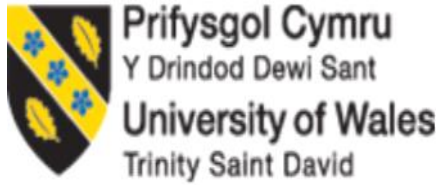


Cover Page



PROJECT PROPOSAL

AI-Powered Email Verification System for Improving Lead Quality

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Module	Changemakers: Creativity and Value Creation
Module Code	ACCA5033
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Task 1: Ideation and Mind Map

Introduction

In this section, you will find a description of the ideation process that was followed to come up with a viable and valuable project idea for the Changemakers module. The process of coming up with new ideas needs to be structured, incorporating imaginative, creative thinking and practicality, which this proposal does by using a documented mind map exercise. The approach was based on existing theory, first highlighting that creativity and innovation are complementary in creating value for organizations and society (Amabile and Pratt, 2016).

Innovation

Innovation is the creation of a feasible solution to a practical problem or inefficiency. Amabile and Pratt (2016) define innovation as the successful application of creative ideas in an organization. This is where the proposed AI-powered email verification system comes in; it evolves a creative idea into a practical solution that enhances the quality of leads for businesses.

Creativity

Creativity was addressed by divergent thinking techniques (brainstorming and lateral thinking) prior to evaluation of ideas. This is in line with the componential theory of creativity, which emphasizes the connection between original ideas with motivation, the relevant skill and experimentation (Amabile and Pratt, 2016).

Possible Project Ideas

A number of ideas arose from the ideation, covering various areas and levels of complexity. The ideas were quickly evaluated to determine if they were feasible, new, marketable and if they fit within their personal skill sets, and weaker ideas were eliminated early. Design thinking provides a useful lens in this screening as it enables us to consider ideas as they relate to the user in the real world and not only to their technical interest (Liedtka, 2015). They also featured a personalised revision planner, which would help students to track their revision steps, a chatbot to answer common questions and a data-quality tool, created to keep customer records accurate.

Selected Project

The idea that will be worked on is AI-Powered Email Verification System for Improving Lead Quality. The idea of being an achievable and useful idea to develop and also having the scope of the academic work to be undertaken during the later stages of the project was the best compromise. The issue is known: Email is still one of the most popular communication methods, and inboxes are not well managed, which puts organisations at risk for spam and fraudulent content in emails (Dada et al., 2019). Similarly, wrong contact details affect the quality of marketing leads; and data quality issues have a negative impact on the trustworthiness of organization decision-making (Cai and Zhu, 2015). An automated verification system thus addresses a real business challenge which can be measured.

Critical Justification

The chosen concept had the best feasibility and value creation whilst also being within a feasible project scope. Liedtka (2015) states that cognitive biases cut down on better innovations decisions, and the selection process was structured so that everybody's final decision was based on evidence and not on their own opinion.

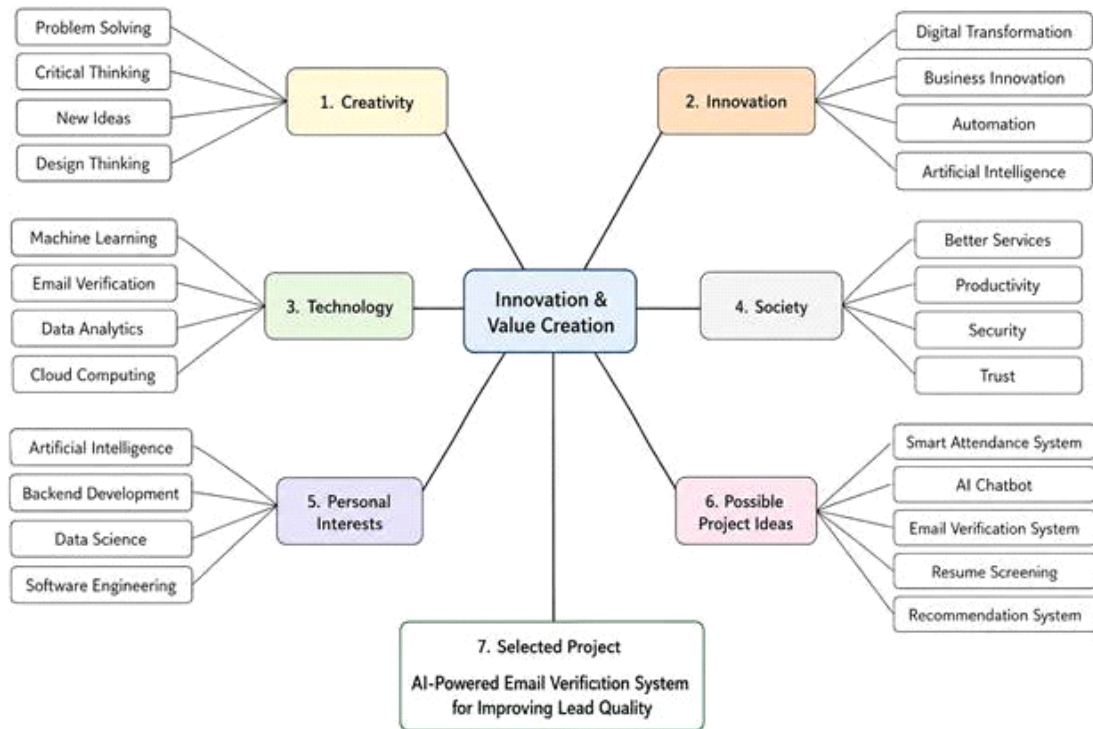


Figure 1. Mind Map of Project Ideation

Summary

This task has led to the process of creative exploration and led to a suitable selection of project. The mind map above illustrates the diversity of thoughts that were explored prior to deciding on that direction, and clearly documents the thought process that took place.

Task 2: Aim, Objectives and Research Area

Introduction

In the previous task the project concept was set up, and in this task, the purpose, a set of measurable goals, and research philosophy that will be used for the research investigation are set. The structured framing is one of the important elements that ensure the research to be conducted is focused and is academic in nature.

Project Aim

In this project, the aim is to create, build and test an AI-driven email verification system to boost the lead quality in a system that proves valuable for its targeted users. This goal is intentionally very general as to permit an iterative refinement process as well as direction of future steps.

SMART Objectives

Specific and Measurable

Objectives were written to be specific and measurable, and to have clear performance indicators for measuring progress that are consistent with the SMART (Doran, 1981) principle.

Achievable and Realistic

Every objective was conceived to be within the time and resources and scope of the project.

Time-bound

There is a planned completion period for each objective to facilitate good project management.

Stated Objectives

1. To design and develop a working prototype of an AI-powered email verification system by the end of Week 8.
2. To get the accuracy of verification of at least 90% in a sample of 500 email addresses in Week 8.
3. At Week 9 to interview at least 8 sales people to gauge the quality of leads being generated by the system and report on this.

Research Philosophy

The key to the research is that it is based on a pragmatist philosophy which means that all the paradigms would not be able to show the problem raised by the researcher from the pragmatic and social view. Pragmatism is an appropriate orientation for applied research as it deals with "what works" instead of theoretical commitments, and allows for a mixture of qualitative and quantitative methods, each one being used when it is most appropriate to the question.

Research Approach

The abductive research approach was chosen because a part of the exploratory research is based on the existing theory with emerging observations to grant flexibility to this research (Onwuegbuzie and Leech, 2005).

Research Databases

The literature was obtained from general literature search through use of well-known academic search engine and databases like Google scholar, IEEE Xplore, ACM digital library, ScienceDirect and Scopus for computing literature and innovation and business research literature respectively, peer reviewed journals. Formally verified information before being added to this proposal was preferred.

Search Strategy

A structured search strategy was used, which included key terms like "email verification", "lead quality", "data quality" and "spam filtering" and the use of boolean operators (AND, OR, NOT) to narrow and broaden the search results. To avoid the selection of literature which could introduce bias, inclusion and exclusion criteria were established prior to the search, for example, only literature from 2014 onwards was searched unless it was seminal literature.

Critical Discussion

This project is based on the existing scholarship and research that has already been done and which will provide a foundation for the academic discourse that can be extended to the present proposal, with some recognition that there's some adaptation, but not direct replication of previous research. Assisting the pragmatist viewpoint is Rains (2014), who argues that there should not be a dogma for using mixed methods research and this is what is being proposed.

Summary

This task has made the project objective clear, outlined the measurable objectives and set the research in the right philosophical and methodological context. The research strategy outlined in the following task is based on these foundations.

Task 3: Research Strategies

Introduction

This task describes how to conduct the purposes of the research mentioned above through practical research. Focus is specifically placed on the rigor of the methods chosen, how the validity and reliability of the methods is considered throughout and ethical considerations.

Validity

Validity was addressed by ensuring the instruments used for data collection are indeed instruments which measure the concepts to be measured. Heale and Twycross (2015) separate content, criterion and construct validity and these were taken into account in the development of the items in the questionnaire. As much as possible, existing validated question formats were adapted instead of created new as per the risk of construct misalignment.

Reliability

Reliability was achieved by following the same procedures so that the same instructions and questionnaires were given to all respondents. This helps to ensure that the obtained data is consistent (Heale and Twycross, 2015).

Generalisability

Limitations in generalisability are recognized due to a relatively low and localized sample size that is expected. As with qualitative and mixed methods studies, the results presented here are context-specific, so should not be viewed as definitive (Noble and Smith, 2015). The need for validation across a wider range of industry sectors is identified for future work.

Ethics

The ethical principles adopted were informed consent, voluntary participation, anonymity and the right to withdraw. These measures are in line with the accepted research ethics guidelines (Guillemin and Gillam, 2004).

Research Strategy

A mixed method research was employed comprising of questionnaires and open-ended responses since it yields numerical data and qualitative information, which enhances the findings (Onwuegbuzie and Leech, 2005).

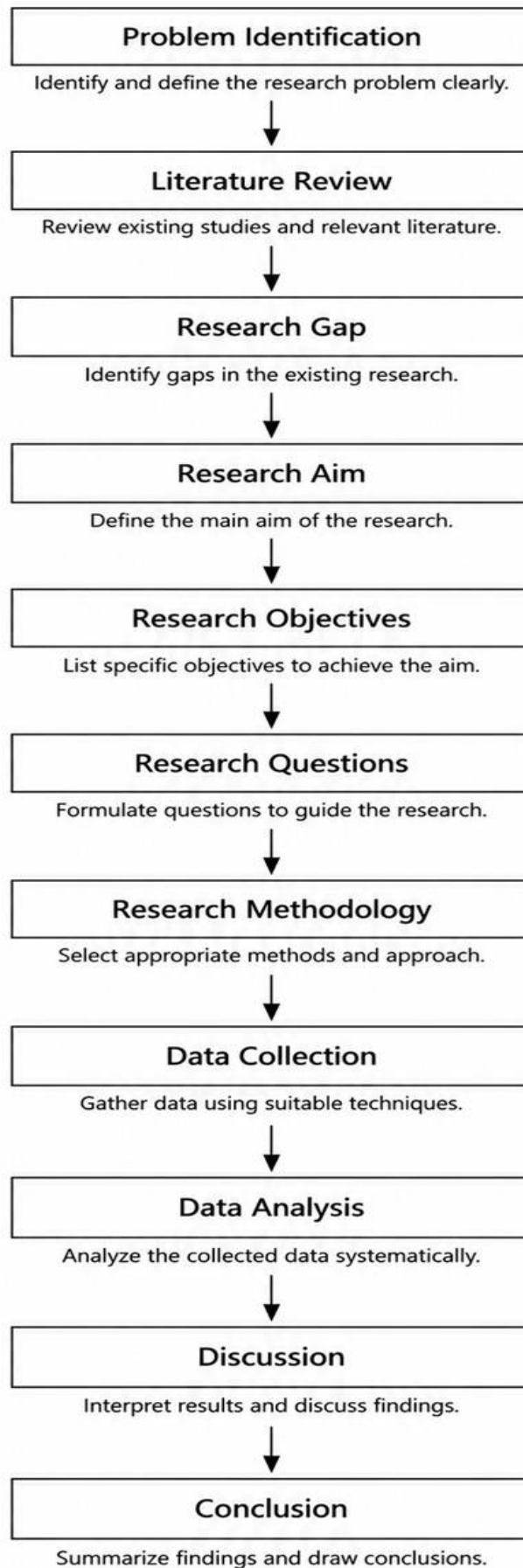


Figure 2. Research Process Flowchart

Data Collection

Primary data collection will take place by using a purposive sample of participants whose activities involve the regular use of customer contact information, such as sales and marketing employees, and conducting an online questionnaire. Secondary data from reliable academic research will be used to complement the primary data, and will give context to the results of the study.

Pilot Study

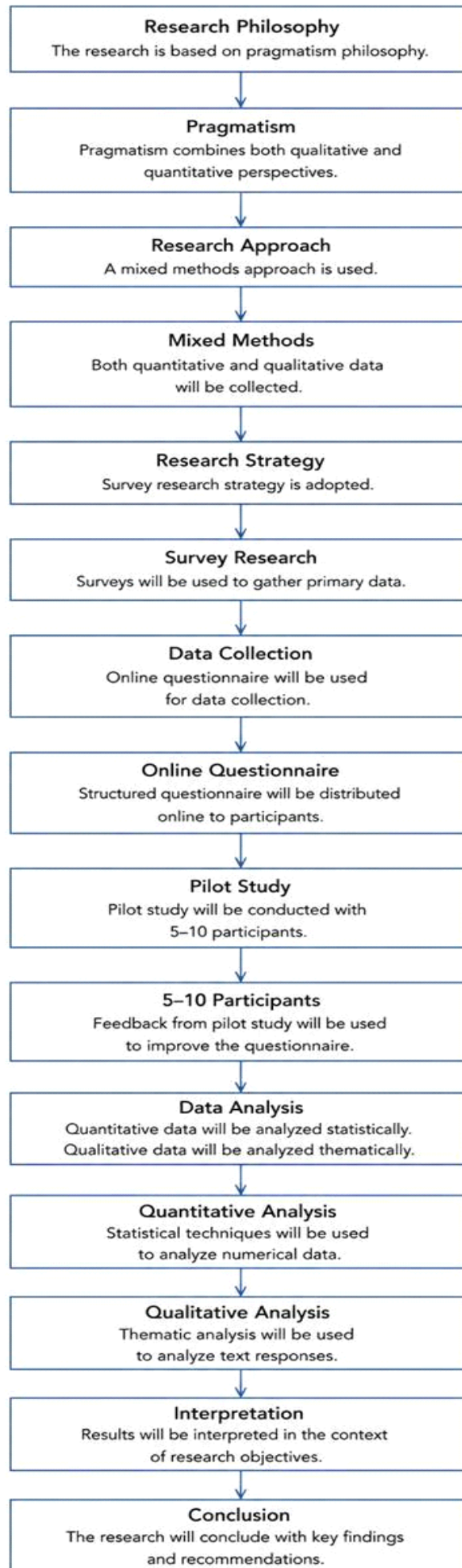
The questionnaire was tested for clarity and usability through a pilot study in advance of the main study. The questionnaire used is provided in Appendix A and the feedback of the participants in the summary in Appendix B.

Quantitative Analysis

Descriptive statistics (frequency count and percentages) will be used to analyse quantitative data that will provide general patterns and distributions across the sample. The techniques can be used to summarise data gathered with structured instruments (Heale and Twycross, 2015). Comparative techniques will be used when appropriate to describe differences between the sub groups of the respondents.

Qualitative Analysis

All open-ended responses will be analysed thematically, and themes shared by the different participants will be coded as the perspectives of the participants. Thematic analysis as outlined by Braun and Clarke (2006) has a six phase process of familiarisation with data through to the identification of clear themes. This way, it's possible to see more details than what may be apparent in the numbers.



Summary

This task has documented the process of practical research in this project, and has provided an account of the challenges that needed to be addressed in the method and of the research process that would be followed in collecting and analysing the data. This, along with the above tasks, results in a clear and sound proposal which can be defended academically.

Appendix

Appendix A: Pilot Questionnaire

1. How would you describe your current experience with the problem area addressed by this project?
2. What challenges have you personally encountered in relation to this subject?
3. How frequently do you engage with existing tools or solutions in this area?
4. What features would you consider most valuable in a new solution?
5. On a scale of 1 to 5, how satisfied are you with current available options?
6. What concerns, if any, would you have about adopting a new solution in this area?
7. How important is ease of use when considering a new tool or service?
8. Would you be willing to participate in follow-up testing of a prototype?
9. What factors would most influence your decision to continue using a solution long-term?
10. Do you have any additional comments or suggestions relevant to this project?

Appendix B: Pilot Feedback Summary

The questionnaire was generally understood and appeared to be the right length for the pilot participants with some minor suggestions for the wording of two of the questions on satisfaction and previous experience. These were adjusted as needed and distributed in greater numbers, and no one complained about the amount of time needed to complete the survey.

Appendix C: Research Timeline

Phase	Estimated Duration
Literature Review	Weeks 1-2
Questionnaire Design	Week 3
Pilot Study	Week 4
Main Data Collection	Weeks 5-6
Data Analysis	Weeks 7-8
Final Reporting	Week 9

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