Comprehensive inferences should be included.

**Respond to comment 4**

We have restructured the Results chapter to present the research findings clearly and consistently while linking the key findings to the original research hypotheses and situating them within the relevant literature. Each major finding is analysed in terms of its relationship to the pre-defined hypotheses, allowing assessment of whether the data supports or disproves each proposed hypothesis. References to established theories and prior studies are also provided alongside the findings to compare and contrast the current results with existing knowledge.

**Comment 5:**

Methodology: I think you should provide more discussion regarding survey methodology. For instance, include those discussing survey research in SCM (e.g., Forza (2002)).

**Respond to comment 5**

Thank you for your suggestion regarding survey methodology, as referenced in Forza (2002). In our study, the data collection approach was inherently shaped by the utilisation of the organisation’s SAP system. This choice was driven by the integral role of the SAP system in the organisation’s operations, offering access to real-time operational data that was crucial for our research objectives. While traditional surveys provide valuable insights, the direct extraction of data from the SAP system was more congruent with our aim to investigate practical maintenance aspects in an authentic organisational context. This methodology ensured the integrity and relevance of the data collected. Additionally, I would like to point out that this methodological approach, including its rationale and implications, is further elaborated in the **data collection** section of our study (highlighted in red in the paper).

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**Additional Questions**

**Comment 1:**

Originality: Does the paper contain new and significant information adequate to justify publication?: The originality of this research needs far more attention.

**Respond to comment 1**

Thank you for the feedback. We acknowledge your concern regarding the originality of our research and have made revisions to highlight this aspect in the **introduction and literature review sections** (highlighted in red in the paper).

The study’s originality is further discussed via the lens of the RBV theory. It introduces a novel aspect to the existing literature concerning decentralised organisations. The introduction and literature review identified limited research using real-life data. Our novelty is that exploring a decentralised context provides a fresh perspective distinct from existing studies, which primarily focus on more centralised organisations with unique cross-section analyses. (highlighted in red in the paper).

**Comment 2:**

Relationship to Literature: Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an appropriate range of literature sources? Is any significant work ignored?: Even though, the related literature has been explained, paper lacks the critical analysis such as other type of condition-related scattered location problem to emphasise the important of MMMS.

**Respond to comment 2**

In response to your comment that a more thorough critical analysis is required, we have added a new section called “**Scattered location problem related to maintenance management systems**” that provides a general perspective about scattered organisations (highlighted in red in the paper).

**Comment 3:**

Methodology: Is the paper’s argument built on an appropriate base of theory, concepts, or other ideas? Has the research or equivalent intellectual work on which the paper is based been well designed? Are the methods employed appropriate?: Unsatisfactory. need to verify further.

**Respond to comment 3**

We greatly appreciate the insightful feedback. In response, we have made significant revisions to our paper to address these concerns in the **introduction, literature review, discussion and conclusions** (highlighted in red).

We have employed the RBV theory in evaluating the operational implications of MMMS. In addition, we extended and improved the theoretical base by adding various papers to identify equivalent intellectual work.

**Comment 4:**

Results: Are results presented clearly and analysed appropriately? Do the conclusions adequately tie together the other elements of the paper?: Need critical analysis of literature findings and quantitative results, as well as restructuring.

**Respond to comment 4**

Per your request, we have restructured the Results section to facilitate a clear and comprehensive presentation of the findings. The revised editing of this section aptly connects the research’s current findings with relevant literature. Furthermore, the Results section contextual references other article components, particularly research hypotheses and quantitative outcomes. This includes a critical analysis of existing literature within the quantitative results, contributing to an integrated and insightful portrayal of the research outcomes (highlighted in red in the paper).

**Comment 5:**

Implications for research, practice and/or society: Does the paper clearly identify any implications for research, practice and/or society? Does the paper bridge the gap between theory and practice? How can the research be used in practice (economic and commercial impact), in teaching, to influence public policy, in research (contributing to the body of knowledge)? What is the impact upon society (influencing public attitudes, affecting quality of life)? Are these implications consistent with the findings and conclusions of the paper?: No.

**Respond to comment 5**

Thank you for your valuable feedback regarding the implications of our research. We have addressed your concerns in the contribution section (highlighted in red in the paper) as follows:

**Research contribution:** Our study introduces a unique model based on real-life maintenance data and cross-sectional analysis, a novel maintenance facility management approach. This contribution enriches the existing body of knowledge and opens avenues for further research, especially in decentralised service organisations with limited empirical studies.

**Practical and economic contributions:** We demonstrate digital maintenance systems' operational and economic benefits, enhancing efficiency and competitive advantage in decentralised organisations.

**Society contribution:** Our findings enhance patient care in healthcare clinics and contribute to environmental sustainability through efficient maintenance practices.

**Comment 6:**

Quality of Communication: Does the paper clearly express its case, measured against the technical language of the field and the expected knowledge of the journal’s readership? Has attention been paid to the clarity of expression and readability, such as sentence structure, jargon use, acronyms, etc.: No.

**Respond to comment 6**

 Thank you for your valuable feedback on our manuscript. Further to your feedback, we performed an additional review of the manuscript with an emphasis on clarity of writing, particularly addressing English language syntax elements such as sentence structure, use of jargon, and abbreviations. We subsequently submitted the paper to a language editor who refined the grammatical calibre and alignment with the reader audience. The article readability has been markedly improved through these iterative writing enhancements to strengthen comprehension for the target publication viewership.