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EMERGING TECHNOLOGY

Executive Summary

Technology plays an important role in terms of driving business success by enhancing the efficiency and productivity of the company. This study is entirely based on the United Parcel Service (UPS) Company where the use of different emerging technologies to improve their productivity is mentioned in this study. Three emerging technologies have been recommended here, in the study that improves the offerings of the service. Besides, an area is mentioned where the technologies need to be implemented by the company. Besides, two-cyber security trends are mentioned which data breaching and cloud are computing that the company needs to be considered.

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Introduction

Emerging technologies within business operations are effective in order to address any business problems such as inconsistent planning, coordination issue, communication gap, and lack of transparency in the supply chain and offer solutions with respect to these challenges to the company. In the current business market, emerging technology affects productivity and a company's business operations. It enhances the necessary demands of the company and works on improving resilience within the business. This study sheds light on the use of emerging technology in UPS (United Parcel Service) company, which is a global logistics company. This report evaluates the role played by emerging technologies within business operations to improve its business functions and offers recommendations to the company that adds new value to the stakeholders.

Task 1: Scanning and Reviewing Emerging Technologies

Background of the chosen organisation and its operation

UPS is a well-known logistics company that operates throughout the world. It offers multiple solutions associated with freight and transportation packages. Carol B. Tome is the CEO of the company and has the sole responsibility to lead the employees who are working here. Each day, the company delivers its packages to almost 1.6 million shipping customer's worldwide (ups.com, 2023). The company offers efficient solutions in regard to distribution that bring down the costs of the company and leads to preparing the company in this competitive market. On a regular basis, the company offers 24.3 million packages to its customers and therefore, the revenue of the company in 2022 was almost $100.3 billion (ups.com, 2023). The company operates its business in 220 countries that include Latin America, Canada, Asia Pacific areas, and Middle Eastern countries.

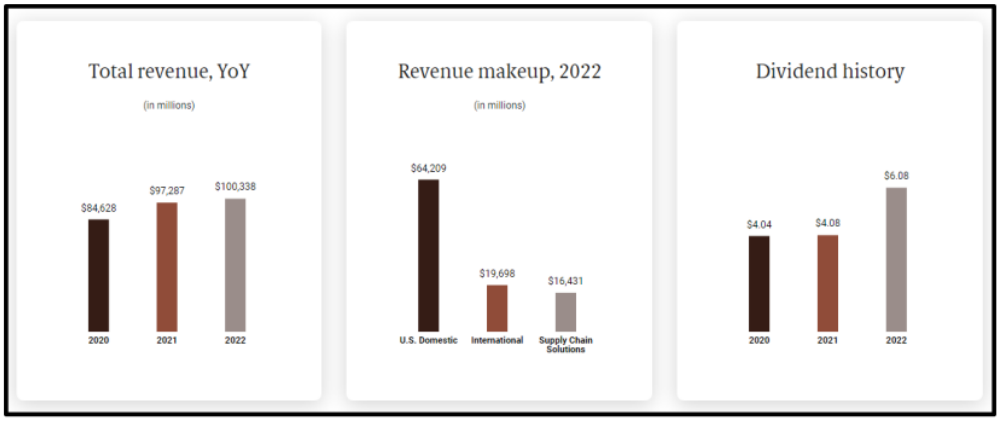

Figure 1: Revenue of UPS

(Source: ups.com, 2023)

As per the above image, it has been observed that the revenue of the company has increased every year. The profit margin of the company has increased from $3891 million in 2020 to $6997 million in the year 2022 (ups.com, 2023). In context to the products and services of the company, UPS company serves extremely high-quality package delivery service to the entire US and beyond the nations and offers adequate solutions to supply chain management. Besides packaging as well as shipping, the company is efficient in offering services associated with mailbox and printing services to their customers. UPS is primarily innovative based along with people led where the company has always embraced changes and implemented technologies to improve its efficiency and effectiveness (ups.com, 2023). The use of supply chain Symphony, Quantum View, and UPS Flex Global View are effective for the company to facilitate its operations in global logistics as the adoption of these technologies is beneficial for tracking shipments. The opportunity of tracking personal shipments to the clients ensures business success as it enhances brand trust and brand loyalty.

Identification of emerging technologies that are changing the industry

UPS is a magnificent company in order to generate an effective bottom-line outcome that helps accomplish the operational goals of the company. The company invests almost $1 billion in technology every year. The primary goal behind this larger investment is to foster innovation and improve the productivity of the company through innovation. As per the views of Amankwah-Amoah *et al*. (2021), different logistics technology is used within the industry to control the movement of goods starting from the manufacturing operations to the delivery of the goods to the customer. SAP and ERP technologies are often used in the

logistics company in order to improve the efficiency of overall business operations. In context to tracking the shipment, different software and tracking tools are used that offer customised reporting, along with providing notifications that improve the customer experience.

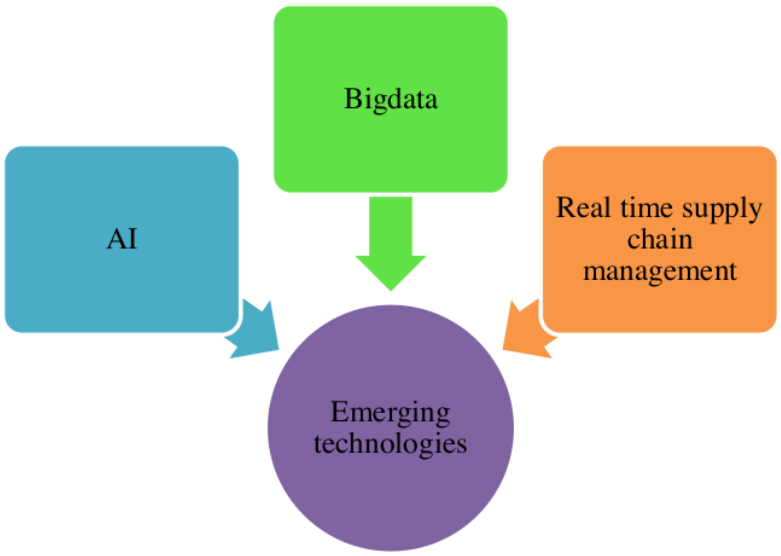

Figure 2: Emerging technologies

(Source: Self-created)

The implementation of IoT, in this regard, is beneficial for the logistics industry to track shipments and integrate strategies that can easily mitigate any occurrences of hazards. According to the views of Frizzo-Barker *et al*. (2020), it transmits all the real-time information to the leaders to monitor and have a deep insight into the potential risks. The use of RFID in the logistics industry is beneficial for managing the products in the warehouse and offering support starting from managing inventory to automation. The use of different technological tools is helpful for the company as it offers support to the companies to enhance their productivity in a rapid manner. The more quick way a company can supply its products to its customers, the more satisfied. In context to UPS Company, UPS Forwarding Hub is an excellent technological innovation of the company that tracks the entire shipments of the company along with managing all the shipping details of the company (ups.com, 2023). It, therefore, helps the company to improve its business operation and promote success in this rapidly changing global business market.

Task 2: Deploying Emerging Technologies

Recommendation of 3 emerging technologies and techniques adopted by the company

Emerging technologies are widely implemented by UPS to facilitate their business operation in a significant manner. The primary 3 technologies that can be adopted by the company include artificial intelligence, real-time supply chain management, and advanced analytics through big data. UPS Flex Global View, UPS supply chain Symphony, and Quantum View are some of the tools that have similar operations and are implemented within this company, however, these technologies need some improvements. Real-time supply chain management is a tool that is to be widely used by UPS to manage the supply chain of the company and track the real-time data of the shipments (ups.com, 2023). The use of this tool is efficient to get transparency of the company's overall operation and this, in turn, leads the company to gain brand trust and brand loyalty from the customers.

As the company is operating throughout the global environment, it becomes tough for the company to monitor and manage all the information worldwide without any dashboard. As opined by Sapta *et al*. (2021), the integration of this tool into the company will be beneficial for tracking shipments, managing supply, along with managing inventory. In this dashboard, all the potential information including the freighter's name, and details of the packages should be integrated. It gives transparency to the leaders regarding the status of the vendor's purchase, and a comparison can easily be made between the KPIs set earlier regarding the performance of the vendors and their original performance. Better tracking of inventory done with this tool will be useful for the company to cross-check the entire distribution network along with making proper business decisions.

A new platform that should be integrated within the company's business operation is artificial intelligence (AI) which is useful for gathering new data and managing all the data to facilitate business operations. As opined by Issaoui *et al*. (2019), AI is an efficient tool for forecasting data where it supports the inventory by offering proper network planning and demand planning. In the context of warehousing, the proper implementation of AI will help UPS to make alterations in the orders and deliver products as per the needs of the customers. As per the views Čirjevskis (2019), this helps address any potential business problem and generate a strong decision based on real-time data. With the development of this tool, UPS is able to search the details associated with the supply chain network and offer support to both inventory and shipments. It also acts as an important tool to analyse the warehouse health of

the company and gain a piece of detailed knowledge of the availability of products in the warehouse. Besides, the company should also implement big data in their supply chain operation that will offer the leaders to get proper visibility in context to inbound and outbound packaging and therefore, it leads to monitoring the business operation along with optimising the supply chain in a remarkable manner (ups.com, 2023). The use of these tools will enhance communication among stakeholders along with reducing unnecessary costs. Besides these tools, UPS also needs to integrate different shipping software, and digital platforms associated with big data for warehousing that perfectly identifies the business needs and improves the efficiency rate.

Determination of areas within organisation where the technology will be implemented

The UPS Company is renowned in this current world due to its innovation and premier service to its customers. As per the views of Rooney *et al*. (2021), during this time when the customer's requirements change rapidly, a company needs to be technologically advanced. UPS is taking innovative initiatives to adopt technologies in their business operation that can improve their business operation and meet the demands of customers. The technologies should be used in the area of operation where the adoption of AI, big data, and real-time supply chain management will be effective to enhance the inventory management of the company. It offers consumers the opportunity to track their products and shipments at any time (Ciliberto *et al*. 2021). Implementation of big data works as a tool to share all the potential data associated with supply chain management and enhances the coordination within a business operation. The use of these tools will be effectively important for the business operation to improve the visibility of the entire warehousing. The use of AI will offer consumers the opportunity to track their shipments (Heredia *et al*. 2022). The use of real-time supply chain management eradicates the risk of any loss of products and tracks its products remarkably. It offers a sense of safety standards to the customers and this enhances brand trust. Big data is effectively important for the company in order to improve its data analytics and protect the overall business operation from any theft, cybercrime, and other vulnerabilities.

Task 3: Trends and Security

Evaluation of 2 cyber security trends

Data breaches and cloud security threats are two trends that UPS should take into consideration during the time of implementing new technologies. For the implementation of recommended technologies, a large number of data is transferred through the network. In that scenario, any bug can cause a vulnerability to the network. As per the views of Bican, and Brem, (2020), as all the data that is transferred through the system consists of the personal details of the customers for the shipment procedures when the network is hacked, the hackers can have access to these details. Hence, while implementing new technologies within the business operations of UPS, and connecting with different networks, cybercriminals may attack the local network. As stated by Cimini *et al*. (2019), in order to protect the system from the occurrences of such threats, UPS should improve its cyber security, and set strong passwords that would prevent hackers from stealing any personal information. For UPS, the company has to store the personal information of the customers starting from back details to addresses. The loss of personal and sensitive data may harm the reputation of UPS.

In the logistics industry, due to the implementation of big data, and real-time data, cloud services are used more often to store the data. According to the views of Pererva *et al*. (2021), this enhances the requirements of the cloud-based service and cloud infrastructure within a business operation. Due to this shift, the company may have faced issues where the company lacks control and visibility. According to Ritter and Pedersen (2020), software vulnerability can also be a consequence of this where the infrastructure of CSP can fail and lead the company to face serious data loss. Hackers may steal credentials and other details of the customers during this hacking process. Hence, UPS needs to improve its cloud service, set strong passwords, and multi-factor authorization to protect all the data. Adopting skilled IT expertise can be beneficial in this regard to manage the demands associated with cloud computing and to eradicate the potential migration issues from this business operation.

Ways the security threats can influence the strategic direction of the chosen organisation

Data breaches are associated with the stealing of personal and important data of customers from the network. As per the views of Shamout *et al*. (2022), hackers often steal the personal information of customers and commit multiple fraudulent activities that include purchasing

things that are not at all authorised and creating an entirely new account. When UPS will implement different innovative technologies such as AI and big data, data breaching may occur. As stated by Winkelhaus and Grosse (2020), data breaches can cause financial loss for the company as hackers can easily get access to the back account details and digits of social security. In the context of UPS, the hackers can get access to the bank details of the customers, and other personal information. A customer's information gets exposed, it affects the brand trust and customers often raise questions regarding the trustworthiness of the company. Orji *et al.* (2020), shows that companies may also cause operational disruptions due to this threat, which delays the supply of the products. Hence, it is important for the company to give primary focus on data security procedures starting from the supply chain to the delivery of the products to their customers.

The use of cloud services while storing data. It has been observed that there may occur different issues that can harm the business operation of the company. As opined by Tijan *et al.* (2019), the major risk that companies face due to this is unauthorised access to data. Without having the permission of the network, individuals can access devices, endpoints, and networks. DDOS can also be a major issue within business operations. During this attack, the normal traffic of the company gets blocked. Consequently, if DDOS occurs within the business operation of UPS, the internet traffic surrounding the company may get blocked. As per the opinion of Facchini *et al.* (2019), it can lead the company to face a serious delay in their business operation. In order to get rid of this situation, the company should implement a detection system through which the company can become able to address intrusion and firewalls. Traffic scanning will also be taken into consideration to eradicate such issues from business operations, and besides, anti-virus software needs to be implemented.

Conclusion

This report concludes the background of the United Parcel Service (UPS) where emerging technologies have been discussed that help in changing the current industry. The use of technology in the logistics industry helps in managing the movements of goods and addresses the areas that need development. Using technology enhances the productivity and an efficiency rate of the business operation and optimizes product delivery. Besides, it is efficient to manage the warehouse and improves the inventory. The three emerging technologies that the organisation can implement includes real-time supply chain management, AI, and Big data that reduces security risks and forecast data. It fosters the

growth of the organisation due to the tracking of the shipment and proper inventory management. It also evaluates how the implementation of these technologies improves the operation of the company. Two cyber security trends have been discussed in this study such as data breaches, and cloud computing that the organization should take into consideration. Therefore, it is required for the company to implement adequate measures to eradicate the cyber security threats from the company.

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