Week 1-L1 Fred and Tamara

Number of participants: 61

1.

Case Study

Fred and Tamara

2.

Fred and Tamara, a married couple in their 30's, are applying for a business loan to help them realize their long-held dream of owning and operating their own restaurant. Fred is a highly promising graduate of a prestigious culinary school, and Tamara is an accomplished accountant. They share a strong entrepreneurial desire to be 'their own bosses' and to bring something new and wonderful to their local culinary scene; outside consultants have reviewed their business plan and assured them that they have a very promising and creative restaurant concept and the skills needed to implement it successfully. The consultants tell them they should have no problem getting a loan to get the business off the ground.

3.

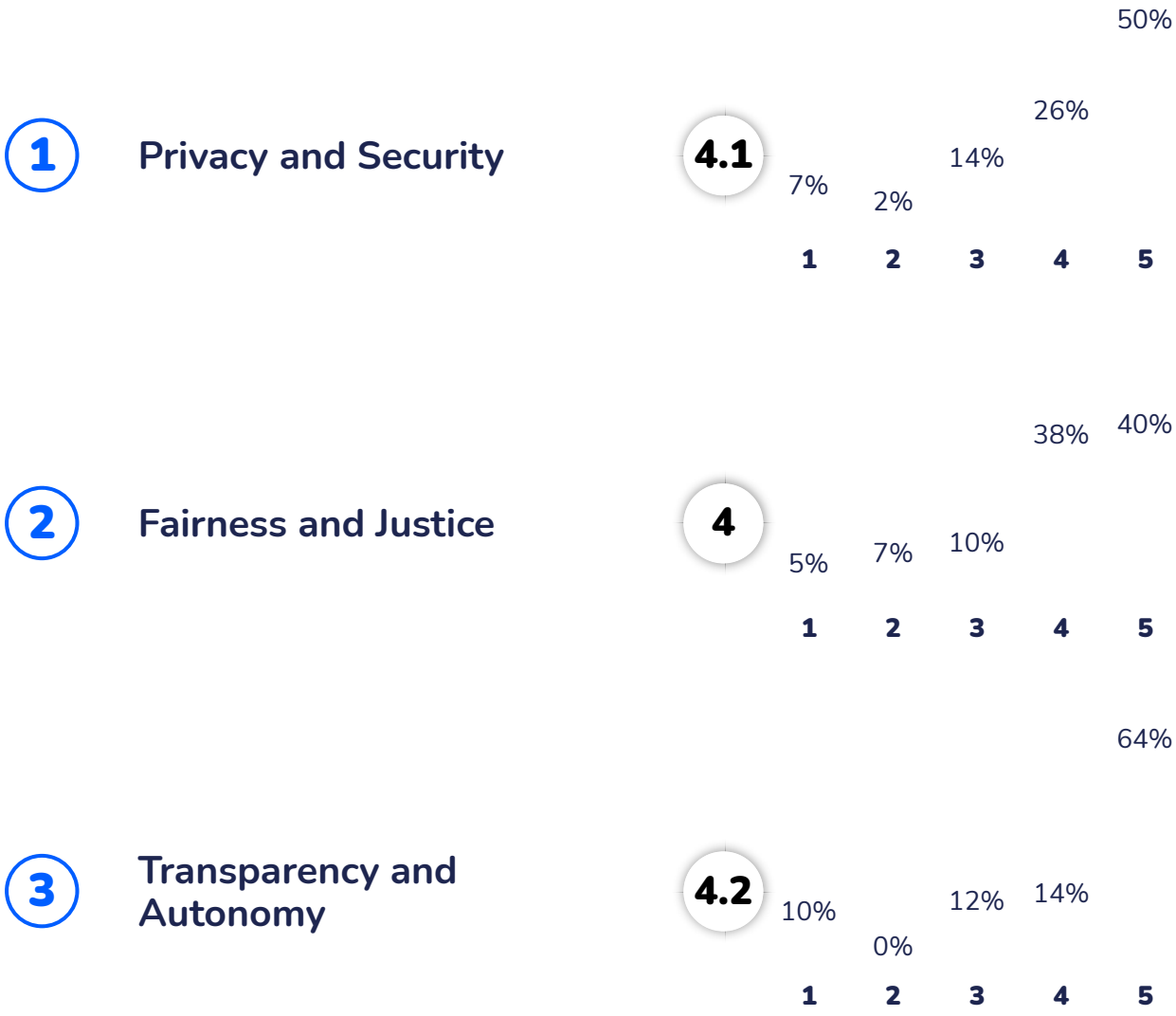
For evaluating loan applications, Fred and Tamara's local bank loan officer relies on an off-the-shelf software package that synthesizes a wide range of data profiles purchased from hundreds of private data brokers. As a result, it has access to information about Fred and Tamara's lives that goes well beyond what they were asked to disclose on their loan application. Some of this information is clearly relevant to the application, such as their on-time bill payment history. But a lot of the data used by the system's algorithms is of the sort that no human loan officer would normally think to look at, or have access to—including inferences from their drugstore purchases about their likely medical histories, information from online genetic registries about health risk factors in their extended families, data about the books they read and the movies they watch, and inferences about their racial background. Much of the information is accurate, but some of it is not.

4.

A few days after they apply, Fred and Tamara get a call from the loan officer saying their loan was not approved. When they ask why, they are told simply that the loan system rated them as ‘moderate-to-high risk.’ When they ask for more information, the loan officer says he doesn’t have any, and that the software company that built their loan system will not reveal any specifics about the proprietary algorithm or the data sources it draws from, or whether that data was even validated. In fact, they are told, not even the system’s designers know how what data led it to reach any particular result; all they can say is that statistically speaking, the system is ‘generally’ reliable. Fred and Tamara ask if they can appeal the decision, but they are told that there is no means of appeal, since the system will simply process their application again using the same algorithm and data, and will reach the same result.

5. Rate ethically significant harms Fred and Tamara might have suffered as a result of their loan denial.

43 respondents



6. What measures could the loan officer, the bank's managers, or the employees of the software company have taken to lessen or prevent those harms?

38 respondents

Should have designed an explainable model and made everyone aware what kinds of data could be retrieved

Explain to the couple on a high level on what went wrong- afterall a loan isnt exactly a small thing. Plus there should be the involvement of a human plus its mentioned that parts of the data is wrong

Error correction by human

Bank should take responsbility

Don't rely on a machine to make human decisions

Fairness audit

Human-in-the-loop

No real solution exists to this problem

A HITL who is actually responsible for the analysis who can utilise the software as a tool to accelerate decision making, but not replace it. The practice went too far in automating the process. The software developers are surely also in breach of GDPR? Or at least there is shaky ethics involved in corroborating these datasets.

Allow Fred and Tamara to appeal the decision

Ethically source data or use publicly available data.

Test the model on the real time data, make sure only the required data should be considered

Human intervention in the decision process. They should not leave the entire process to AI

A human decides

Limited the required data for assessing

By creating a transparent system which justifies the choices it made to come to a decision about making as high or low risk

Transparent and explainable model

Provide a clear explanation why the system return the results

The bank manager could step in and evaluate their profile himself. The software Devs could have added failsafes/alternate algorithm for such instances such as the appeal.

Software company should have laid out how exactly the information of loan applicants was being used

Only include relevant and authorised personal data

Using an explainable model

Transparency

Verification

They could have used a "human-in-the-loop" approach rather than delegating the whole job to the automated system

Software company should focus on explainability

Interviews with the applicants; white papers explaining the underlying software

Human intervention while developing the algorithm

Fill in the black boxes about the software's algorithm and remove access to private information

Provide insight into the system

Appeal system to have human review of case

Human made decision

Analyse and purge the dataset of irrelevant/unfair data

Understood the working of software for better transparency

Accountability

human-in-the-loop

Verifying the claims

Offer a clear appeal procedure