**Reverse Logistics and Technology**

Student’s Name

Institution

Course

Professor’s Name

Date

**Reverse Logistics and Technology**

The reverse logistics industry has been largely a manual process for many years. Still, with the development of technologies, the industry has seen significant improvements, including automation through the use of robotics and autonomous machines. Automation has enabled companies in the reverse logistics industry to better handle their problems and improve the efficiency of operations. However, there are challenges that the sector has seen that will continue to impact the industry.

**Reverse Logistics and Automation (Robotics)**

The reverse logistics industry has been considered to need to be faster in accepting technology, especially robotics, which presents the most opportunities for companies operating in this sector. The current reverse logistics business, such as warehousing, has evolved, and many businesses are now considering adopting technologies in their operations. This has enhanced their business performance and operations as they have been able to reduce the time products take to reach the customers. AdvancementsWith advancements in technology such as artificial intelligence, robotics, and machine learning, some companies in the reverse logistics industry, such as warehousing, have resulted in using the available technologies to minimize the cost of operations while increasing profitability. Reverse logistic companies have turned to technology such as automation, specifically robotics, to reduce the challenges, including inventory management, reducing the cost of operations, and addressing customer concerns. While they are concerned about the efficiency of their operations, the companies are also exposed to other challenges, including ethical and security issues that affect the industry.

**Ethical and Security Challenges in the Industry**

Some of the ethical and security challenges experienced in this sector include worker exploitation and slavery, warehouse wireless instability, warehouse management system, and transport management system issues. According to Couvillon (2019), increased demand for products and services, as well as the global economic downturn, have put pressure on workers to work for long hours to complete more tasks. This is an issue in organizations where reverse logistics is still manual. But even in the organizations that have opted for technological change, there has been an outcry that technologies such as robotics are taking away the jobs that people previously held. Workers still feel that their rights are violated.

Warehouse wireless instability is another growing security issue of concern to many reverse logistics companies. While technology is hailed for having provided solutions to many companies, it has also been cited as a security risk in some companies that have been unable to maintain the security of their systems. For example, due to poor warehouse wireless coverage and network instability, some logistic companies are trying to find appropriate and efficient solutions to maintain sustainable security systems. Some of the common causes of such instability in the network include poorly planned wireless warehouse implementation. According to Sunol (2023), when the warehouse network system is poorly implemented, the company security system may be exposed to more risks, including system malfunction.

Another cause of this poorly implemented security system is selecting the wrong wireless solution. Managers of certain companies that do not understand the factors to consider when choosing a wireless solution end up choosing the wrong wireless solution, which exposes their companies to greater security risks. According to Sunol (2023), selecting the wrong wireless solution is informed by a desire to reduce cost and improve profitability. When this happens, managers may lose the big picture of what they are supposed to choose from in the automated system they need. With the robotics solution, it is important to consider carrying out a need assessment in the firm to ensure that the management understands the kind of technology that they need to procure and implement. This will enhance the security of the information that the organization collects.

The other security problems are the warehouse and transportation management systems issues. The effectiveness of an information system in the organization depends on the ability of the firm to update information frequently, provide customers with current information regarding their products, and ensure the safety and timely delivery of products to clients. According to Sunol (2023), warehouse management systems and transportation management systems are commonly caused by system instability, improper software updates, and poor ad quality of database systems. All these problems can compromise the security of the company in various ways. First, improperly installed software and lack of software updates can cause unnecessary downtime for customers accessing important product information. With robotics coming in place, poor-quality database systems can result in a lack of data (Fuerst, 2022). Robotics and automation require proper and timely system updates in the database system and system stability.

Another security and ethical challenge is the management of inventory. Regarding security, automation technology is proving to be a great challenge since products have been opened and returned. This makes it difficult to manage inventory properly and makes it even harder to determine the product that has been damaged and needs to be discarded and those that can be refurbished. Ethically, the management of inventory could be better, especially with automation. For example, robotics can help the organization keep an eye on inventory levels and efficient processing of products. However, machines such as robotics do not have the emotions to understand the feelings of frustrated customers who find faulty or damaged products. When this happens, efficiency cannot be achieved. With robotics, it is impossible to address customer concerns efficiently. Returning a product once a customer has already paid for it can be frustrating. Therefore, to ensure a positive customer experience, automation alone cannot be enough. There must be clearly written policies on how to handle customer concerns in a timely manner.

References

Couvillon, B. (2019, July 17). “Barriers to Automation in Supply Chain and Logistics.” *LinkedIn*. <https://www.linkedin.com/pulse/barriers-automation-supply-chain-logistics-brad-couvillon-cpim-cscp?trk=portfolio_article-card_title#:~:text=Automated%20machines%20require%20data%20inputs,will%20be%20extremely%20data%20intensive>.

Fuerst, C. (2022, August 29). “Reverse Logistics Guide: Definition, Challenges, and Strategy.” *Reverse Logix*. <https://www.reverselogix.com/industry-updates/reverse-logistics/>

Sunol, H. (2023, March 29). “5 Common Warehouse Technology Issues and their Real Causes.” *Cyzerg*. <https://articles.cyzerg.com/logistics-technology-5-common-issues-real-causes/>