SusAD - Sample Answers for Airbnb

Airbnb

Accordingly to the company, "Airbnb is a trusted community marketplace for people to list, discover and book unique accommodations around the world. Whether an apartment for a night, a castle for a week, or a villa for a month, Airbnb connects people to unique travel experiences, at any price point, in more than 34,000 cities and over 190 countries."

Details can be found here:
https://www.airbnb.com/help/getting-started/how-it-works

Sample Answers

1 Social

1.1 Sense of Community

1.1.1.   Staying in a hotel does not really allow you to get to know people. In case of Airbnb it could be that the landlady or landlord actually lives in the same flat and the tenant gets the chance to get to know the people living in the flat, maybe even start a friendship. (individual, social)

1.1.2.   When staying at an Airbnb one has more personal contact to the landlord and thus to the local inhabitants. The stay becomes more personal. (individual, social)

1.1.3.   There is a better sense of community between the ones staying at the facilitations and the locals. (social)

1.1.4.   More use, rooms in private houses (minority on airbnb) - atmosphere in homes will change. What about children and others?

1.1.5.   High use(Long term): You do NOT meet the renters at all - door codes, precariously employed managers ('greeters') with fake 'ownership': No private owned houses anymore; Also, communities can be destroyed and are destroyed

1.1.6.   High use: Real residents forced out of apartments (indirect social, economic)

1.1.7.   Poorer people forced out of neighborhood (indirect social, economic)

1.1.8.   Even structural changes to apartments are made, family houses are becoming apartments. (systemic, social)

1.2 Trust

1.2.1.   Trust is a very prominent issue when it comes to Airbnb. Can the landlady/landlord really trust the tenant? What if the tenant causes trouble in any way? The rating history of the landlady and tenant provided by the system can help to establish trust (enabling effect, social).

1.2.2.   Using the system establishes trust between the users themselves, as one gets in personal contact with the each other (enabling effect, trust, social).

1.2.3.   When many people us the system over a longer period of time, people make a business model out of it. This leads to higher prices and less personal contact and thus, trust erodes (systemic effect, trust, social, economical).

1.3 Inclusiveness & Diversity

1.1.3.1. Airbnb can help to bring people having different backgrounds and coming from different cultures together. This might allow to help embracing diversity. (immediate effect / enabling effect, inclusiveness and diversity, social)

1.1.3.2. The system includes any kind of users and does not care for their different backgrounds, user groups, age groups, education levels, etc. See Airbnb policies and antidiscrimination rules. Thus, it has a positive effect on diversity. (immediate effect, inclusiveness and diversity, social)

1.1.3.3. The company owning the software system does claim to support diversity and inclusiveness with regard to their staff. (enabling effect?, inclusiveness and diversity, social)

1.1.3.4. The system does negatively impact the inclusiveness as it does not have different interfaces for different users and does not cater for disabled people. (immediate effect, inclusiveness and diversity, social)

1.1.3.5. Users change their perspective on the world and how they perceive others by getting in personal contacts with all kinds of different peoples (from) all over the world. (systemic effect, inclusiveness and diversity, social)

1.1.3.6. The system might even lead to a more inclusive and diverse world, if a large amount of the population uses it (correctly). (systemic effect, inclusiveness and diversity, social)

1.1.3.7. High use could also lead to higher prices of the appartements, poor people are forced to leave, thus much less diversity and gentrification. (socio, economic, indirect)

1.1.3.8. High use over a long period of time: structural changes (economic, social, systemic effect).

1.4 Equality

1.4.1.   While Airbnb treats is users equally, it might not treat people outside the software ecosystem with the necessary care. While Airbnb allows tourists to find a great home abroad, it might restrict the options for locals finding a suitable permanent home (enabling effect, social, economic, individual).

1.4.2.   The criteria for the order in which availabilities/hits are shown to the user are transparent (e.g. cost, size). Thus, the system does treat people equally (immediate effect, social, economic).

1.4.3.   Facilitation providers are only allowed to reject a user based on gender when certain conditions are meet (e.g. shared living rooms). Thus, people are treated differently (immediate effect, social, individual).

1.4.4.

1.4.5.   The company owning the system has the company policy to support equality with regard to their staff. This leads to more equality within the company but also with regard to the system, as

the people developing it are diverse. This also leads to a better product and a higher market share. (social, economic).

1.5 Participation and Communication

1.5.1. As the business process is carried out by the system, all interaction is facilitated by the system. AirBnB may affect people's participation is a specific social group if before they perceived themselves as a particular kind of traveler and now they are conversing to a different category, for example someone who used to go as cheap as possible and felt as home in the backpacker hostel community may choose to 'slightly upgrade' and now use AirBnB shared rooms or rooms within an apartment with the host, either because they feel a little safer that way (which may or may not be true) or because it gives them more privacy or simply more quietude. On the other hand, AirBnB guests often get to interact more immediately with locals if their host is the involved type, whereas in a backpackers' hostel the front desk is often staffed by travelers as well, and in hotels the interaction is usually limited to the transaction of room keys and payments. The latter may also be true for some of the AirBnB hosts, or the key may even be in a lock box, so it is not clear in which direction that may change participation.

1.5.2. It seems that there is the same amount of asynchronous communication as with other booking systems. Sometimes it feels more immediate because of the (optional) texting feature tied into the system, which may make someone feel more connected. Whether a person will ultimately feel more connected to a local group of people at their travel destination highly depends on which type of host (same residence and interested in conversation - or remote) they end up staying with.

2 Individual

2.1 Health

2.1.1. The system makes it easier/cheaper for people going on vacations and promotes personal contact with locals, which contributes to people's emotional health. (immediate effect, health, individual)

2.1.2. Quality standards for Airbnb homes are not as strict as they are for hotels, which could lead to people staying in flats that potentially could affect their health. (immediate effect, health, individual)

2.1.3. It is possible that people who use to live in a flat that is now being offered at Airbnb were forced to leave and could now be in worse-living conditions, affecting their health. (systemic effect, health, individual)

2.2 Lifelong learning

2.2.1. Allowing people to more easily travel can have a positive effect on education (enabling effect, individual). By meeting people from a different city or country we often get exposed to

new points of view - and if we are open to listening and reflecting on them, we can learn a lot about a local culture or just different perceptions of life in general.

    2.2.2.   We may experience new cuisines, new customs, new languages, new types of entertainment, new types of nature scenery, new literature, people from other professions, new types of sports, new hobbies, new styles of art, etc. Immersing ourselves in a culture we are not familiar with brings with it great potential for individual learning and growth.

    2.2.3.   Travel is one of the most impactful ways of opening your horizons.

2.3 Privacy

    2.3.1.   Home owners may see privacy issues by sharing a place with other people, but they know upfront what will happen and decide to share their home anyway (enabling effect, social, privacy, individual).

2.4 Safety

    2.4.1.   The system enables and encourages Airbnb hosts to invite unknown people to their home. This could put the hosts' families and premises in danger. (immediate effect, safety, individual)

    2.4.2.   The system enables and encourages Airbnb travellers to stay at strangers' home. This could put travellers in danger. (immediate effect, safety, individual)

2.5 Agency

    2.5.1.   The system enables and encourages Airbnb hosts to invite unknown people to their home. This could put the hosts' families and premises in danger. (immediate effect, safety, individual)

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3. Environmental

3.1 Material and Resources

    3.1.1.   Airbnb allows owners to make best use of their houses and flats. However, it could happen that providing more space for travellers in city centres causes building new homes for locals somewhere else. Furthermore, Airbnb might negatively affect the resource utilization of hotels. (enabling, environmental)

    3.1.2.   The limited use of Airbnb in its original sense (renting out our space while you are traveling yourself or renting out your spare bedroom), saves a lot of energy and resources because hosting someone in your private home will have less excess in use of piles of fresh towels, cleaning resources, catering, and housekeeping. It is a low key solution. Used by many people

over a few or even many years, it is still a low key solution in its original idea. (enabling, environmental)

3.1.3.   However, the actual effect that we are seeing is people turning it into a side business, purchasing property solely for the purpose of short-term rental and thereby turning them into kind-of-hotels that do use resources more in the sense of a traditional hotel or at least bed and breakfast. Consequently, the resource use is almost equivalent to a traditional hotel stay. (enabling, environmental)

3.2 Soil, Atmospheric and Water Pollution

3.2.1.   As Airbnb might encourage more people to travel it might have a negative impact on travel distances. If the number of travellers remains the same, there might not be a significant impact on "waste". (enabling, environmental)

3.2.2.   This seems similar to the impact in use of resources. Using Airbnb in its original sense of the sharing economy would have been a low key way of traveling, staying at private homes. By it turning out more like a kind-of-hotel, it also ends up creating almost equal amounts of different kinds of waste. Compared to the alternative, staying at a traditional hotel, it therefore has little impact but the potential to be lower. (enabling, environmental)

3.2.3.   On the other hand, there are now eco hotels who have specialized in creating low impact, which may be way better in saving resources and reducing waste than the average Airbnb. In my personal opinion this is smaller though than the potential reduction of waste by Airbnb, simply because of the low key factor. Also, the individual user seems to have more agency over it than if they were to stay at a traditional hotel. (enabling, environmental)

3.2.4.   Share rather than own idea of Airbnb is leading to a sustainable decrease in personal consumption,

3.2.5.   ownership and waste. Airbnb properties may consume less water than hotels per guest per night. Whether guests are staying or not hotels have to run the building facilities by consuming resources such as water. Airbnb may encourage hosts to use at least some cleaning products that are eco-friendly/green certified. (enabling, environmental)

3.3 Energy

3.3.1.   The use of specifically AirBnb does not have a perceivable impact on plant and animal lives.

3.3.2.   Taking a general notion of traveling it might be perceived as that the education might make travelers cherish other forms of life more, because they get exposed to different kinds of natural beauty. On the other hand, travel also causes a lot of negative environmental impact, most strongly visible in airplane emissions. (enabling, environmental)

3.4 Biodiversity and Land Use

3.4.1.   As Airbnb might encourage more people to travel it might have a negative impact. If the number of travellers remains the same there might not be a significant impact on "energy". (enabling, environmental)

3.4.2.   Using Airbnb in its original sense of the sharing economy would have been a low key way of traveling, staying at private homes. The use of Airbnb could make a difference because the private homes do not have the large communal spaces that hotels have. For example, no matter how many or few guests a hotel has, it will have to light up and clean the entire lobby, dining halls, restrooms, hallways, and other facilities, this is different in a private home. So the consumption of energy may be smaller, and that effect should scale with more users. (enabling, environmental)

3.4.3.   The 'sharing economy' idea of Airbnb is leading to a sustainable decrease in personal consumption, ownership and waste. Airbnb properties may consume less energy than hotels per guest per night. Whether guests are staying or not hotels have to run the building facilities by consuming energy. (enabling, environmental)

3.5 Logistics and Transportation

3.5.1.   As Airbnb might encourage more people to travel it might have a negative impact. (environmental, enabling)

3.5.2.   There is no perceived difference in the fuel consumption because people have to get to their Airbnb host same as they would have to get to a hotel. (environmental, enabling)

3.5.3.   Airbnb customers may explore their destinations using public or alternative transportation (cycle or walk), this is positive effect on fuel consumption. (environmental, enabling)

3.5.4.   On the other hand,getting lost on their way to the accommodation due to unclear directions,the lack of guidance with initial directions and the lack of a personal host welcome thereby increasing transportation time and fuel consumption. (environmental enabling)

4 Economic

4.1 Value

4.1.1.   Positive effect for owners, negative for hotels, negative for locals looking for flats. A more detailed investigation would be needed.(economic direct, enabling)

4.1.2.   In the initial sense of the sharing economy idea, Airbnb was offering a little side income for people renting out their private home, and maybe financing own travels doing so, thereby creating value, also in a scalable way. (economic, immediate)

4.1.3.   In the way how it turned out, users saw an opportunity to circumvent many of the rules that a traditional hotel has to follow, and having the same income without many of the related expenses. A main negative side effect by this has been that rental prices for downtown properties in many popular cities, like London and Barcelona, have gone through the roof. This seems like a misuse of the system or its intended purpose but Airbnb has taken no steps to stop or limit these seemingly predatory users who take advantage of loopholes in legislation. (economic, social, systemic effect)

4.1.4.   Value co-creation: The advent of sharing economy and notion of temporary use and sharing of resources has attracted consumers through convenience and lower prices, contrasting with the predominant traditional ownership market model. People increasingly seek to collaborate

by co-creating their own experiences with the host, resulting in meaningful value formation. Millennials are more interested in authentic experiences, discovering cultures through 'living like locals' feeling, which hotels often may not provide this environment. (individual, immediate)

4.1.5. Co-destruction may occur mostly due to negligence from the owner's side when used by many people in short period of time, such as miscommunication, not giving proper instructions or neglecting to provide the resources promised. (individual, immediate)

4.2 Customer Relationship Management (CRM)

4.2.1. While the primary extrinsic motivation to rent is for monetary benefits, welcoming tourists in one's home provides hosts with intrinsic motivation. Airbnb turns supplier-customer relationships to "guest to host" or "customer to customer" relationship. Having local reciprocal and mutually beneficial relationship could positively affect the local businesses.(economic, immediate, enabling; social, individual, immediate)

4.2.2. There are several relationships that can be analyzed. There is a CRM relationship between Airbnb and all users, and there is a relationship between the individual host and guest, which may also turn into a recurring one, and there is a kind of community CRM by the reviews and mutual endorsement mechanisms. As Airbnb is bringing together a new community of customers, it is unclear to say there is an improvement or worsening. It is a set of new relationships and due to the visibility of the online community it does have the potential of creating good CRM with high retention rates. (economic, immediate, enabling)

4.2.3. Airbnb as a company of course has an economic advantage. This should be true as well for owners and tenants. So, as all stakeholders "win" ideally they should be able to strengthen their relationship based on economic gain.(economic, immediate, enabling)

4.3 Supply chain

4.3.1. There is very little perceivable supply chain management for Airbnb as individual hosts and guests sign up for the system.

4.3.2. Airbnb also offers experiences, which are activities designed and inspired by locals.

4.3.3. Airbnb has photographers and insurance

4.4 Governance & Processes

4.4.1. In this case, the system essentially is the business process as opposed to the system just supporting an aspect of the value creation. Consequently, the better the direct user support is for the customers (both owners and renters), the better the central business process is supported. (enabling, economic)

4.5 Innovation and R&D

4.5.1. Airbnb is a system that is evolving a bit and deploying new features like now offering activities in travel destinations as well, in addition to the accommodation. This exploration presumably brings some return on investment.

5 Technical

For the technical dimensions, two scenarios exist:
- (a) conceptual idea. I.e. no technical solution has been designed or implemented
- (b) a software system exists (system evolution) or at least a technical design exists

5.1 Maintainability

5.1.1. Airbnb is a widely used and is kept up to date continuously. So even in 10 years of updates or bug fixes, extensions should be rather easy to implement. (immediate, technical)

5.2 Usability

5.2.1. Airbnb is used by millions of users and the interface seems to work fine for most of them. This also means that first time users should be fine as the application uses mostly standardized gui elements. (immediate, technical)

5.3 Extensibility & Adaptability

5.3.1. Airbnb is a widely used and is kept up to date continuously. So even in 10 years updates or bug fixes, extensions should be rather easy to implement. (immediate, technical)

5.4 Security

5.4.1. Airbnb seems to be secure, but I don't really know. We also do not know what happens to our data in case there is a security breach. Vulnerabilities are unknown. (immediate, technical)

5.5 Scalability

5.5.1. The Airbnb software system maybe could be used in other scenarios, but it is rather unlikely that the company would want to do this. (immediate, technical)

Sample SusAD Diagram

To be completed

Appendix 1: Sustainability

A.1 Sustainability

The concept of sustainability can be understood in the field of software and requirements engineering as the "capacity" of a system "to endure" [Oxford dictionary]. A closely related term, sustainable development, was defined by the Brundtland Commission as "meeting the needs of the present without compromising the ability of future generations to meet their own needs". Increasingly, it is advocated that sustainability requires simultaneous consideration of five interrelated dimensions (environmental, economic, individual, social, and technical) and their orders of effect:

A.2 Sustainability Dimensions

Becker et al. 2016:
- The individual dimension covers individual freedom and agency (the ability to act in an environment), human dignity, and fulfillment. It includes individuals' ability to thrive, exercise their rights, and develop freely.
- The social dimension covers relationships between individuals and groups. For example, it covers the structures of mutual trust and communication in a social system and the balance between conflicting interests.
- The economic dimension covers financial aspects and business value. It includes capital growth and liquidity, investment questions, and financial operations.
- The technical dimension covers the ability to maintain and evolve artificial systems (such as software) over time. It refers to maintenance and evolution, resilience, and the ease of system transitions.
- The environmental dimension covers the use and stewardship of natural resources. It includes questions ranging from immediate waste production and energy consumption to the balance of local ecosystems and climate change concerns.

A.3 Orders of Effects

LES model, Hilty & Aebischer 2015:
1. Life-cycle/immediate effects: What is the direct resource usage and output creation (including waste) of the production, runtime maintenance, and end-of-life of the system?
2. Enabling effects: How does usage of the system change user behavior in their context?
3. Systemic effects: How could extensive usage (by many users) of the system over a long period of time (e.g. a decade) change the wider context of the system or the society (e.g. a local community, a city, or even a country or the world)?