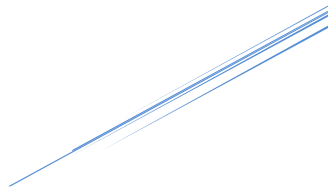


Sample Work- Research Proposal

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IMPROVE EFFICIENCY AND COSTING ON ELECTRICAL MOTOR



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1. Objectives

- To examine the functioning and design specifications of electrical motors as they are currently.
- To determine places where motor performance and energy usage could be improved.
- To look into cutting-edge manufacturing processes and materials to increase motor efficiency without sacrificing dependability.
- To create and test fresh control methods that improve motor performance in response to operating circumstances in real time.
- To perform a thorough cost study taking into account things like production, maintenance, energy use, and potential downtime.

2. Why I choose this topic concern

The issue of increasing the efficiency and cost-effectiveness of electrical motors has caught my attention because it has the potential to have a significant positive impact on a variety of sectors and the environment in a world that is quickly expanding and where sustainability and cost-effectiveness are vital (Wang *et al.* 2020). This decision is the result of a confluence of personal curiosity, societal importance, and the desire to help create a world that uses less energy. I will go into detail about the motivations behind why I chose to concentrate on this particular study topic in this article.

1. Individual Curiosity and Love of Technology

I have always been enthralled by the complex systems that keep the contemporary world running (Bartolacci *et al.* 2020). I have always been fascinated with electrical motors especially because of how commonplace they are and the important role they play in so many applications. It has always seemed magical to me how they, with varied degrees of efficiency, transform electrical energy into mechanical motion. My drive to learn more about the science underlying improving the performance of these motors evolved along with my grasp of technology and engineering principles.

2. Sustainable Practices and Environmental Issues

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The pressing necessity to solve environmental challenges is one of the motivating aspects for my choice of this subject (Meglin *et al.* 2019). Traditional electric motors have a sizable role in the world's energy use and greenhouse gas emissions. We can directly contribute to reducing energy usage and subsequently the carbon footprint by concentrating on increasing the efficiency of these motors. The search for green technologies that have the potential to revolutionise society is consistent with the worldwide movement towards sustainable practices.

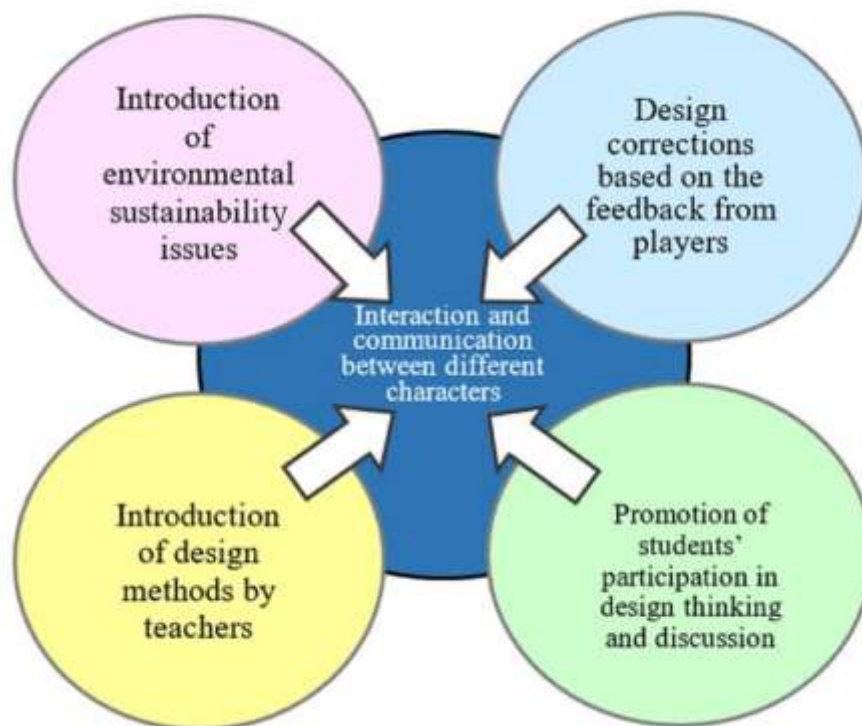


Figure 1: Sustainability

(Source: Mdpi.com, 2020)

3. Industrial Relevance and Economic Impact

Electrical motors are used extensively in the industrial sector for a variety of purposes, including manufacturing, transportation, HVAC systems, and robotics (Tseng *et al.* 2021). However, a sizeable percentage of operational costs are also borne by these motors. Industries can save a lot of money in the long run by improving their performance and

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boosting their efficiency. This study could result in developments that increase productivity and competitiveness while also cutting costs associated with overhead.

4. Engineering Challenges and Technological Innovation

The effort to increase the cost-effectiveness and efficiency of electrical motors is not without difficulties (Tseng *et al.* 2021). Engineering innovations and technical advancements are possible with this subject. To attain this goal, it is crucial to investigate unique production processes, sophisticated materials, and cutting-edge control algorithms. to achieve the desired goals. In addition to requiring a multidisciplinary approach, meeting these issues offers an opportunity to advance engineering as a whole.

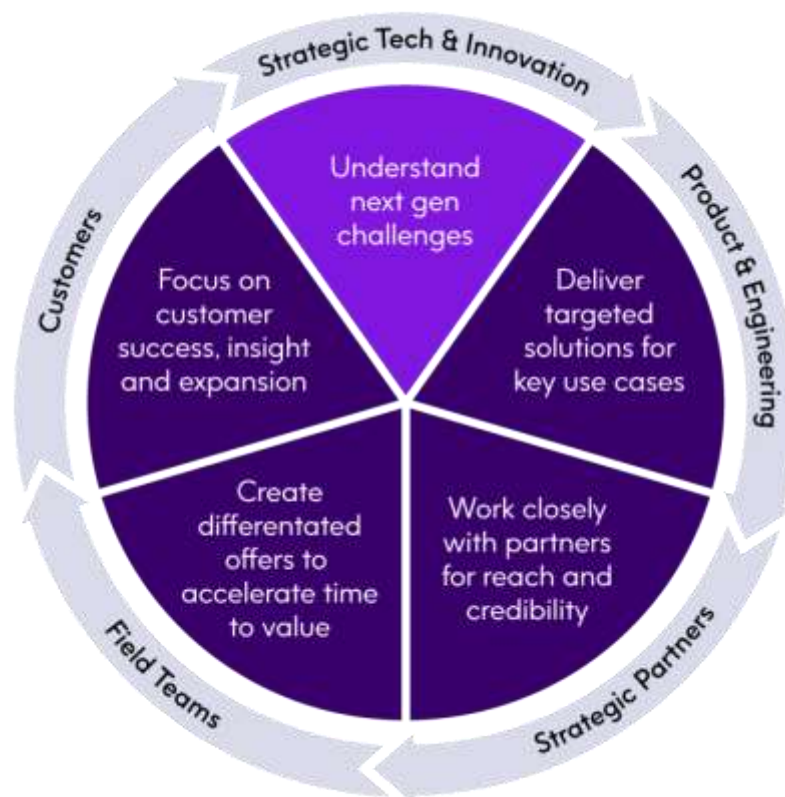


Figure 2: Importance of Strategic Technologies & Innovation

(Source: Tseng *et al.* 2021)

5. Real-world Applications and Visible Impact

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This topic's potential for practical applications and observable influence is what interests me. The outcomes of this study can be applied to a variety of fields, including industrial operations that demand accurate and effective motor control and transportation systems that depend on electric cars. My interest in this field is motivated by the gratification that the discoveries can result in workable solutions that enhance energy efficiency and contribute to a sustainable future.

6. Improvement in Education and Career Development

An exceptional potential for academic advancement and career advancement exists in the field of electrical motor efficiency and costing research (Wang *et al.* 2020). A thorough grasp of electrical engineering, materials science, control systems, and economic analysis is required for this topic. My knowledge base is widened by engaging with these other professions, and I gain useful abilities that I can apply to a variety of technical specialities.

7. Connections Between Different Disciplines and Collaborative Nature

Other aspects that support my decision are the topic's collaborative character and ability to promote multidisciplinary linkages. The pricing and efficiency of electrical motors must be improved, which calls for cooperation between specialists in numerous sectors. To provide complete solutions, engineers, materials scientists, economics, and environmental experts must collaborate. By exposing me to other viewpoints and approaches, this multidisciplinary approach not only enhances the research process but also improves my problem-solving abilities.

8. Reducing the World's Energy Need

The urgent problem of the world's rising energy needs cannot be disregarded. I want to help create a more sustainable energy environment by exploring the nuances of electrical motor efficiency. In order to fulfil energy demands, we can significantly advance by optimising these motors.

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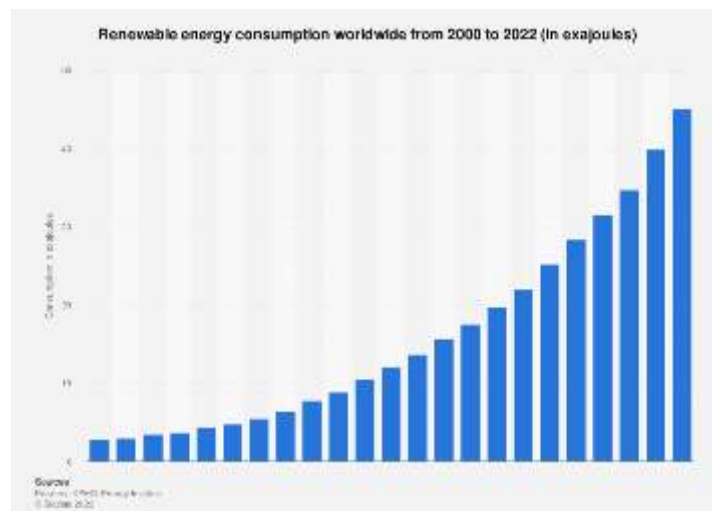


Figure 3: Global Renewable Energy Consumption

(Source: Statista.com, 2023)

9. Possibility of Technological Advance

This area of study can lead to a breakthrough in motor efficiency technology. The need for more efficient and economical technology increases as industries develop. I want to be a part of a movement that advances industries and transforms how energy is harnessed and used by creating in this field.

10. Understanding Historical Progress

The historical development of technology highlights the significance of increasing electrical motor efficiency (Wang *et al.* 2020). Although many businesses have made enormous strides in recent years, there is still much opportunity for improvement. In order to advance motor technology, it will be essential to learn from the achievements and mistakes of the past and apply that knowledge to present problems.

A variety of reasons, each of which adds to the topic's depth, came together to influence the decision to concentrate on increasing the effectiveness and price of electrical motors. This study topic provides a platform to have a beneficial influence on several fronts, from personal intrigue and environmental concerns to industrial importance and collaboration potential. It is not only a question of technology, but also a demonstration of how research

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and innovation can help create a society that is more sustainable, effective, and linked. I am eager to explore the unexplored motor efficiency landscapes on this adventure and contribute to a better future for future generations.

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References

- Bartolacci, F., Caputo, A., & Soverchia, M. (2020). Sustainability and financial performance of small and medium sized enterprises: A bibliometric and systematic literature review. *Business Strategy and the Environment*, 29(3), 1297-1309. Retrieved from: https://eprints.lincoln.ac.uk/id/eprint/39014/1/2019_BSE_Sustainability%20and%20performance%20of%20SMEs.pdf [Retrieved on: 15.08.2023]
- Mdpi.com, 2020. Available at: <https://www.mdpi.com/2071-1050/12/16/6334> [Retrieved on: 15.08.2023]
- Meglin, R., Kliem, D., Scheidegger, A., & Kytzia, S. (2019, August). Business-models of gravel, cement and concrete producers in Switzerland and their relevance for resource management and economic development on regional a scale. In *IOP Conference Series: Earth and Environmental Science* (Vol. 323, No. 1, p. 012170). IOP Publishing. Retrieved from: <https://iopscience.iop.org/article/10.1088/1755-1315/323/1/012170/pdf> [Retrieved on: 15.08.2023]
- Statista.com, 2023. Available at: <https://www.statista.com/statistics/274101/world-renewable-energy-consumption/> [Retrieved on: 15.08.2023]
- Tseng, M. L., Tran, T. P. T., Ha, H. M., Bui, T. D., & Lim, M. K. (2021). Sustainable industrial and operation engineering trends and challenges Toward Industry 4.0: A data driven analysis. *Journal of Industrial and Production Engineering*, 38(8), 581-598. Retrieved from: https://pureportal.coventry.ac.uk/files/54808335/Post_Print.pdf [Retrieved on: 15.08.2023]
- Wang, Z., Ching, T. W., Huang, S., Wang, H., & Xu, T. (2020). Challenges faced by electric vehicle motors and their solutions. *IEEE Access*, 9, 5228-5249. Retrieved from: <https://ieeexplore.ieee.org/iel7/6287639/6514899/09298789.pdf> [Retrieved on: 15.08.2023]