

Data Management Assignment 1

Lecturer: Dr Emma Murphy

Assignment Context, Background and Aim

“Data is an asset but is it also a risk” (Hasselbach and Tranberg, 2017)

All data that is processed has an impact on people in some way and has the potential to create great benefit but can also cause harm if not properly managed (Keefe and O’Brien, 2018). The field of ethics provides useful concepts and frameworks to identify risk and understand best practice to data governance and data privacy. The aim of this assignment is to understand critical issues in data ethics, governance and privacy by exploring and critically evaluating real world examples.

Assignment Brief

Part 1 –Presentation

Choose a data science domain that requires the processing and storing of data to predict human or machine behaviour or to make autonomous decisions (i.e. in the health, finance, education, government, transport or energy sectors). For example you might focus on Digital Health (Health) or Autonomous Vehicles (Transport), Smart Metering (Environment). Once you have selected your domain you are required to:

1. Conduct desk research to identify the critical issues for ethics, data governance and data privacy in that domain.
2. Identify one application, product or service within your chosen domain. Describe the product that you have chosen in terms of the way that it collects and processes data and how this is used to make decisions.
3. Conduct desk research to identify and critically evaluate publicly available information on the company’s approach to data governance, data privacy and data ethics, highlighting any areas for concern or examples of good practice.
4. Present your findings to the class in an 8-minute presentation.

Part 2: Written Report

Based on the research conducted for your presentation, write up a report with the following structure (word counts are just suggestions to indicate scope):

- Introduction - Provide a background to the product that you have chosen by describing the key ethical and legal issues in the wider domain. [250 words]
- Describe the product that you have chosen detailing the way that it collects and processes data. [250 words]
- Based on your desk research conduct a First Principles Ethical test as described by O'Keefe and O'Brien (2018). [500 words]

What is the outcome of the product or service you have chosen?

- Does it preserve or enhance human dignity?
- Does it preserve the autonomy of the human?
- Is the processing necessary and proportionate?
- Does it uphold the common good?

Does the outcome violate any of these four points?
If yes how could you mitigate any ethical risk?

You can also reference other ethical theories in your analysis.

- Identify and critique the publicly available information on the company's approach to data governance and data privacy and present recommendations on how this could be improved or clarified based on the first principles ethics assessment that you conducted [500 words]
- Conclusion - Summarise key findings and reflect on what you have learned during both parts of the assignment [250 words]
- References

Submission Details:

Both parts of the assignment should be submitted through Brightspace.

For *Part 1: Presentation*, submit your slides to Brightspace after you have presented.

For *Part 2: Written Report* submit your report to Brightspace as a word document, 1.5 spaced, size 12 font with clear heading structures and using APA referencing style.

Deadline:

Presentation: Schedule will be published with times for each presentation during week 5 and week 6.

Written Report: Monday 14 March 2022

Late Submissions

Extensions due to acceptable personal circumstances must be requested by email in advance of the deadline.

Assessment Rubric

The presentation assignment is worth 20% of the overall module mark.

Part 1 Presentation (40)
Research and analysis on critical data management issues in chosen domain (15)
[1-3] Poor research, rationale for chosen domain unclear, no understanding of critical issues and no critical thinking.
[4-6] Weak research, rationale for chosen domain unclear, with some understanding of critical issues and no critical thinking.
[7-9] Sufficient research, clear rationale for chosen domain, with some understanding of critical issues and some critical thinking
[10-12] Good with clear rationale for chosen domain, fair understanding of critical issues and fair critical thinking.
[13-15] Excellent clear rationale for chosen domain, and deep understanding of critical issues and deep critical thinking.
Research and analysis on specific product identifying and critically evaluating publicly available information on the company's approach to data governance, data privacy and data ethics, highlighting any areas for concern or examples of good practice. (15)
[1-3] Poor with no analysis and no critical thinking.
[4-6] Weak with some analysis and no critical thinking.
[7-9] Sufficient with some analysis and some critical thinking
[10-12] Good with fair analysis and fair critical thinking.
[13-15] Excellent with deep analysis and deep critical thinking.
Verbal Presentation (10)
[0-2] Poor verbal presentation with poor structure, interaction or engagement
[3-4] Weak verbal presentation with poor structure, interaction and engagement
[5-6] Sufficient verbal presentation with some structure, interaction and engagement
[7-8] Good verbal presentation with a clear structure, interaction and engagement
[9-10] Excellent verbal presentation very well structured, interaction and engagement

The written report CA is worth 30% of the overall module mark.

Part 2: Written Report (60)

Background and Context (10)

[1-2] Poor understanding and analysis and no critical thinking.

[2-4] Weak understanding with some analysis and no critical thinking.

[5-6] Sufficient understanding with some analysis and some critical thinking

[7-8] Good understanding with fair analysis and fair critical thinking.

[9-10] Excellent understanding with deep analysis and deep critical thinking.

Ethical Impact (First Principles) Evaluation (20)

[1-4] Poor understanding and application of test with no mitigation of ethical risk identified.

[5-8] Weak understanding and application of test with some mitigation of ethical risk identified.

[9-12] Sufficient understanding and application of test with basic mitigation of ethical risk identified.

[13-16] Good understanding with fair analysis and application of test with good mitigation of ethical risk identified.

[17-20] Excellent understanding with deep analysis and rigorous application of test with strong mitigation of ethical risk identified.

Implications and Recommendations for Data Governance and Data Privacy (20)

[1-4] Poor understanding and analysis and no recommendations for either for Data Governance or Data Privacy

[5-8] Weak understanding and analysis and basic recommendations for Data Governance and Data Privacy

[9-12] Sufficient understanding with some analysis and basic recommendations for Data Governance and Data Privacy

[13-16] Good understanding with fair analysis and recommendations for Data Governance and Data Privacy

[17-20] Excellent understanding with deep analysis and strong recommendations for Data Governance and Data Privacy

Report Structure; Use of language; Referencing (10)

[1-2] Poorly organised, very unclear language with serious errors and poorly referenced.

[3-4] Adequately organised and expressed. Clear use of language but with significant errors/typos. Fair referencing but with some inconsistency.

[5-6] Generally well organised and expressed with clear use of language but with minor errors/typos. Competent referencing but with some inconsistency.

[7-8] Well organised and expressed, easy to follow and clear use of language. Very good referencing.

[9-10] Optimally organised and expressed. Excellent use of language with no errors at all. Fully and appropriately referenced.

Learning Outcome Alignment

1	Demonstrate cognisance of the roles and responsibilities of data management stakeholders and be able to critically evaluate their significance in relation to relevant EU and International legislation.	
2	Analyse the critical issues for data protection and data governance in public and private sector organisations across different domains such as health, education, transport and energy.	X
3	Identify the role data quality plays, discuss deficits and limitations and explain appropriate remedies	
4	Contribute to key ethical debates in data science and machine learning (i.e. data quality, bias in data, informed consent and privacy issues)	X
5	Design and implement data balancing and fairness strategies to overcome bias in data	
6	Critically analyse different GDPR functions and responsibilities for organisations of various sizes	
7	Critically analyse the impact of data privacy needs on organisations and individuals	X
8	Design and implement anonymisation strategies and examine related issues	
9	Design a data management plan for a complex multistakeholder prediction tool in the field of digital health.	
10	Conduct a Data Protection Impact Assessment (DPIA)	