

Ethical use of data



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1. Data ethics risks

Section 1.1 (recall)

- 1) Fill in the missing words for this definition of a data ethics

Branch of ethics that looks at the questions related to data

Section 1.2 (rephrase)

- 2) That are generally 8 areas of ethical data risks and problems. Fill in the missing gaps for the descriptions of the areas.

Area	Description
Truth	Technology could be used to either undermine the truth, or spread disinformation or propaganda. This may only be a risk if the technology falls into the wrong hands.
Health	
Equality	
Fairness and Bias	
Human rights	Technology could infringe the human rights of citizens
Privacy	
Trust and transparency	
Criminality	Technology could be used for illegal activities, even if it were not designed for this

Section 1.3 (apply)

- 3) For each of the situations described below, list any areas of data ethical risks/problems that could be arise.

	Areas of ethical risks/problems
Voice recognition software is developed using databases use 69% male voices	
A supermarket sells the information collected on their loyalty cards about their customers shopping habits to a marketing company.	
A gaming app that will only allow you to play alongside your friends if you complete a daily task.	
Facial recognition software is used to track students in a school and predict their grades through their tracked behaviour.	

1. Data ethics risks

- 4) 23andMe is a biotechnology company that provides a genetic testing service of customers saliva samples. The company combines this genetic information with other web behaviour such as the use of its website, products, software and its smartphone app. This data is very valuable to third party companies (e.g. life insurance companies)

Thinking about the ethical issues of combining this data and how it could be potentially sold/hacked. Describe how these ethical risks/problems could arise from using 23andMe.

Area	Description
Privacy	Customers could be unaware of how their genetic information could be combined with their web behaviour and could be sold to third parties.
Equality	
Criminality	

Section 1.4 (active)

- 5) There are many examples of data ethical issues that have happened recently. Search online for an example and answer the questions below.

Here are some websites that might help you research ethical issues,

<https://online.datasciencedojo.com/blogs/big-data-ethics-10-experiments/>

<https://bdes.datasociety.net/council-output/example-big-data-research-controversies/>

<https://en.wikipedia.org/wiki/OkCupid#Controversies>

<https://www.invisibly.com/learn-blog/data-misuse-7-examples>

What company/individuals were involved in the ethical issue?

What happened?

What type of ethical issue was it? E.g. privacy, human rights

How do you feel about what happened?

2. Data frameworks

Section 2.1 (define)

- 1) To help individuals and companies to use data in an ethical way, frameworks can help. What is meant by a **data ethics framework**?

Section 2.2 (apply)

- 2) For this question you will be using part of the UK government data ethics framework.
<https://www.gov.uk/government/publications/data-ethics-framework/data-ethics-framework-2020>

Imagine you have been asked to analyse the link between poverty and poor health in cities around the world. Focusing on the 'Involve diverse expertise' section of the UK government data ethics framework, answer the following questions.

- a) To make sure you are using the data ethically, what experts would you need to speak to about your analysis?

- b) How would you ensure diversity in your team?

- c) How would you make sure your analysis is transparent? E.g. publish your results

You have been asked to complete some data science projects. For each of the projects below, think through the ethical questions you could ask yourself before and during the analysis that would help you complete the project in an ethical way.

Some things to think about are,

- consent to use the data,
- trust and transparency,
- human rights,
- privacy
- keeping people informed.



- 3) You have been asked to investigate if you can use data from customer loyalty cards to predict what products they might buy next in the supermarket.

Is there....

What if....

Should ...

2. Data frameworks

- 4) You have asked to analyse Twitter posts about your home town and combine them with crime data from the police.

Is there....

What if....

Should ...

- 5) You have been asked to look at how positive/negative stories appearing on a persons social media feed impact on their mood.

Is there....

What if....

Should ...