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**Student’s possible graduation date: May 2023**

**Students required courses remaining for graduation: ~9 classes**

**Research category: Thesis**

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**Committee faculty name 3:**

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**Section 1: Introduction and literature review.**

1. **What is your established area to research?**

The established area of research is Robotic process automation (RPA) the process of automating/ creating self-regulating programs for daily repetitive tasks in this digital era

1. **What is the research question you want to address?**

The part of RPA that I would want to address is the application of RPA not just being seen a s a business program but how we can also apply that knowledge to common menial tasks

1. **Is research within the achievable research goals? Please explain how?**

Yes, the research topic is achievable, it has already started to be applied in the business sector of the tech industry

1. **Have you considered argumentative, integrative, historical, methodological, systematic, and theoretical sections?**

Yes, I have considered all the underlayer sections

1. **What is your problem statement?**

The problem statement would be how can RPA be introduced to the general populous

1. **State existing literature on selected topic?**

[Robotic Process Automation: Systematic Literature Review](https://www.researchgate.net/publication/335400552_Robotic_Process_Automation_Systematic_Literature_Review)

# Robotic Process Automation and Artificial Intelligence in Industry

1. **What is existing data evaluation, analysis and interpretations available?**

An article by [US National Library of Medicine](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7134300/) [National Institutes of Health](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7134300/)

shows the various data taken as well as the breakdown and evaluation of the

subject matter

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1. **Are the articles credible, and address objectivity, persuasiveness and values of conducted study?**

Yes they are . the data in the article agendum is taken from many sources to help better understand RPA

**Section 2: Methods.**

1. **Introduce the overall methodological approach for investigating research problems?**

The methodological approaches taken for investigating the research problem are

Observations, Focus group, secondary data analysis. This can also be referred to as a mixed method

1. **Indicate how the approach fits the overall research design?**

In the first 3 slides I had to think of scenario and how they could be simplified noting my observation that a program could fill in for those repetitive tasks then I looked for data on the subject matter and that is how the project idea was introduced and how I designed the research

1. **Describe the specific methods of data collection you are going to use?**

The specific method for data collection I think that would be best for this project would be Questionnaires and survey, documents and focus groups.

1. **Explain how you intend to analyze results?**

By comparing the data collected I can graph them out and look at the trends that way I can be able to have a firm and accurate result

1. **Provide background and rationale for methodologies that are unfamiliar for the readers?**

Surveys are an effective data gathering and analysis tool that are frequently used with important stakeholders, particularly customers and workers, to identify requirements and gauge satisfaction. By using the data collected by said surveys we can understand the progress of RPA bots/systems and will be able to further improve on it

1. **Provide a rationale for subject selection and sampling procedure?**

To pick the subject for the research, I would get a wide sample space ranging from big industries to small self-owned businesses and to achieve a fair and unbiased result the sampling procedure that I would use would be a probability sampling method under which would encase the systematic random sampling that would be used

1. **Address potential limitations?**

The potential limitations imposed would be:

the range of accessible population: The systematic sampling approach must be predicated on the availability and measurement of population size in specified demographics. If it isn't attainable, this procedure will require a fair approximation of the demography. If that quantity isn't accessible, the selection procedure will fail since the size of the pool drawn for participation is determined by dividing that total sum.

There is a considerable chance of data manipulation.

It would be possible to build the systematic sampling techniques to maximize the likelihood of achieving a desired result. Instead of allowing random data to give the same repeating answer organically, the data has an inbuilt bias that no one else would see upon analysis. That means it's still feasible to come up with answers that are created rather than representative, undermining the work's outcomes. Any statistics derived from a method effected by this flaw could not be relied upon.

**Section 3: Results.**

1. **State an introductory context for understanding the results by restating the research problem that underpins the purpose of study?**
2. **Summarize the key findings arranged in a logical sequence?**
3. **Include non-textual elements, such as figures, charts, photos, maps, tables, etc. to further illustrate the findings?**
4. **Summarize the results, highlighting for the reader observations that are most relevant to the topic under investigation?**

**Section 4: Discussion.**

1. **State the major findings of your study?**
   1. There is a huge gap between service to license ratio
   2. The RPA bots are worth the money spent until there is a down time
2. **Explain the meaning of the findings and why are they Important?**
   1. The service to license ratio is the number of outside services required to make a dollar of software useful. The service to license ratio for RPA nowadays is high.
   2. Assume that building a bot that eventually replaces the equivalent of 2-3.5 full-time employees costs you $25,000 dollars. Even if the expense of running that bot is incredibly significant, you will still come out ahead...as long as the bot continues to work. However, if a bot goes down and you can't get it back up and running right away, your process downtime eats into your ROI quickly. This is especially problematic if the employees who previously executed the task manually are no longer available**.**
3. **Relate the findings to similar studies?**

An article by [HPA](https://www.hpa.services/calculating-rpas-total-cost-of-ownership/) calculates RPA’s cost of ownership. The article shows the actual profit to loss ratio of the system and if it is worth getting at such price or not. The article also explains the cost of maintenance.

1. **What are alternative explanations of your findings?**
   1. The cost of getting a license compared to the service is expensive
   2. RPA bot maintenance is too high
2. **What are your study limitations?**
   1. Improvement of processes or cognitive abilities
   2. **RPA requires structured data**
   3. **Reading and interpreting image or graphic data.**
3. **What are suggestions for further research?**

I suggest more research into the way we can reduce the cost of maintenance and how we can mass produce RPA bots/systems.

**Section 5: Conclusions.**

1. **Present the last word on the issues raised by you?**

The last issue raised in the project was the problem on expenses of investing in the system/bot. since RPA is a relatively new introduction to society the cost of investing onto the system is very high with the marginal returns fluctuating in cases of system maintenance

1. **Summarize thoughts and convey the larger implications of your study?**

Repetitive and recurring tasks conducted by humans often have a high rate of human errors, a single RPA system will be able to take care of such tasks without little to no errors, with various configuration to perform a variety of processes could ultimately optimize manual work processes and on a large-scale human living