IBE 505 1 Industriell digitalisering

13. mai 2022

Student ID: 191290

Pages: 9

Question 1 **3**

Question 2 **5**

Question 3 **6**

Question 4 **8**

Question 1

a)

According to the interviews and surveys, my main focus should be on a way to tackle delivery time and real-time package tracking. Developing a system for package tracking could be done in a plethora of ways. Such as providing or using another service that updates your package's location either each step of its transportation journey, or constantly through a chip, which can be removed when delivered to the final destination. The latter could be optional, possibly with a small fee, while both could utilize the same application for tracking.

Faster delivery could also be approached in several ways, from having strategic placements for our products and warehouses, to automatic and instant retrieval of confirmed orders, and regular updates to our packing and sending practices, combined with the most efficient routes of transportation. The possibility to use drones on smaller packages when distances and conditions are appropriate could make for deliveries within very short timeframes. By using data analytics and prior information, this option could be available when enough of those conditions are met.

b)

Paying a small fee for an optional chip or other type of Global Positioning System (GPS) that is removed or deactivated once it reaches the final destination for greater package tracking.
Using blockchain technology to quickly save each step and destination your package reaches makes for a rapid and accurate history of its transportation if implemented correctly, which could be reached by all parties with access.
Using data analytics, AI, and other types of information handlers to allow drones to operate and be a choice under certain conditions.

c)

I would oversee information technology (IT) and ensure that our processes are running smoothly whilst looking if our new technology and solutions are beneficial for

our company as a whole, including customers and stakeholders. I would also push for further innovation as our technology advances and we get more results and feedback by prior implementation.

d)

We should ensure that there is proper personnel and sufficient training for the roles of parties in our company, either by lowering the skills required for certain roles, such as the manual parts of our warehouse, delivery and preparations. By creating a strong culture around these sections of our company, we wouldn't have any misaligned incentives or larger misunderstandings. If we're clear about our hiring preferences for each section, while streamlining the high-demand positions, this job can be done.

e)

As we offer our source out for transportation, the possibility for drones and automatic processes, we could utilize affordable and clean energy, while also developing and creating demand for these sustainable energy sources.

We will further foster innovation and promote inclusive and sustainable industrialization with our practices and infrastructure.

Given our possible growth and profit, we could take stances on certain climate action, poverty and education. Promoting, assisting and taking an active role in these.

Question 2

a)

With the implementation of systems such as AR and VR, students could interact with each other, teachers, lab equipment and do certain tasks from their own locations without hindering their learning experience. It could also greatly reduce the cost of certain lab-equipments and material if these things are done virtually a larger part of time.

b)

Using certain algorithms, or ways to analyze data and patterns, we could develop systems that aid in finding plagiarism, even if paraphrased and altered slightly. There should also be a culture of trust between the student and the institution.

c)

One of the ways our students could interact with or do activities that otherwise would require them to be present at school or a lab would be with augmented reality (AR). This allows the user to interact with virtual objects in the real world. This can be implemented in a way where size, operation, sounds, and other elements are very realistic, yet all in your location of choice.

With virtual reality (VR), the user can enter a digital reality, or environment, where one can interact with objects and be immersed in the surrounding and setting.

And finally, developing a type of system that combines information (data analytics, AI, etc) can be capable of finding plagiarism even when or if paraphrased and altered slightly by looking at patterns and comparing tendencies, and so on to enhance credibility.

d)

The lack of physical contact and interaction, which may be crucial for good learning environments. Depending on what we’re trying to teach and learn, some things may need to be as accurate as possible, only possible in real life.

e)

This could greatly reduce the use of certain resources used by different labs and physical practices, whose production can be environmentally damaging, both in manufacturing and supplying.

While our replacement with AR and VR can be built using sustainable practices and run by clean energy.

Question 3

a)

If we could streamline and be clear about hiring preference and skill requirements, one could have a role that specifically evaluates patients, a role that treats patients, and a system in place to manage resources and enhance services.

One of the ways digital transformation can be used is to apply data analytics and AI to efficiently meet the demand of certain resources at the correct time and reduce operating cost by reducing wasted resources.

Some tasks could be completed by robots, such as dozing and rolling out medication to patients automatically. Interacting with patients and doing otherwise replaceable tasks like transportation, delivering messages, resulting in wasting as little time as possible for the personnel.

b)

We would use data analytics and AI to more accurately meet the required resources. While using robots and maybe implementing Robotic Process Automation (RPA) for them to do more “human-like” tasks, leaving more room for other personnel to complete other jobs.

c)

One of the advantages of cloud implementation for this solution would be using a hybrid cloud where users can check prior to contacting the hospital in regards to our services, the treatments we offer, how crowded we are, and so on. While the private

part of our cloud could manage and give personnel a similar overview with more relevant details.

The four cloud models:
Public cloud, which offers access to a service through the internet and doesn’t need to be installed, maintained and whatnot by the users.

Private cloud is an infrastructure designed and operated by one company.

Hybrid cloud integrates elements of the public and private clouds, and allows for cooperation and management between the two. Such as the public accessing some of the private services.

Multi Cloud uses parts of different clouds and services from at least two cloud providers.

d)
Some of these systems could and should be open source and easily accessible as long as there’s security measures in place which don't allow bad actors to more easily interfere once they’re in place. The goal should be treating as many people as possible with good care, which with openness and cooperation should be possible.

e)
Similarly to questions above, using our proposed solutions could greatly reduce wasted resources and reduce the use of certain complex supply-lines. While most of the technology and services can be run on renewable, clean energy. Additionally, we could use our public cloud section to share information with others that could benefit those with less resources and educate about health concerns, results and so on.

Question 4

a)

A defensive strategy is mostly in regards to protecting a business for the competition or impending chances, where companies try to act rationally and plan ahead to meet emerging and changing technologies. While aggressive strategies try to separate themselves from other companies, perhaps doing something extra to benefit. An example of this from our E-book Industrial Digital Transformation (2020), is Tesla and electric cars. Where most companies are making electric cars at a loss currently, as we're likely going to see the profit in the future. Tesla however approaches this by having a higher price on their vehicles by creating a more premium brand and title.

b)

Covid has changed a lot of companies and how they operate. One of the most accelerated areas is the supply-chain and customer access through digital means. Since it has been and is recommended to avoid physical contact when possible, several companies have developed better systems for digital access and online options. While this also became a popular option, demand for these services grew throughout the pandemic, and eventually led to the acceleration of digitization by several years ahead. Additionally, to now be competitive with these and other companies, this requires similar development and emerging technologies to not fall behind.

c)

A technically debt refers to the implied cost of a change. Whereas it can be uncertain if the debt is repaid by the change being profitable.

d)

Some failures can happen when the changes don't go accordingly. Be it not providing the expected profit, value or benefit planned, or failing to be implemented altogether. This can happen with poor planning or misaligned incentives and focus or cultural shifts.

e)

Lights out manufacturing is essentially a fully automated production process or production line. Where the only job of humans and personnel is maintenance and overviewing that the process goes according to plan, while robots, programs and others systems work together on the service provided.