Are Internet Of Things a boon or bane for enterprises?

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The Internet of Things (I o T) is a network of hardware devices with sensors and software which connect to one another and share information with each other. They have further integrated the physical world with the digital resulting in a deeply interconnected world and as a result, business sector, for better or worse. This essay assesses the argument on whether the rise of the Internet of Things has been a general boon in the business sector amongst enterprises or whether it has been its bane; that is, whether it has become a disruption in the day to day running of enterprises internationally. In this essay, we will firstly explore all the benefits of Internet of Things, their effects on various aspects of enterprises, including things like cost, efficiency and data analytics. Secondly, I am going to analyse the negative impact IOT has had on enterprise hitherto.

IOT devices enhance the efficiency and productivity of enterprises as they allow more real time monitoring and control. This is shown to reduce down-time and overall cost of maintenance. When using IOT the platform can generate additional sales by using IOT information (Sun and Ji 2022). This in turn can lead to a rise in profit and decrease in the total amount of staff and labour cost required to complete tasks requiring data collection. Industries such as banking, for example, can gain insights into what customers are interested in and using AI have the abilities to reinvent and personalize their services for their customers. (Singh 2021). This is also due to the data that has been collected, as data collection has been predicted to advance 10 times within 10 years from 2015 to 2025. (Sun and Ji, 2022). The efficiency of data collection is the key aspect of this and with IOT being incorporated pen and clipboard methods of data collection are on the decline in a vast majority of industries, this then leading to a decrease of labour cost potentially to zero in areas like surveys and questionnaires conducted by real people, all these things being automated in the near future. As a result, the boundary for enterprise becomes very vague, as most physical tasks in areas that IOT is replacing are now being completed over the internet, and with the estimation that potentially 6 trillion dollars being invested by entities in countries in a vast portion of the world, stakeholders believe the internet of things have the potential to only improve the productivity of their respective enterprises. (Bi et al. 2023).

It is only reasonable to presume that as more money is invested and less hands are used, IOT can improve how efficiently these enterprises function on a regular basis. Secondly, IoT-based systems enhance decision-making in day-to-day activities of enterprises internationally by providing real-time data and insights that are crucial for optimizing entity operations. This data driven approach is what improves the business strategy and operational efficiency by allowing for more informed and quicker on the spot decision making.

This has shown itself present in online retail platforms where marginal increases in performance can be seen by an increase information provided (Sun and Ji 2022). The data obtained from these business interactions is what has allowed large corporations and entities to gain new sources of revenue, by recommending more personalised products and services. As a result of the data being acquired by the various IOT being done regularly and being stored in various databases in the enterprise, things like time sensitiveness variety and scale of distribution can be recorded and used accurately, to ensure the desired outcome is made in good time. Owing to this the decision-making process is enhanced, thereby improving the state of enterprise.

Furthermore, IOT allows for better customer service through personalized and efficient inventory management and restocking. This enhances customer experience and gives the company a better way to give recommendations by using data to have a more accurate representation of user needs. Using things like weight sensors companies are given the ability to accurately provide an idea of inventory, in turn the customer can now have an idea of what amount they can buy. In addition to that, customers can even set preferences on home devices thus being able to personalise their own living conditions. These are just some ways IOT can be used to enhance customer experience, which benefits the enterprises with customer retention.

However, data privacy concern remains a concern for most enterprises with rising data breaches and data ethics concerns in popular culture. These go hand in hand with the security risks and Cyber Security attacks seen in enterprises hitherto. Modern products and systems become more and more complex. Adopting IoT brings the challenge for an enterprise system to deal with big data promptly. BDA tools could be used to track, sort, transmit, distribute, store, process, and mine data at all levels and domains of the system. " (Bi et al. 2023) "Although customers can benefit from the smart devices, not all customers are willing to share their usage data due to privacy concerns. Without such data, the smart devices are not able to provide value-added service enabled by the IoT technology, which means that customers can only use the basic functionality that does not require IoT technology." Sun and Ji (2022) "Only 48% of European firms can detect when any of their internet-connected devices have been breached. In the UK, this figure drops to 42%." Ashford 2019) "Security concerns are preventing many businesses from adopting internet of things-based technologies." Ashford 2019. “It poses a big challenge to assure privacy, safety, and security of data in an open environment. IoT empowers an enterprise system for its sensing and actuating capabilities (Zdravkovic et al. 2018). In addition, IoT-based information systems are data-driven." (Bi et al. 2023).

Another thing to consider is the implementation cost of applying the IOT to the business. While adding IoT weight sensors may feel like a substantial up-front investment for distributors and manufacturers, the savings over time are significant, however IoT weight sensors make cost reduction simple and streamlined. (Rockwell 2022). Because of the high cost and complexity of developing and maintaining IoT infrastructure such as security, data centres, and IoT analytics, it might not be cost-effective for device manufacturers to build their own IoT infrastructure." Sun and Ji (2022). The cost and overall conduciveness of implementing IOT in companies may not be worth integrating them into businesses, but this goes by a case-by-case basis, and while implementation costs may be low, the savings over time are worth the cost, and businesses have had to way their options and many have, in fact gone ahead and pulled the trigger by making large investments as a whole.

We have argued whether or not IOT implementation has benefited enterprises as a whole, or whether they have been detrimental, just from their implementation in recent times. Enterprises who have integrated the IOT in their activities have benefitted from the internet of things from things like their enhanced efficiency and productivity through real-time monitoring and predictive maintenance of facilities. While in addition there has also been improved decision making due to making data-driven decisions due to insights given by IOT infrastructure. This has helped enhance customer experience with personalized services based on customer data with the assistance of personalised recommendations and features on a variety of products. However, this does not negate the data privacy and security risks posed by incorporating the IOT, as the risk of cyber-attacks and data loss is high as data becomes a commodity. Also, one cannot negate the pricey implementation costs of integration, and thought must be put in to purchasing these things as a result as the savings are made over time. But it seems as if although there are rightly many concerns, there has been an overall net positive for both the enterprise and its stakeholders in the integration and implementation of IOT as, despite data concerns, more and more stakeholders are willing to part with their data for convenience and a more efficient handling of business interactions.

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