Mohammad Ali Jinnah University

PROJECT NAME

Delivery Improvement via Drones in AMAZON

MEMBERS

Syeda Mahnoor (FA20-BSSE-1003)

Sunbla Khan (SP20-BSSE-0027)

INSTRUCTOR NAME

Mohammad Saad Saghir

SECTION

BM

Table of Contents

ABSTRACT

Background: Technology always helped in making our lives easier and to make the simple and fastest approach for each task in the world. Over the past centuries, people have switched to eCommerce and it will be expected to become a global trend. Big companies like Amazon are always looking to bring more and more technology to provide faster, reliable, and more quality service to their customers.

Amazon was the first company to provide two-days delivery service, and they always did reengineering their delivery process to make it faster and reliable for their customers. Later, they started to provide a 1-day delivery service, which wasimpressive.

Solution: Customers have an option to select this delivery option and the drone will deliver the product in 60 mins. There are many constraints that they work on to maintain the quality and safety of the customers. The drone is a hybrid design that can do vertical takeoff and landings like a helicopter.

INTRODUCTION

Amazon is one of the big five American multinational companies that focus on eCommerce, cloud computing, digital streaming, machine learning, and AI. Amazon was the first company to switch to an online book store in 1994 and expanded its business further in different product categories, and became the first eCommerce company to provide quality services to its customers. Jeff Bezos, Founder of Amazon, continuously working to bring more innovative ideas and better technology to provide better and better quality products to his customers with the help of BPE, IT, AI, Robotics and machine learning.

MISSION

- User-friendly platform
- Lowest possible price
- Convenient delivery options
- Fastest-services
- Best possible recommendation and selection

VISION

"Our vision is to be earth's most customer-centric company; to build a place where people can come to find and discover anything they might want to buy online."

VALUES

- Customer-obsessed
- Invent and simplify
- Curosity to turn impossible things into possible
- Hire and develop the best
- Insist on the highest standards
- Think Big

Problem Statement

Due to the pandemic, eCommerce traditional delivery services need to be more effective to find a solution for social distancing, client satisfaction and improve the quality and time of delivery for customers. And that's why physical delivery service was not entirely helpful during the pandemic. That's why they brought drones delivery that is more advance, time, and cost-consuming for the customers.

BUSINESS PROCESS RE-ENGINEERING

Business process re-engineering required redesign and rethinking to increase the efficiency level of any organizational task. It includes cost reduction, time-consuming, better service with advanced technology and IT. Different companies use BPE to become more productive and efficient in the business industry by bringing innovative solutions for the problems faced by their customers with more flexibility and quickness in the service or product. There are many other reasons why most companies are redesigning and automating their processes to build a a better company image, competitive advantage, and achieve high customer satisfaction and revenue.

ROLE OF IT IN BUSINESS PROCESS RE-ENGINEERING

The main goal of BPE is to redesign and rethink to make the process easier and faster that is only possible through IT, machine learning, AI, and automation. Companies have adopted advanced technology to turn impossible tasks into possible ones to become competitive. IT plays a significant role in the BPE because most tasks rely on automation, cloud computing, AI, and machine learning. Companies focus on the

performance of their process by checking the performance measure such as cost, time, speed, and health with the help of IT advancement.

AMAZON

Amazon continuously improved the level of quality and best services for their customers. Before 2013, Amazon provided physical 2-day and 1-day delivery to their customers. The problem was that physical delivery takes too much time with labor cost, effort, and time. But with the need for faster delivery with the minimum labor cost, time, and effort. Amazon started working on drones delivery with the help of machine learning, AI, robotics, and space.

Furthermore, when the COVID-19 began in 2019,, the world switched to online. Everyone had to stay quarantined and follow the SOPs such as social distancing. It has become critical to deliver products physically and become a significant issue. In this way, drones delivery becomes the most suitable option for the customers for contactless delivery. Fortunately, in 2020, Amazon got permission to conduct drones operations. However, the Amazon Prime Air program is still in progress and will start functioning in the coming years

RESULT OF BPR

After starting the prime air program, Amazon will make more likely to improve the following factors that described below

1. **Customer Satisfaction:** Since Amazon first priority is to keep their customers satisfied and happy with the products, delivery, and sellers in a reasonable time and price. Prime Air program will help in acheving the great level of customer satisfaction
2. **COST:** Before prime air program, shipping cost is higher because of goods weight, and labor cost. Prime Air program will help in decreasing the cost of shipping and customer will receive faster service in cheaper prices
3. **QUALITY:** Chances of broken products during shipping and delivery will decrease and yet customer will be able to receive their product in time with the better quality and less chances of defects, broken item disapointments
4. **RESPONSE TIME:** Prime Air Program will decrease the response response time from 48 hours to 1 hour which is quite impressive for the customers yet safe

CONSTRAINTS OF DRONES DELIVERY

There are a few constraints that Amazon resolved when conducting the drones operation

1. **Safety Meansure:** Drones with AI and machine learning can detect wires, clotheslines or any moving objects to be avoided for safety purposes
2. **Safe Landing in area free of people:** Advanced algorithm to detect small area free of people and animals to be landed safely
3. **COVID Outbreak and SOPs:** No physical interaction, maintaining social distance to stay safe and healthy
4. **Fuels Save and Carbon Free World:** With the help of drones, people can stay home and safe fuel usage which will be indirectly helpful for the environment to be more carbon free

SUMMARY

In short, Amazon prime air program will be quite helpful in terms of safety, cost, customer satisfaction, reliability and time. In the coming era, people will more likely to switch to online for the shopping, since this is time consuming physically and people don't have time with doing multiple things in their lifes. This program will also help in making the environment good for us by providing chargeable drones delivery with no fuel and carbon.

REFERENCES

https://www.aboutamazon.com/news/transportation/a-drone-program-taking-flight
https://time.com/6093371/amazon-drone-delivery-service/