University of
Salford
MANCHESTER

Researsh Title

Name

Student ID

Date

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Part One: Introduction and Data Preparation

1. Introduction

[250-400 words] Exploration of the defined problem with the determination of overall strategy for approaching the problem and discussion of objectives and initial requirements formation. You should also include an overview of the research directions you will need to undertake. In this section you must clearly mention objectives of your research in the numbered format, objectives for task 1 and task 2 one after the other.

1. Objective 1
2. Objective 2
3. …

2. Background Research and Literature Review

[800-1000 words]

In the **background research section** you should talk about methods that you have employed in your research like regression analysis, time series and interactive dashboard design.

For task 1, briefly address the theoretical background of the subtasks 4-2, 4-3, and 4-4 and try to find your way through the literature's of the statistical analysis part.

For Task 2, exploration of the current state of the art in the design of interactive dashboards with references to appropriate works. This should include current perspectives on the composition, layout and design principles of single screen dashboards and may include a review of current understanding in the methodology of design/development of a dashboard system.

In the **literature review section**, you should meticulously survey and analyse some of the existing scholarly works, research articles, and relevant publications to your objectives to gain a comprehensive understanding of your research topic. You should synthesize key insights from the literature to contextualize your research objectives and design your method to fulfil the objectives. So it is clear that here you shouldn't talk about the technical methods like regression and test of hypothesis, like you did in the background research. Here you are talking about the domain knowledge of your research for example if your objective is to explore economic growth of the selected

countries then you should find and report literature that have studied important factors on the economic growth of countries or any possible dashboards that you have find in the literature or online which are in the domain of your study.

3. Preparation and Exploration of Data Set

[200-400 words]. Create a tabulated data dictionary or a complete set of written metadata, including variables' names, definitions, time frames, and data sources. Also, describe any steps that you have taken for data preparation, outlier detection, and dealing with missing data. After data preparation and cleaning, review of the dataset you must do some Exploratory Data Analysis (EDA) and show interesting facts about the data set by incorprating proper graphs.

Part Two: Statistical Analysis

1. Statistical Analysis

[1300-1800 words]. This section must have 5 parts, one part for each sub tasks, 4-1 to 4-5. Report the thorough analysis that you have done in R. Also, visualisations and storytelling of the findings and results are expected.

2. Discussion and Conclusion

[600-800 words]. At the discussion part, you should review the methodology, and any possible limitations you've encountered for the analysis phase.

At the conclusion part, statements of the findings of each phase and how your research work has fulfilled the research objective is the scope of the final section.

Part Three: Interactive Dashboard Design

1. Investigation of Data Workflows & Proposal for Design of Dashboard

[1250-1800 words]. A detailed review of the mapping from data attributes to a visual form appropriate for presenting them within a dashboard environment. This may include worked examples showing the investigation of the particular digital workflow and an explanation of how appropriate methods for analysis have been defined. Discussion on the selection of the visual paradigm used for display should also be

included. A justification should be provided, in the form of citable works, for key decisions taken.

The latter shags of this section should develop a conceptual model for how these individual analysis workflows can be formulated into a single, coherent visual representation that composites the disparate strands into a defined reading narrative that supports the principles of focus+context to give meaningful output to the user as a single view composited dashboard.

This section may contain substantial numbers of diagrams and figures. However, these should all have sufficient explanation and a clear connection within the body of the written text.

2. Discussion and Conclusion

[600-800 words]. At the discussion part, you should criticaly evaluate the approaches taken and proposal formed. This should review the process used (methodology), individual digital workflows and final composited dashboard.

At the conclusion part, a clear statement of the final proposed solution with a concise explanation of how this meets the needs set out by the briefing document.

Part Four: References and Appendices