

Applications and Challenges with Emerging Technologies

Term End Assignment – Shuaib Suleman

Question 1

Business Model and Industry Overview

Airbnb is a multisided platform working as an aggregator business model that links passengers with hosts and experience providers. The company earns money via booking fees associated with stays and experiences. Like Uber, Airbnb's business model is supported by an internet platform that connects each strategy component. Because it does not own any of the rooms listed on its website and does not manage a large hospitality staff, the company has a significantly lower cost structure than the hotel chains with which it competes.

Airbnb's primary expenditures are platform management and marketing, which explains how quickly they have scaled. The success of Airbnb's business strategy is built on a low-cost framework. It devised a novel method, a multisided platform for collaborating with idle property owners. Airbnb differs from other matchmaking services such as booking.com in that travellers associate the listed apartments and rooms with the Airbnb brand in the same way that they would a regular hotel chain.

Airbnb helps solve a problem (and addresses the ambitions of many people who want to enter the real estate market). The business model is designed for a mass market, and it connects mass markets in an innovative way (travellers, hosts, and experience providers). Airbnb has developed communities of fans for all of its client categories through its rating system and ability to personalise experiences.

The fundamental value proposition of Airbnb is an information-based offering. They do not own any of the properties and are not required to provide value in the form of tangible assets. Instead, its business model is based on matching people who have something to offer with others who need what they have. At the centre of it all is information. Furthermore, as a marketplace, Airbnb offers various revenue streams, all of which are related to booking stays and experiences.

Since 2010, Airbnb's market share has skyrocketed. According to 2019 data, Airbnb now accounts for up to 20% of the overall vacation rental sector. With the overall market estimated to be worth \$87 billion in 2020, Airbnb's total revenue is likely to be in the \$20 billion range.

Emerging Technologies Explored

Airbnb has incorporated scalability into all of its operations on the operational front. Whether collaborating with authorities or creating ads and apps, Airbnb has established systems that allow it to enter new markets fast in ways that brick-and-mortar hotels cannot. This is connected by Airbnb's algorithms, which churn through millions and millions of stays, guests, hosts, and experiences, pairing the correct value propositions with the appropriate individuals. This virtuous loop feeds back into Airbnb's client connections, which provide data back to the algorithm.

Airbnb staff have the authority to make decisions that benefit consumers. While Airbnb is not a holacracy, it does empower people with the capacity to collaborate to solve challenges and provide better experiences for its customers.

Every reservation made on Airbnb interacts with machine learning or artificial intelligence (AI) technology. Airbnb employs AI across the business to decrease the friction that comes with the

platform, from enhancing search to avoiding fraud to assisting hosts with pricing optimisation. The platform earns a fee for authorising or executing a transaction under the transaction fee revenue model. The platform charges real estate providers to list and advertise their listings.

In 2013, they started developing machine learning models to improve search and discovery capabilities. For example, this may entail matching people with the most relevant listings, experiences, and services worldwide on the visitor side.

Airbnb has improved Smart Pricing for hosts, making it easier to anticipate the likelihood of a listing being booked at a certain price on a specific calendar date. This helps their search engine, and they are also using machine learning techniques and AI development to understand images better to match their guests better. They are trying to understand better how they can leverage pictures and language to reveal listings where the host, for example, did not disclose the presence of a crib, but their photo depicts a crib in one of the rooms?

Natural language processing (NLP) is being used to improve evaluations as we often see reviews that are more about the city tourists visited than the listing. Airbnb uses NLP to surface assessments relevant to the listing, giving future guests the greatest possible experience. Using NLP to support more complex searches, guests can search for cities, for example, "a beach house in Durban for families," in the open text, and the returned results include both images and text.

Regulatory challenges faced

Airbnb is asset-light since it is the sellers that manage resource inventories and enable resource aggregation by coordinating various buyers and sellers. They have practically zero marginal costs, e.g., instead of employing people, Airbnb benefits from external resources (e.g., their hosts). They profit from network effects, e.g., on Airbnb, the more hosts register on the site, the more visitors register, and vice versa.

Against this backdrop of recent expansion, governments have been bombarded with proposals to regulate home-sharing, most frequently from housing advocates, the hotel sector, and citizens concerned about neighbourhood safety and liveability. There is also widespread public support for regulation, with a 2018 Angus Reid poll revealing that more than half of respondents wanted Airbnb to be regulated in the same way that hotels are and that 45 per cent wanted Short term rentals (STRs) to be limited to primary residences.

Furthermore, according to a Nanos public opinion survey commissioned by the Hotel Association of Canada in 2018, more than half of respondents thought STRs had a slightly unfavourable or terrible impact on neighbourhood quality of life, while nearly a quarter believed they had a very negative effect. Licensing frameworks are a fundamental method used in administering the STR market. Many local municipalities have implemented registration and licensing systems for STR operators as part of their regulatory strategy.

The licensure process, in particular, assists in legitimate and formalising the practice of home-sharing in a specific jurisdiction. In general, receiving a license to operate an STR is conditional on conformity with zoning and land-use rules.

Local governments can employ zoning and land use bylaws to limit the activities and use authorised in a particular area based on the type of neighbourhood and usual activity (e.g., whether the community is designated as commercial, residential, or mixed-use).

In the context of the STR market, such frameworks allow authorities to limit the extent to which an increase in activity negatively impacts local community dynamics and makeup—that is, to prevent commercial STR operations from encroaching on residential use, thereby helping to preserve long-term housing stock or to limit the extent to which typically residential STR operations violate on commercial STR operations.

Question 2

I anticipate that AI will soon take over many tasks previously performed by humans or that AI will partially automate human jobs, allowing people to do less labour and more application. This will be a significant concern if human jobs are not developed in other sectors of the economy. If fewer individuals work, the government's tax collection from income and payroll taxes will fall considerably, reducing the money available for social safety net spending, which are net initiatives that help the poor, the aged, and the unemployed. These projects will no longer be able to be funded by the government unless they are supported in another way. Solutions to this problem are now being considered, and they include a robot tax, Universal Basic Income (UBI), and worker reskilling.

A robot tax would disincentivise enterprises from utilising AI and automation, especially in poorer economies. It aids in preserving human jobs and gives the government the funds it requires to keep social safety net programs afloat. On the other hand, a robot tax might harm the economy by driving enterprises that use AI and automation to relocate to nations with no robot tax. Another feasible option is UBI, which would provide a fixed amount of money per person.

The distinction between automation and AI is that automation performs repetitive tasks, but AI's purpose is to emulate human thought and behaviour. Some feel that AI will have a more significant impact on white-collar occupations than blue-collar jobs. AI is less likely to impact or replace jobs that require human interaction, such as teaching, and more likely to affect or replace jobs that require learning from previous experiences, optimisation, judgment, and executing specified tasks. Automation algorithms can measure their performance, accuracy, and signalling when they need repairs or maintenance.

AI has made its mark in the realm of white-collar law. ROSS, developed by IBM, is the world's first AI virtual attorney. ROSS saves attorneys numerous hours that they would have spent on legal study otherwise. Legal research automation might lower the cost of hiring an attorney because less time would be spent on legal research, perhaps the most time-consuming component of an attorney's profession, making the process faster and easier. ROSS has been assigned a legal research role, which is often occupied by lawyers who have recently graduated from law school. ROSS appears to be a terrific tool for experienced attorneys, but it results in fewer hiring prospects for inexperienced attorneys straight out of law school.

Middle management positions in finance and inventory management are also vulnerable to AI infiltration. People in these professions are responsible for converting vast amounts of data into conclusive business judgments, which AI is perfectly capable of achieving. AI may also displace many medical professionals' jobs. A group of academics has developed an AI algorithm that beats human radiologists in detecting breast cancer in mammograms, minimising the number of false positives and false negatives.

PricewaterhouseCoopers (PwC) published a report in 2018 that summarised their critical findings on the possible influence of Artificial intelligence and other forms of automation on several industries such as transportation, financial services, and healthcare. Some results are not surprising, such as the fact that by the mid-2030s, 50 percent of transportation employment might be automated. Given the significant recent advancements in self-driving cars, this is no surprise, particularly Tesla's autopilot feature. PwC predicts that by the mid-2030s, approximately 30% of financial industry employment will be automated.

According to PwC, professionals in the education business will face the least risk of future automation, with human health and social work jobs trailing closely behind. Like the COVID-19 epidemic, many reasons contribute to the rising adoption of automation in positions.

The epidemic has provided an incentive for businesses to automate human employment because machines, unlike people, do not feel sick, do not require "social distancing", and will never need to take time off or take breaks. Covid-19, for example, has resulted in a decrease in toll booth operators in South Africa. To purportedly "protect the health of drivers and toll booth collectors," the city installed FasTrak tags on windshields so individuals could automatically pay toll booths. If they didn't have one of these tags, bills were delivered to the address linked to their license plate.

If robots and machines take over human occupations, they are not compelled to pay taxes on their labour because they do not receive a paycheck—they save the corporation money. With the rise of automation and artificial intelligence in blue and white-collar jobs, the government may need to expand the social safety net. A rise in unemployment will increase the demand for social programs to which people who are out of a job might temporarily "fall back". The government will find it challenging to fund this growth in the need for social services since the substantial increase in the number of individuals in need of social programs will not contribute to the taxes that fund them.

The United States is at a high risk of fast automation because labour and capital tax treatment disparity encourages enterprises to automate. For the past four decades, the average tax rate on work has been approximately 25%, while other capital items such as software, equipment, and buildings have been taxed at a lower rate—now around 5%. This means that businesses that employ humans must pay an additional 25 cents in taxes for every dollar earned by a human worker, raising the cost of employee labour by 25%. This demonstrates why many organisations prefer to use automation or AI over human labour.

The reskilling of workers is a strategy to stay ahead of AI and automation by preparing them to be valuable employees who can work with new technology. If firms and employers invested time and money in reskilling their employees, both the employer and the employee would gain in the long run. The employer will benefit because when AI and employees collaborate, they are more productive, and the employer may generate more money. Employees will gain from reskilling since it will keep them from losing their jobs.

However, for reskilling to succeed, AI and automation must create more jobs than they eliminate for humans to apply their newly gained abilities in the workplace. Suppose AI and automation destroy more jobs than they create. It won't matter if workers were reskilled because what they were reskilled to perform may be automated by AI, or there may not be enough employment to employ suitable workers.

Question 3

Employees generally oppose organisational change because they lack the motivation, skills, role clarity, or situational support to modify their attitudes, decisions, and behaviour. As a result of their personality and ideals, some people are naturally resistant to change. People are rarely quick or easy to accept change. They have valid reasons to oppose change or do not recognise the need for change, mainly when it demands them to adjust their conduct. The foundation of the six most commonly cited reasons why people resist change are :

(1) The negative valence of change

Employees are more likely to resist change if they believe the new scenario will result in worse than positive results. Individuals use (though poorly) the rational choice decision-making model (Chapter 7) to determine whether the change will benefit or harm them. This cost-benefit analysis focuses on how the change will impact them individually. However, resistance grows when people believe the change would harm the team, business, or society more than it will help.

(2) Fear of the unknown

When employees are unsure whether the change will positively or negatively impact them, they assume the worse. Uncertainty is also linked to a loss of personal control, which is a cause of negative feelings. As a result, the uncertainty of organisational change is generally regarded as less desirable than the relative certainty of the status quo. This "status quo bias" compounds the negative valence of the cost-benefit calculation discussed above.

(3) Not-invented-here syndrome

Employees may oppose or even covertly undermine organisational reform initiatives initiated by others. This "not-invented-here" mentality is especially noticeable among personnel typically in charge of knowledge or industry. Information technology employees, for example, are more inclined to oppose the implementation of new technology championed by marketing or finance employees. If IT staff supports the change, they implicitly admit another group's superiority within IT's domain. To maintain their self-esteem, some employees purposefully exaggerate problems caused by changes they did not originate to "show" that those ideas were not superior to their own.

(4) Breaking routines

People are creatures who stick to their routines. They usually oppose initiatives that force them to break out of their automatic practices and learn new roles. Employees tend to revert to their old ways and habits unless their unique behaviour patterns are aggressively supported and reinforced. "You know you're going to disturb comfortable habits and ask for new behaviour, priorities, and abilities when you're leading for development.

(5) incongruent team dynamics

Teams create and enforce a set of behavioural standards that influence behaviour. Employees may be hesitant to accept organisational change if they adhere to existing team standards. Team norms, for example, may sabotage corporate efforts to improve customer service by discouraging the extra effort required to serve consumers to this higher standard.

(6) Incongruent organisational systems and structures

Organisational transformation is aided and hindered by rewards, information systems, patterns of authority, career routes, selection criteria, and other systems and structures. They encourage desired actions when they're appropriately aligned. They drag people back into their old attitudes and behaviours when they are out of alignment. After failing to transcend the structural constraints of the past, even the most ardent personnel lose steam.

Employees' resistance to change can be reduced by informing them about the change effort (communicating). Teaching employees useful future skills (learning):

- integrating them in the change process;
- assisting employees in coping with change stress;
- negotiating trade-offs with individuals who will lose out on the change effort;
- and utilising coercive (sparingly and as a last resort).

Any organisational change must begin with communication as the greatest priority and first tactic. Communication (and engagement) is the most effective technique for involving people in the transformation process. In at least two ways, communication aids the transformation process. First and foremost, communication is required to create a sense of urgency for change. Employees are motivated to support change when their leaders openly discuss the external threats and opportunities that drive it. Recognise the crucial need for open communication in times of transition.

Employee engagement must be closely linked to internal communications during this transition. I will use every communication tool to ensure that our messages are consistent and visible. I will hang posters in all of our restrooms and strategic corridors. I will also keep a close eye on whether the roadshow messages were being adequately disseminated. During this transformation, one of the most fundamental communication goals is to create a sense of urgency for change. I will have to convince people that the shift is genuine and that it affects them and also must make sure they realise how the change will benefit them or how not changing will cost them.

Communication also reduces change resistance by illuminating the future and lowering the fear of the unknown. Employees will better grasp their roles in the future if leaders provide more details about the vision and milestones previously achieved.

Employees need new knowledge and abilities to match the organisation's developing requirements. Hence learning is a crucial element in most organisational transformation programs. Learning improves employee performance after a change and raises their preparation for change by bolstering their confidence to operate successfully in the new circumstances (called change self-efficacy). Employees with a higher level of change self-efficacy are more likely to accept and adhere to the change.

Employee involvement is almost essential in the change process, yet it may be necessary to have a limited level of participation if the change must happen quickly. Employee involvement has the potential to be beneficial to organisational change. Rather than being indifferent agents of someone else's decisions, employees who engage in decision-making regarding a change feel a more personal responsibility for its successful implementation. This feeling of ownership also helps to reduce the not-invented-here mentality and the fear of the unknown. Furthermore, because the workplace is complicated, finding the appropriate direction for the change effort necessitates the input and understanding of a large number of employees. Employee engagement is an integral part of

organisational transformation in that special programs have been created to allow big numbers to participate.

Many people find organisational change difficult because it challenges their self-esteem and leaves them worried about the future. Some pressures can be mitigated by communication, learning, and staff involvement. However, research suggests that businesses should implement stress management methods to help employees cope with change. Stress management, in particular, reduces resistance by reducing some of the negative connotations and anxiety associated with the transition process.

Organisational transformation techniques will necessitate various persuasion tools as long as people oppose change. Negotiation is a type of persuasion that involves the promise of rewards or resources in exchange for the target person's agreement to the influencer's request. Those whom the change would otherwise harm may support this technique. On the other hand, this assistance frequently results in only compliance with the change initiative. Negotiation rarely results in long-term commitment to change. Hence it may be ineffective.

If everything else fails, I will use coercion as part of the transformation process. Coercion encompasses a variety of assertive influence behaviours, such as reminding people of their responsibilities regularly, closely monitoring behaviour to ensure compliance, confronting people who refuse to change and threatening punishment (including dismissal) to force compliance.

Unfreezing and altering one's behaviour will not result in long-term change. People are creatures of habit. Therefore, it's easy for them to revert to old habits. As a result, I must refreeze new habits by realigning organisational structures and team dynamics to reflect the intended changes. By altering the physical structure and surrounding situations, desired behavioural patterns can be "nailed down." Organisational rewards can potentially refreeze behaviours. As the goal of the change process is to increase efficiency, incentives should be restructured to encourage and reinforce efficient behaviour.

Information systems play a critical role in the change process, especially as feedback conduits. Employees can understand how effectively they are doing toward their goals by using feedback systems, and they can also create a long-term framework to sustain the new behaviour patterns. "What gets measured gets done," as the cliché goes. Employees are more focused on the latest priorities when they receive constant feedback on how effectively they meet those objectives.

A strategic vision is an integral part of guiding change. A leader's vision offers direction and creates the essential success elements against which real-world improvements are measured. Furthermore, because it connects the individual's values and self-concept to the intended change, a vision provides an emotional foundation for the difference. A strategic vision also reduces employee fear of the unknown and helps employees understand what habits they need to master to achieve the desired future.

I will utilise Social networks, which are systems of people connected through one or more forms of interdependence, which can help to strengthen the transformation process. They have a crucial role in communication and influence, which are essential components of organisational change. Coalition members contribute to the transformation process by feeding into these networks. Whether the change agent has a formal coalition, social networks contribute to organisational change.

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