Fair and Responsible in Logistics IR 4.0

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1.0 Introduction

In the introductory section, there are the objectives of the study and the background of the study. Among the objectives of the study are:

i. To study the factors of fair and responsible to the logistics sector towards industrial revolution 4.0,

ii. To examine the importance of corporate governance and the logistics industry 4.0,

iii. To assess the persistence of customer service factors in logistics in 4.0 industrial, and;

iv. To study the logistics information system and be fair and responsible in the logistics industrial revolution 4.0.

1.1 Background of study

The fourth industrial revolution is a worldwide transformation characterized by digital, biological and physical technological convergence. That being said, as the 4.0 industrial revolution on the market is becoming more known, it will have unrivalled consequences and create an unsafe environment. Because Industry 4.0 will influence how conversation is communicated, organizations will create uncontrolled market value and people will focus more on the development of borderless technologies. With the creation of the foundation of the digital revolution, the new technology will exponentially increase with digital interoperability, which physically appears in smart products and services (Schwab, 2016).

The advent of rapidly evolving technology has a fair and responsible impact, particularly in the logistics sector. Due to unmanaged and comprehensive technological conditions, accountability, fairness, confidence and transparency will be difficult to enhance in competition. (E. Wogu, 2016). The concept of fair and responsible is essential to the relationship between consumers and companies. The care, efficiency, and thoughtfulness that companies take in customer interactions can ultimately leave a longer-lasting impression than whether or not a customer gets their desired outcome in a conflict (Opata et al., 2019).

Fair and responsible business models guarantee fair conditions and social benefits throughout the entire supply chain, from the earliest stage of production to the commercial sector. This includes actions to guarantee decent working conditions, consistent quality, fair procurement and more. This includes the provision of more transparent communication on living and working conditions as well as the willingness to cooperate for continuous improvement with partners and suppliers (Matthias Heutger, 2015). For buyers or sellers who meet under the Foreign Trade Conditions (Incoterms) or national sales regulations in the act of trade negotiations, fair logistics means that all service suppliers involved in managing goods operations between buyers and sellers should be willing, considering all exogenous factors and anti-trade bias, to increase logistics costs. (Opata et al., 2019).

The fair and responsible logistics system represents a major tool to improve competitiveness and has as a key objective the improvement and expansion of unconventional economic instabilities routes, the more efficient use of multimodal transport, better sustainable transport loads management, and the promotion and expansion of trading corridors and logistic systems. (Jean-Charles, 2019).

In a changing world, the speed at which technology is changing and the political, economic and social factors that affect business decisions require business leaders to lead with the principles and missions of the organizations (Aramco & Watson, 2019). At the most, all the main players concerned about the future of logistics already have aimed at the role of bitcoin blockchain in highly and (semi-)autonomous supply logistics operations. In terms of technical and in-line processes, the goal of Industry 4.0 would be not to replace workers in their duties, but to eliminate inaccuracies and to provide faster processes in which knowledge can be exchanged quickly and in real time. The intervention of people who manage the systems and take control of any system failure will always be needed.

The issues facing Industry 4.0 should not only concentrate on the use of emerging technology through the improvement of technological and robotic systems, but also on the enhancement of many other areas: logistics, customer support, administration, etc., by the use of analytical technologies and the development of software (reductories, 2021). The response to the emergence of new challenges has been consumer demand and technological advances, leading to market changes ("Industry 4.0 effects Logistics 4.0", 2018). The way companies are operated according to the current environmental and contextual configuration would be profoundly changed by this transformation.

2.0 Corporate Governance

Corporate governance is wide-ranging. It includes social and structural aspects. Corporate governance seems to be the mechanism for managing companies. It determines how the objectives of the company are calculated and achieved, how risk is monitored and measured and how efficiency is optimized. (Chakraborty & Khan, 2020).

Corporate governance is a set of principles, practices, processes and roles and accountabilities explicitly defined used by stakeholders to resolve corporate conflicts of interest. Corporate governance is the relationship between different actors such as shareholders, the management board, and the organization in influencing corporate success and how it functions. Corporate governance explores how effective business decisions can be made and has created added value for the stakeholder (E. Wogu, 2016).

"The real mechanism for corporate governance is the

active involvement of owners"

-Louis Gerstner-

Corporate governance provides accountability that ensures solid economic growth and balances it. This ensures that all shareholders' rights (majority and minority shareholders) are safeguarded. Corporate governance impacts a corporation's operational risk and thus its profitability (Ying & Rayappan, 2020).

Many scams, frauds, and corrupt practices have taken place in recent years. Misuses and misappropriation of public money occur every day in Malaysia and around the world. It takes place in financial markets, the government sector, and the logistics sector. To prevent these scams and ethical challenges, several businesses have launched corporate governance (Tan, 2020).

2.1 Corporate Governance in Logistics

The functioning of different logistics aspects such as shipping, ports and freight distribution was refined by the integration between globalization, logistics and the supply chain and the resulting growth of the logistics industry. In recent decades, the rapid growth in world trade has restructured the global maritime sector, bringing new technologies, deregulation, liberalization, and innovation to the fore. Corporate governance is a critical element for the protection of economic competitiveness and sound business conduct by leading logistics companies around the world (Annie Ko and Simon Yuen, 2016).

With a simple look, Good corporate governance will ensure that the organization of directors meets regularly, maintains business control, and has legal guidelines and a risk management framework. The Secretary shall be responsible for such activities as ensuring that the Board of Directors complies with all applicable rules and regulations. They must also ensure the company keeps the staff will be responsible for the tasks, such as monitoring compliance

with given briefs and compliance with all applicable laws and regulations. They must also ensure that the company's report keeps the necessary filings up to date. Corporate governance may often include that many tasks, although the governance system often tends to vary among corporations (Vistra, 2017).

Trying to implement an excellent corporate management structure would also ensure that certain stakeholders, management and shareholders are secured. By ensuring that the organization keeps its databases in the company's books and needs to keep the legitimate files, they will be controlled. Maintaining such documents also ensures that the corporation representatives can be kept responsible for their acts, if required, by documentation. It also ensures that a shareholder cannot challenge the conduct of the officers excessively. They can display the books of businesses, approved legislation and board minutes if appropriate, and be sure that officers act in their capacity (OECD, 2015).

Although restructuring or even the sale of a corporation might have been much further, good corporate governance should always be taken into consideration. In an effort to refinance or even sell the firm, shareholders are looking for a well-structured business strategy. It is doubtful that a business without up-to-date books and registers would attract the best customers. Furthermore, businesses continually understand their corporate image and the need to conduct themselves ethically. These priorities can be taken into account by the use of good corporate governance, board meetings and decision-making as a board. When a company exercises good governance with complete contact, it feels the public can trust the company and brand and eventually helps to build the credibility of the company (IFSEC Global, 2020).

Corporate governance has gained its position as a critical tool in business management and development and will continue to increase in significance over time. Any organization should take measures to improve the

quality of its management systems to improve the operation of the company (Annie Ko and Simon Yuen, 2016).

Globalization and technological advances have led to more logistics companies depending on capital markets to fund investment opportunities, such as initial public offerings (IPOs) (S. Vasić, 2020). The shipping and logistics companies listed not only enjoy the goodwill of the efficiency of the structure of corporate governance, but also mitigate the inherent complexity and volatility of the freight markets for shipping (Liu and Chen, 2018).

The international liner shipping companies Hanjin bankruptcy incident recently showed more thoroughly the relevance of corporate governance in the shipping logistics industry (Wei, 2017). Good corporate governance implementation practice not only tracks and warns the performance of the company, such as profit warning but also increases business and management productivity and competitive advantages.

With prime competition and international integration of the capital market in the logistics sector, corporate governance is becoming a key factor to enhance their operational efficiency and financial performance. (Renata, Eduardo, Jose Roberto, and Daniel, 2017).

2.2 Practices Corporate Governance in Logistics Industry

The effective application of corporate governance principles can only be possible with the requisite information and regulation with legal and economic company act in some kind of a corporate context, and recognition that this type of the corporation would play an important role in achieving the general interests of the entire social community (Anna, Matylda, and Ewa, 2020).

The values of accountability, responsibility, and business ethics in the actions of all stakeholders are supported by corporate governance values.

(OECD, 2015). All these principles can increase the trust of current and potential investors and promote growth and business development. Consequently, the corporate governance system should facilitate an open and productive market that is founded on the rules of law and that clear separation of authority and liability is maintained within or outside the business between the various regulatory and supervisory authorities. Corporate governance standards promote the principles of transparency, accountability, professionalism, and ethics in corporate governance. (OECD, 2015).

Ultimately, all these principles can improve the morale of current and potential investors and promote development of the organization. The corporate governance structure should always foster a market that is transparent and effective, following the rule of law concept and maintaining distinct demarcation between the different supervisory and regulatory bodies within or outside the company and transparency between them.

Conflict of interest between stockholders and managers and conflict of interest between dominant and minority shareholders on the other hand and a lack of adequate reporting, on the other, have altered the reputation of the capital market and the abuse regulation's non-existence. (Meri, 2015).

The corporate governance structure should ensure and encourage the interest of all shareholders and other parties interested in the execution of their mutual interests, as established by law and relevant contracts and agreements and foster active cooperation between the company and the parties concerned. To allow this to take place, one of the goals of the business management standards is to provide timely and reliable reports on the company's operations, including financial results, management, and effective oversight of the company management and duty to the company and its shareholders. (OECD, 2015).

Without the need for an efficient logistics corporate governance system, it is not possible for investors, Investing in this sector's economy particularly for foreign investors. Therefore, the final reach of corporate governance should go beyond the individual corporate interests in developing such a structure because the achieved level of corporate governance standards generally determines the investment volume and quality that in turn form economic growth. Of course, the general legal and economic framework should concentrate on achieving the objectives on which standards are based in addition to the legislation specifically relevant to corporate governance standards. (Seth Nana Kwame et al., 2020).

2.3 Accountability in Logistics

In Third-Party Logistics (3PL), honesty plays an important role in strengthening relationships between suppliers and buyers. The highest level of competence has an accelerating impact on cooperation between partnerships focused on outsourcing logistics. The logistics management of partners needs a high level of confidence and argues that a lack of trust among companies can have an adverse effect on performance (Huo, Fu, Zhao, and Zhu, 2016). Many factors play a role in confidence, such as reputation, predictability, trust, faith, reliability and benevolence. The absence of studies showing the effects of transparency on confidence in the ties between companies and buyers 3PL, in particular, indicates the need to investigate this problem in this report.

Accountability at work is critical for the overall performance of an organisation. Every employee, regardless of the degree of seniority, is equally responsible for helping the business to succeed. In order to meet the company's long- and short-term goals, all workers in the company have to

work together and share responsibility. Employees who work together to accomplish the same common purpose, in turn make the organization more profitable and successful.

i. Biometric Device

Like fingerprint and retinal scanners, an employee will clock in and out by one of his physical characteristics. To be held responsible for a move, an employee must be present at work to sign in or out. As these devices involve any use of the physical characteristics of an individual, it ensures that any employee present is responsible for. Biometric systems also try to eliminate "buddy punching" (Jahan, 2021).

Increased use of biometric monitoring systems, especially for identification purposes. A powerful function is the detection of agents that are automatically detected by visual indications. Some attributes can be acquired without collaboration, such as height, hair, and clothes. Although the collected information is not sufficient to automatically identify individuals, it is necessary to protect the privacy of your images (IFSEC Global, 2020)

Biometric surface appears good. Just the fingerprint of one employee, eyes and ears after all. But it has to be safer than passwords. An inherently private password is the only one who knows it. Naturally, hackers can do it through violent assault or phishing, but usually people can't access it. Biometrics on the other hand are implicitly public (Howell, 2017).

The developed data protection approach focuses on the responsibilities of data controllers, the responsibility of data controllers is then characterized as the duty not only to take steps to

protect data subjects' privacy, but also to check such acts. Ideally, neutral third parties or agents working on behalf of data subjects or data subjects can carry out this verification themselves, if appropriate. The emphasis on transparency enables the DS to enforce strong privacy sustainability measures and increases pressure from mere declarations of intent on data controllers (Mahieu, van Hoboken and Asghari, 2019).

In 2014, if another hacker has a picture of an ear, eye or finger, they can easily access their accounts. While Apple's TouchID was widely known as a biometric invention. renowned hacker Jan Krissler was just one day after the iPhone was released. Also, Chaos Computer Club researchers have fake fingers formed to open iPhones (Hern, 2015).

Krissler demonstrated how easy it is to rob the identity of a public figure when He recreated the German Defense Minister's fingerprint Ursula Von Der Leyen. The hacker took high-resolution thumb images from press conferences and re-built the thumbprint with VeriFinger software (Hern, 2015).

A biometric would be used, if stolen, for falsifying legal records and documents, passports that can cause more damage than the credit card number stolen, as a part of a user's identity is exposed.

In 2015, the infringement of the Personnel Control Office 5.6 million fingerprints affected. And unlike passwords, credit cards or other records, physical identifiers cannot be substituted (Greenberg, 2015).

These technical flaws are recognized by biometric companies and should strive to enhance identification. There are certain ways to

avoid inherent biometric errors, for example, to improve accuracy involving multiple fingerprint scans. Bank of America said that their iris scans are not the only way to access accounts, but part of multi-factor authentication.

The security indicator of the future might be biometrics, but it is not yet time to drop your passwords. Biometrics offer a different protection standard, but they are not unwise.

ii. Software for time and attendance

The implementation of the performance and attendance software for employees has helped to enhance attendance and punctuality and record keeping consistency for employees. This has helped resolve many costly issues which were usually the direct result of outdated tracking systems like records or registers, excel sheets, punch cards (Mitrefinch, 2020).

With the rapid growth of wireless and information networking technology, there is a wide range of uses of certain real-time and effective monitoring techniques in the transportation industry. Usually, these tracking systems are designed to manage the time and location of vehicles and fleets and to ensure that workers are delivered on time (Alem and Adisa, 2019).

The demand to meet on time is always strong in the transportation industry. Approximately 67% of the transformational workforce is responsible for delivering timely deliveries and rising profits. With the use of an appropriate time and attendance monitoring device, companies may closely keep track of, detect the misuse of timekeeping, and improve scheduling until they experience a loss (Ashley, 2019).

For a transformed logistics and transport industry, some common advantages of the time and attendance system include logging of working hours, scheduling of leave, absences and working hours, management of overtime, and analytical tracking of labor efficiency (Helen, 2016).

Businesses have to be aware of the tricks and tactics workers deploy to cheat attendance under the premise that every company has dishonest employees. Time cheating, especially when it involves civil servants, is a crime by law. There are occasions where people are jailed for attendance fraud; thus, attendance deception should not be taken lightly by employees. To stop all types of attendance cheating from happening, one must know the ways these people cheat (Strikwerda, 2019).

This is probably the most famous attendance cheat where one person clocks for his mates, who promised the next time around that he had returned the favor. Since this cheat is so easy to execute, buddy punching is widespread among employees using the punch time clock and some card systems that do not need any other owner authentication. Punch clock or card device is not interactive, it cannot say the difference between cheaters and honest staff (Muniz, 2017).

This is the sort of worker that helps to assume that he is available when he is not present at your company doing the job he is supposed to do. This employee 'clocks in' and yet he will go somewhere else to finish his orders and come back to get paid to clock out. This scenario typically happens in an area where there is no control of door access activities and employees can enter and leave as they please (Muniz, 2017).

The biometrics system also has its flaw, albeit special and customized, and once the employee discovers the flaw, they appear to manipulate it. It is normal for an organization that uses a fingerprint system to recommend a user to register two fingerprints for a single user ID; one to be used frequently and one to back up the first finger in the event of anything occurring. Two good friends will share one user ID to cheat the scheme with permission from the admin, of course (Grace Johansen, 2019).

The admin should be held liable for fraud when this occurs. One finger is mine for my identification, the other is correct, and we do the same for your user identification. The system is not wrong, the people are wrong. The Biometrics framework has improved leaps and bounds; a fingerprint is sufficient for one user ID. Or, an organization may introduce a policy that punishes administrators caught threatening the system severely (Grace Johansen, 2019).

Among the problems of honesty, this often happens when employees are assigned to work outside the office. However, the employee is not trustworthy because he does not use the time required to complete the assigned task. Yet employees do every activity throughout their work. These actors often happen because there is no solid evidence and it is necessary to give a request to the employee (Kashyap, 2019).

iii. Environmental Accountability

Most businesses are today vulnerable to environmental issues. Logistics service providers are anticipated to be leaders in the implementation and enhancement of environmental policy, since

state administrations and consumers are increasingly expected each day (Laine, Scobie, Sorola & Tregidga, 2020).

Logistics operations that follow the ecological liability framework are also effective for customers' satisfaction. Concerning the transport of environmentally hazardous materials, especially in the field of transport management, issues are ranging from the selection of transporters, the transport of hazardous materials through special vehicles and equipment, the reduction of gas consumption and emissions (Maria, Helena, and Maria, 2015)

The connection among logistics and the environment is included in the value-adding functions of the organization. Although resources are being used to produce the desired utility, pollutants are produced as by-products indirectly in each phase of the integrated supply chain process. Accurate measurement and consideration of logistics operations' environmental effects would greatly minimize the negative impact (Rodrigue, Comtois, and Slack, n.d.).

Integral environmental management implies that any aspect of the corporate value chain leads to mitigating the overall effect of the company on the environment from the beginning of the supply chain to the end of the product life cycle. Managers need to re-assess their logistics policies to respond to the effects of other functions as well as external sources such as government and consumers, such as marketing and production. (Mark Anthony, 2017).

Logistics managers play a key role in the environmental management programmed by the company, since their decisions have a direct impact on the environment, while affected by other practical decisions within the supply chain. (Mäkelä, Gibbon & Costa, 2017).

2.4 Responsibility in Logistics

In the last few years, consumers have been actively looking for advantages in the products they demand. Today, this benefit includes not only high-quality, low-cost goods and services, but also socially and environmentally friendly products and services. Sustainable development is a concern for today's customers and the main contribution of businesses to sustainable development is currently known as corporate social responsibility (CSR). (Skye, 2020).

In a broad sense, responsibility means the adoption by organizations of a wide variety of policies and consensus steps covering social, environmental, and economic aspects and the transformation of these into mechanisms to be applied across the sphere of control of the entire organization (Knudsen, Moon and Slager, 2015).

In this new context, businesses cannot develop their commercial strategies on the conventional 'four Ps' that is the price, people, promotion, and place to gain competitive advantages anymore, because they can be used to outsource negative impacts (Summer, 2021). Instead, the 'four R' that is reliability, responsiveness, resilience, and relationships is now seen as a real added benefit and logistics play a key role (Pankaj, 2018). Globalization has also implemented a variety of logistics and transportation improvements.

Production and market globalization has resulted in supply chains extending and becoming less stable. Logistics and transport companies now compete rapidly as foreign logistics and transportation companies cope with local markets, reduce profit margins, and reduce the number of service providers available (Johan, 2020).

Responsibility will play a key role in achieving global goals of growth, productivity, improved governance, and overall sustainable development.

These companies which adhere to the principles of responsibility should promote economic growth improving the quality of life of their workers and families, the local community and the whole of society. (Glass and Newig, 2019).

There are irresponsible acts in the logistics sector such as supply chain fraud including corruption and money laundering, theft of intellectual property, and more. Fraud in the supply chain affects companies in all sectors of various sizes. Fraud can also occur in any supply chain, from bribes given when selecting a provider to fake checks during funding to payment of false payments or payment promises (Anderson, 2016).

A few cases of supply chain fraud are involved in financial fraud. Many types of financial fraud exist, including fraudulent transactions and insufficient payments. A billing scam occurs, for example, if the contractor provides multiple work invoices only once incurred or false invoices or inflated invoices. Another example is the abuse or alteration of inventory items or records on a company's financial statements. (Tysiac, 2021).

In the current scenario, when the world is struck by the Covid-19 pandemic, the supply chain is, in fact, vulnerable to the resulting fraud including global scope, operating environment sophistication, the involvement of third parties, large quantities of transactions and sizes. Besides, the current volatility of the supply and demand of goods and services resulting from the pandemic of COVID-19, restrictions on mobility and conventional market practices, lower share prices, and unexpected failures, along with extreme cost-cutting pressures, mean that companies are facing an unprecedented challenge on all continents (Tysiac, 2021).

Furthermore, misrepresentation of products or services. Fraud involving the misrepresentation of products or services can be generally defined as any

situation in which goods or services are misrepresented, marketed or supplied by a company or a supplier. For example, quality assurance fraud, in which a contractor or supplier offers services or goods that do not comply with the specifications of the contract of an organization and then purposely hide or misrepresent the facts (Anderson, 2016).

Bribery, which includes the Foreign Corrupt Practices Act (FCPA) violations, and kickbacks. Bribes and kickbacks can be traded in various forms including gifts, money, and for different benefits. These may include qualifying an unqualified supplier, overpaying for certain goods or services, accepting low-quality goods or services, or preferring one bidder over another (Gorsira, Steg, Denkers, and Huisman, 2018).

Sanctions infringements are ruthless actions impacting the economy. Economic penalties which restrict asset flows from or to certain countries may impact global supply chains directly. Major financial, organizational and reputational damage can be caused by the breach of sanctions by a company or its agent(s). Schemes breaching financial policies include purposely disabling the ship control system, creating bugs and developing a complex business network or shipping route, so that the illicit movement of goods is not detected (Ehsan, Bela, and Ramtin, 2016).

2.5 Business Ethics

Business ethics is the application of business behavior of general ethical ideas. It is necessary to be ethical for any company because in ethics policy there will be penalties for employees for acts of immorality and incentives to motivate them to be more ethical. For several purposes, all effective businesses obey ethical rules and standards. Good company ethics gives workers high satisfaction and makes them more efficient where human elements represent a real asset for every company, as they are responsible

for production and income (Ackerman, 2015). Furthermore, the company and its staff feel more relaxed and reassuring when consumers see the principles of ethics, helping to establish a strong relationship between the consumer and the company. Strong ethics allows vendors to collaborate with the company, which gives the company more business references.

It is a highly debatable matter whether corporate ethics strengthen or decrease. If behavior changes or gets worse, logistics is an activity in which morality is highly important. For these purposes, the exploration of the ethical framework in warehousing has merit, as the logistics manager is accountable for property belonging to others (Hao, Shi, Shi, and Yang, 2020). There can be serious consequences for a failure to keep promises made. Professional and experienced workers are needed for the logistics sector. Almost always, poor skills and low morale accompany high employee turnover. Marginal pressure may lead people to take part in ethical actions when purchasing or selling services from competitive third-party warehouses (Benayoune, 2018).

It is highly debatable whether corporate ethics improve or decline. If behavior changes or gets worse, logistics is an activity in which morality is highly important. For these purposes, the exploration of the ethical framework in logistics has merit, as the logistics manager is accountable for property belonging to others. There can be serious consequences for a failure to keep logistics promises made. Skilled and experienced logistics staff are required. Almost always, poor skills and low morale accompany high employee turnover. Marginal pressure may make some engage in ethical behaviours in buying or selling services between competitive third-party logistics (Medhi, 2020).

At the managerial level, a management team that has achieved respect will achieve good performance. (Conlin, 2020). The boss who preaches about performance enhancement without setting a personal example is soon a fool. When a manager preaches that austerity is needed if a large bonus or wage

increase is earned, he should not be surprised if his workers respond negatively.

Ethical conduct in logistics begins with management. Ask yourself whether you are doing something that will worsen the confidence of your employees or clients. This is not just a question of human resources. High faith in logistics can be a strategic asset (Małkus, 2017).

"*Trust is not given; it must be won*"

-Tobsha Learner-

Unfortunately, the inability to meet an organizational commitment will damage the supply chain management of today, just-in-time deliveries and distributor inventories. Some logistics supply assembly lines and failure to deliver will rapidly shut down a production plant. Shipping incorrect items can cause similar damage (Victor, 2018).

Promise preservation requires a working-class partnership with management. If a large proportion of staff are not present on the first day of the hunting season, then the logistics department will be unable to fulfil customer commitments. Many that are absent or arrive late at work lead to the failure to maintain a schedule (O'Neill, 2018).

The logistics department often continues to concentrate on other companies' service commitments. Many companies use trucking facilities not operated by their workers. If the trucker does not fulfil the promised deadline, the reputation of the warehouse also suffers. (Victor, 2018).The ability to keep

operational commitments is important for the preservation of the warehouse operator's credibility and trust. In keeping with these promises, staff, vendors and other administrators need to comply.

Logistics procurement has progressed from a transactional relationship to the collaboration concept. Not all collaborations are faithful but efforts have been made to avoid the adversarial, numeric practices which regulated the purchase and sale of services in logistical a few years ago. If they appear to be a partner, at least there is an ethical assumption (Shin, Park, and Park, 2019).

The basic principles for good procurement ethics are plain enough. Exercise honesty and integrity, take reasonable steps to protect and self-enrichment, deal with the suppliers freely and reasonably and meet legal and other obligations. In short, the overarching principle is "do the right things" Easy, though, isn't the same as simple. One of the issues with ethical procurement is how it can be reliably implemented (O'Byrne, 2021).

Unethical buyers may make in-kind or cash payments to individuals or friends, families and partners to buy support or contractual assistance. Before, during or after (kickback) contracts, bribes can be given (Cowton & San-Jose, 2016).

Threats or harassment on people for the same purpose as bribery to receive the support of the supplier or the contractual agreement. The difference is that while bribery is intended to make people profit, coercion seeks to motivate people by thinking about how this could or might harm them. In addition, ask for a bribe or illegal similar reward. A danger may or may not follow the application (Shackell, 2021).

Often known as nepotism, in which a supplier who is a friend or a member of the same family enjoys unjust preferences or bargaining

advantages. There is a clear correlation between nepotism and favoritism and the principle of Corporate Social Responsibility (CSR) mainly due to the willingness of organizations to combat corruption (Branco, Delgado & Turker, 2019).

As we move from a transaction - based logistics connection to a partnership, it is becoming increasingly clear that these relationships start on the premise that every side has to be fair (Ackerman, 2015).

Suppliers sell misrepresented goods or services, either because of materials used (such as substitution of horsemeat for beef) or because of the working conditions under which the processing takes place (notably in the garment industry). Additional examples are robbed and black-market supplies (Anderson, 2016).

The role of ethics is very significant in the big data research, in particular in terms of profiling users through social media analysis. At almost the same time, people are increasingly aware of how their data is used, even though certain people and organizations are involved in exchanging personal information for business purposes. There should always be strict laws and regulations to secure sensitive and delicate information for clients since no specific legislation addresses these invasive and intrusive technologies. (Sivarajah, Kamal, Irani, and Weerakkody, 2017).

Some data need greater security than others. For example, in comparison with a wearable exercise unit that might, for example, transmit medical information, it is unlikely that a sensor-controlled pallet shipped internationally could transmit such sensitive personal data. Even connected devices are noticeable in intimate settings, like homes and cars or smart bodies. (AlDairi and Tawalbeh, 2017).

This then increases the vulnerability of personal data transmitted to companies by such devices. Unfortunately, the recent history of Facebook's personal data 'assault' overlooked this customer service responsibility (Mikalef, Boura, Lekakos, and Krogstie, 2019).

3.0 Sustainable of customer service

3.1 Definition of sustainability

Sustainability focuses on meeting the needs of today without compromising the requirements and needs of future generations. (Grant, 2020). The theory of sustainability has three fundamentals: economic, environmental, and social, also known informally as earnings, earth, and people. Instead of short-term gains, sustainability helps businesses make long-term ecological, social, and human impact decisions, such as the next quarter's earnings report. Moving towards sustainable development, however, is also a dynamic process for businesses. Sustainability and sustainable growth aim to navigate the fine line between conflicting needs: our desire to move further technologically and economically, with the need to defend the planet in which humans and others exist (Mason, 2021).

Figure 1: The model above showed the level of sustainability, among others. Source: Performance in People

3.2 Sustainable customer service in logistics

The governance of supply chain processes is the organization of logistics. Logistics management activities are usually inbound and outbound transport management, fleet management, warehousing, material handling, order fulfilment, design of the logistics network, inventory management, supply/demand preparation, and management of third-party logistics service providers (Nagy et al., 2018). Customer care, procurement and distribution, planning and scheduling of production, packing and assembly to different degrees are all included in the logistics role.

"Strong customer relationships drive sales, sustainability and growth"

-Tom Cates-

Sustainable customer service means identifying the main elements of the organization's business processes that customers need and are fair. For example, anything a company does to fulfil customers' desires should not affect the company. One of the main aspects of providing services to the consumer is customer support, which ultimately helps the organization distinguish its offerings from the competition. The main goal of logistics management is to deliver the best product or service in the right position and the correct amount at the right time, whereby it should always be taken into consideration and carefully taken into account so that the costs of arranging and performing a high-quality customer service do not threaten the viability of the organization. The critical role of logistics management, on the other hand, is to fulfil the purpose of providing adequate customer service, mainly by identifying customer service priorities and policies and implementing the chosen strategy (Melovic, Mitrovic, Djokaj and Vatin, 2015).

Figure 2: The model above showed the importance of customer service towards customers. Source: By Innovation

The sustainability strategy relies on our assumption because what is ecological and financial can and must be the same matter. Upwards of 100 decades of expertise have shown us that the best long-term results for people, income, and the environment can be achieved by working for both economical and sustainable. Customer satisfaction and retention are improved with greater customer engagement and are essential for business performance (Kaur & Bhardwaj, 2019). They contribute to sales or economic growth as if the clients remain with organizations. Customer interaction through customer reviews has also been the driving force for implementing sustainability as a risk management business strategy and for existing customer relationships. Organizations also work to understand their product's total life cycle and work to develop partnerships that provide opportunities for both the client and the respective organizations.

Any logistics chain would not work as well as it can without a healthy communication level and an appropriate customer service level (Usa, 2020). It is essential for success to provide good customer service and coordination as part of logistics services. Sustainability initiatives and success are critical to foster good relations with our stakeholders and meet their changing expectations. Instead of a viable approach to improve customer service and customer experience, it becomes a "project" where a concentrated effort is made for a brief period and wound up lost in the company shuffle. “Transparency in the sustainability effort and success of Wallenius Wilhelmsen is important for promoting good relationships with stakeholders of the business and meeting their changing expectations” by the Board of Directors, Wallenius Wilhelmsen.

Figure 3: The model above shown, in logistics, the first element is to meet the customer service. Source: IMGBIN

Providers have to provide good customer support in logistics management to build customer loyalty for customers. Getting good customer service allows the brand in the market to look good. That's because their customers have positive feedback about their product (network, 2019). In the logistics industry as well, in reality, particularly in the logistics field. The entire process can seem as easy as receiving a customer's delivery and transporting it to its location. Customer loyalty ultimately depends on what the organization can give them outside of that simple method. Customer satisfaction reflects how well the needs of a consumer for the product or service of a business have been addressed. Satisfied customer is a conceptual concept that involves

factors including the output of the products, the quality of the provided goods, the atmosphere of the location where the product or service is purchased, and the value of the item or services.

3.3 Customer service in logistics towards Industry 4.0

Besides, industry 4.0 coordinates suppliers, producers and customers in a virtual, vertically and horizontally integrated, value chain, so suppliers should also incorporate the technologies to prevent giving up their role and fully integrate into the customer's infrastructure. Managers must pay particular attention to logistics practices in modern business environments, which are best shown by adequate customer service, which attracts customers and keeps existing ones. It directly affects the company's competitive advantage in the industry. Accelerated industrial digitization is attempting to adapt to consumer needs that are rapidly evolving. The product life cycle is considerably shortened because of new product variants anticipated by consumers, so work on product innovation and the technologies required to manufacture it must be kept up-to-date. It is not only necessary to renew the product itself from moment to time, but it is also essential to construct a production technology which can be efficiently changed together with the ever-changing customer requirements (Nagy et al., 2018).

"Your most unhappy customers are your greatest source of learning"

-Bill Gates, Founder of Microsoft-

The technology users of Industry 4.0 are required to increase their capacity usage and sell their new products more rapidly at the company level,

in line with evolving needs. IT advances and flexibility, which affect financial performance, are the most significant success factors in the production process. Moreover, the central aspect of additional customer support is, for example, the computerization of operations in supermarkets, which is not a high-cost today but represents a huge benefit for consumers. For instance, this allows telephone and computer orders, electronic payments, and different records to be stored in the company's logistics or other information systems.

3.3.1How can Industry 4.0 can improve customer experience

Technologies powered by Industry 4.0 to impact client engagement. Many companies are trying to counter the effect of digital change in this evolving workplace. The pace at which goods and services are marketed, distributed, delivered and supported places tremendous stress on organizations and demands a rapid transition to a digital environment. Organizations not only face the pressures of Industry4.0, but consumers are also seeking outstanding service in all interactions. Customers search for organizations that can address their challenges and offer goods and services more efficiently than ever before (Martinez, 2020). With difficulty, businesses need to ensure that customer service, and product request information is aggregated, monitored and evaluated from the different touchpoints or input channels to provide an outstanding customer experience.

Production is completely transformed, thanks to cloud computing. Independent production units converge into a fully integrated, automated, streamlined, high-efficiency manufacturing process, leading to a shift in the relationship between producers, distributors and customers. Within the context of the customer life cycle framework, it can be helpful to discuss the issue. Discover and purchase, buy and install, and use and operation are the three stages of the client life cycle. Discover and shop refer to the initial analysis and discovery provided by a client before purchasing. Buying and

installing refer to buying the right goods at an agreeable price in the correct configuration. Usage and service relate to the product's output or service and any post-sale experiences associated with it that the client may have (Hood et al., 2016).

Figure 4: The figure above shown, customer life cycle framework. Source: Deloitte analysis

Leading businesses recognize that they need to continually offer brand interactions that excite and inspire today's customers. The product experience, which corresponds to development, is part of the brand experience. Today's most effective producers realize that what will keep consumers coming back is to offer a better product experience. By moving beyond the use of machines to cyber-physical devices, the Internet of Things and the Internet of Systems, Industry 4.0 makes the "modern" factory a reality. Industry 4.0 will use these elements to improve development by leveraging efficient cloud computing, advanced robotics, and lower-cost 3-D printing (Column, 2020). The decisions could then be made without human

involvement, and as a result, machines grow smarter over time as they access and share more data across their system. The goal is to reduce waste and to increase efficiency as well.

Access to this knowledge often has a direct relation to the experience of the consumer. Smart factories can provide greater insight by collecting more data and making better use of analytics. Much has been made of connected devices and their impact on customer service within the service world. The vision of "connected service" has long been to track equipment in real-time and use readings to drive downstream service operations. However, service adoption has been slow, primarily due to a lack of perceived value across most service organizations and immature technology infrastructures. More precisely, it extends the vision of equipment remotely controlled by a service department to provide additional value for a customer to anticipate faults or minimize downtime, such as offering real-time views on order as it passes across the production floor.

It is obviously important for buyers to be pleased with the quality of their goods, but the service they provide pre- and post-sale is also important to any business, sometimes and ignored as benefiting the bottom line. Nevertheless, offering successful monitoring and tracing of shipped items increases consumer satisfaction and the reputation of the company. In growing IR 4.0 also will help and improve the logistics sector in many systems that can give guarantee satisfaction to the customer for example, in order to ensure the efficient distribution of materials and components to you and the customers, Track and Trace solutions, include software and automatic detection systems such as barcoding and RFID, both are reliable and competitive (Management, 2017).

3.4 Self-awareness in logistics

3.4.1 Definition of self-awareness

Self-awareness means becoming mindful of various aspects of the attributes, attitudes, and emotions self-included (Cherry, 2020). Essentially, it is an emotional condition in which the object of attention becomes oneself. Self-awareness is one of the first aspects of the idea of self to develop. Although self-awareness is integral to what they are; they are not something that they are intensely focused on at every moment of every day. Instead, depending on the situation and their personality, self-awareness becomes integrated into who they are and appears at various stages.

3.4.2 Self-awareness towards customer service

Higher self-awareness continues to increase clients' tendency, as opposed to the provider, to assign service interaction results to themselves (Pham et al., 2020). Self-awareness can also affect satisfaction with service experiences that have occurred far in the past, expanding the potential intervention window. For instance, it can be shown in the situation that when the duty of customers is minimal, efforts to form the satisfaction of customers by increasing their self-awareness are less efficient and can even backfire. Though customer satisfaction is a function of the product or service's performance level, it also relies on the locus of acknowledgement that customers make about the strength or weakness in the brand's quality. Consumers' satisfaction with achievements or disappointments often depends on whether it is perceived that the reason of achievement or disappointment in the product and the service output lies with the supplier or with the consumer. In the event of fail delivering, whether the loss is due to the customer or an external source, satisfaction with the supplier appears to be higher (dissatisfaction lower) than if it is attributed to the supplier.

In the logistics industry, service providers regularly or unconsciously affect their customers' self-awareness when, for example, they involve customers in personal discussions, small talk during site visits can often allow each other to better understand by encouraging their excellent customer service. In particular, in the case of product/service failure, increasing the self-awareness of customers could improve their satisfaction with the provider. If they genuinely bear any blame, higher self-awareness should make the customers take greater responsibility for the failure. Self-awareness also reflects the individual's performance of their job. This also can be included from the order with the customer into the last stage with a lot of feedback by the customer that should revise and improve from time to time. People will better educate themselves in the next time a similar incident arises along by looking back on their everyday experiences, and the input and affirmation of their interpretation might help bolster the faith in their personal experiences (Alvarez, 2019).

Figure 5: The figure above shows self-awareness in 4 facets. Source: centre for creative leadership

Great leaders are also seen as outward-facing as they propel an organization to success by communicating and influencing others. Based on how well leaders perceive themselves, their knowledge of how others see them, and how they handle the resulting experiences, leadership effectiveness is limited or amplified. To increase the self-awareness, there have other ways to boost with:

- *Wisdom in leadership*

  There are lessons you can apply to the problems you face from your past.

- *Identity of leadership*

  In your current professional and personal background, this is who you are.

- *Reputation for leadership*

  This is how others view you as a leader based on your present and prior actions.

- *Brand of leadership*

  This is what you are aiming to and the actions you are taking to support that goal.

3.4.3 Lack of self-awareness in customer service

In a company with exterior activities, communication in business plays a key model. Could not only poor user interaction get an immediate impact on unexpected uncertainty and business success, but it could also get a significant operating margin, risk assets and employee satisfaction. Maintaining contact and the connectivity among exterior processes is even more significant when it comes to logistics, aimed at ensuring that each and every part of the company is responsible and runs efficiently. It has been found in several instances that even an absence of personal interaction will increase the price of logistics. The effect of logistics, though fundamental, appears to be overlooked in favor of product features, customer support and after-sale contact when we speak about customer loyalty. But it is really one of the facets of the company that can have a significant, if not crucial, effect on the retention rates of customers. After all, 55% of consumers who have had a negative shipping experience claim that they are not going to purchase again from that retailer platform (Woestelandt, 2016).

Therefore, it is necessary to regularly analyze communications systems while managing logistics to discern any areas that need improvement. As emerging technology encourages improved connectivity, these networks also have to be continuously checked to ensure that companies achieve a competitive edge. However, they do not have the time or money to analyze existing procedures and introduce new ones for several organizations, and that's where an outsourced contractor can get the benefits. However, they do not have the time or money to evaluate existing procedures and introduce new ones for several organizations, and that's where an outsourced contractor can benefit.

Firstly, if communication is not adequate, a business may be lost. For example, to tell the shipper or receiver about the goods' status, the shipping

line must call (Lissto Slides, 2012). Often, it may lead to missing deadlines. Many businesses, to please their customers, depend on strict deadlines, such as healthcare, maintenance and retail. Logistics can be ineffectually harmful and wasteful without adequate contact amongst external powers. Beyond the immediate case, there can be some implications if a delivery date is missed or a component is not ordered on time. Missing a deadline reflects negatively on the credibility of the brand and can have a wide-ranging financial cost, including immobile staff incursions, additional travel, and probably even losses to customers.

Also, lousy customer service will impact the error, such as the product that can be lost. When the truck arrives, the transportation company does not advise the receiver, which may trigger overtime expenses and cut the company profit. While the business process must provide a certain stage of scope to recompense for possible mistakes or postponements, these circumstances' extent and nature must be measured, mainly because financial losses may be significant. There are many anomalies, for example, mistakenly delivered stock, inaccurate data and documentation or bad customer evaluations, that must all serve as warning flags of poor messages. Determining the reason for this and seeking a solution can be challenging, but it can be very useful for the logistics field.

3.5 Social skills in logistics

3.5.1 Definition of social skills

Many positions require staff to work with clients or customers. Communication skills so that, when necessary, they can communicate effectively with customers. When making choices on where to shop or do business, customer service is an essential aspect that consumers consider. When an employee is working for a client, they face the business for which they work. When people think about an organization, people also think of their experience interacting with that company's employees. It's not always easy to support clients. Patience and a calm and cheerful attitude are required if the buyer is angry about something; this can be hard (Schmitz, 2019).

Soft skills that include creative thinking and to see the big picture are also the 'other' abilities they relate to (Heyns & Carstens, 2012). There is a rise in demand for specialists in the supply chain with a broader knowledge set to overcome potential market challenges. Management of individuals is no less essential to the success of an organization. Shifts in union ties, legislative changes, new working practices and the relentless push for higher efficiency place enormous demands on executives. The value of customer service in both industries is highly stressed, and the opportunity to see the image both from sides is a valuable skill (Carvalho, 2021).

3.5.2 Social skills practices in the logistics sector

To some extent, technology will help company relationships. However, it is a long way from being manageable without people to foster and support them, to establish and sustain positive and successful relationships. Therefore, all distribution network practitioners need to concentrate on soft skills growth as significant (Improvement, 2016). This is much more critical in logistics.

Customer service is one of the most valued skills logisticians consider as a differentiation when looking for a freight forwarding partner to work with. In other words, before sending them a shipment, it is essential to ensure that the freight forwarding partner learns those customer service skills. Their reliability will be entirely dependent on how available they are to listen with you and react to any requirements in the best way, especially when working with agents overseas.

The workplace culture in the supply chain is often relatively fast-paced, and each step depends on the practical completion of the previous degree. Quigley acknowledges that a significant amount of pressure will come from the climate. A production line that does not have enough material or incorrect material may shut down (Scherman, 2018). When required, successful logistics professionals can make split-second decisions and often be counted on to keep out any symbolic fires that may occur within the procedures they supervise.

It is essential to predict and assess potential situations, whether that is a business moving products around the country or taking good care of warehouse inventory. We must be mindful of the potential needs of our organization in logistics management and the results of actions taken anywhere in the production process. Shipping companies need to be wary of tariffs, weather, and many other factors affecting shipment timing. Not only must the supply chain analyst be familiar with the stock, but he must schedule timely replenishment accurately. It will respond more rapidly and reliably when designing contingency plans for issues that may or may not occur (Tino, 2020).

Ineffective communication is one of the most common areas of disagreement. A crucial aspect of working in logistics is the presentation of constructive individual skills. It needs a simple, direct conversation to connect with fellow

workers, vendors, and others. It also involves to be an attentive reader or paying enough attention to what is said, asking more questions whenever a point is not exact and checking that all parties involved recognize the issues being discussed. Establishing and greeting each other through good communication will improve interpersonal skills and bring them to better opportunities (Systems, 2017). It will never know who will communicate with the next. In several contexts, logistics will bring in touch with several different individuals.

3.5.3 Social skills in freight forwarding

Freight forwarding is the transfer and shipment of goods by air, sea, rail or road by multiple simultaneous providers through one location to the other. The principles for freight forwarding are impact on the efficiency and price movement of goods that are held in fair condition throughout their deliveries. Having the experience and skills to handle freight forwarding requirements is important in order to ensure the effective distribution and transport of products ("What Is Freight Forwarding?", 2016). Since these, freight forwarding relies on finding the right individuals whose devotion to customers' satisfaction ensures that products arrive at their end-stage in a timely and efficient manner. For any b2b that wants to succeed in the market, forming partnerships with businesses that provide good customer service is a must.

Clear distribution and organizational team coordination are the essential abilities to freight forwarders (Brasil, 2021). The most possibly just refer to their sales team when concluding a deal with their partner. They are responsible for hearing about the operation, submitting the quotation and forwarding all the data to the operational team to conduct. When the interaction is not straightforward, there will be greater chances of meeting problems or issues.

Freight forwarders also should have the capability to tackle unpredictable scenarios. Several logistics variables might harm the shipment, like delays due to weather conditions, carrier problems, incidents along the journey, etc. However, a good customer service team can respond rapidly to the issue, guaranteeing that the operation's updates are continuously informed and will not be adversely affected. The freight forwarding services supplied by the freight forwarder must comply with the specifications (Khajuria, 2019). For example, one who also provides effective handling of fragile goods from factory to port and real-time monitoring of the movement will need to.

Besides, because of how easily and effectively they can interact and answer such complaints or service requests, people trust businesses. For example, when you need it the most, you can't afford to trust someone who can't connect with you. It's a very deep gut feeling that aligns confidence and communication and pushes sales towards the next level. For example, updating customers on delivery or logistics progress will tell us a lot about how specific the system is and how accountability is respected from start to end (Blog, n.d.).

3.6 Logistics in customer service

3.6.1 Importance of customer service

The quality of the service offered to consumers by the organization now defines the degree of enterprise and consumer loyalty in the business and industry world. A central principle will not shift, regardless of which category the company is: providing value to the product's receivers. Quality applies not only to tangible goods but also to facilities. With the advent of technology, the product quality difference between various businesses is reduced as the average product quality increases (Miaoer, 2017). It seems that logistics

facilities contribute significantly to the overall satisfaction of transactions. The accessibility and time delivery of a product returns and terms of the warranty are essential facets of customer service. In the field of logistics, the availability of knowledge due to technological evolution has also been affected. As it contributed to a highly competitive market where average product life cycles were shortened, this also leads to better and more reliable inventory and demand details.

A lot of logistics elements will relate to a client's expected quality of customer service. Logistics policies and customer service are, as seen, closely linked between. A complex and critical role is played by each other, highlighting the need for better awareness of the effect that logistics services have on overall online experience and, quite indirectly, the value of logistics for service quality (Querin & Gobl, 2017). Customer service has an important part to play in every vertical market. In the logistics sector, customer support holds very high importance. Logistics companies are the partner support that ensures that goods are transported to the right destinations on time and cost-effectively. In logistics, good customer service relies on good interaction and prompt and damage-free services. And adequate logistics customer support allows the logistics chain to perform well to maximize its abilities (transport, n.d.).

Customers are the creators of the company. The brand value is improved by excellent customer service and makes it look appealing on the market. The positive customer reviews and their positive responses review on product items & services and improve the company's overall gains and benefits. Poor customer service, however, can make unsatisfied customers drop negative ratings. These concerns can only concentrate on the delivered product, but may also consist of customers providing customer service. It can prevent both kinds of negative feedback by enhancing customer service. Next,

when it comes to customer service, there would be little to worry about. And second, when the product is not up to the acceptable level, good customer service will also help appease customers (Csizmadia, 2020).

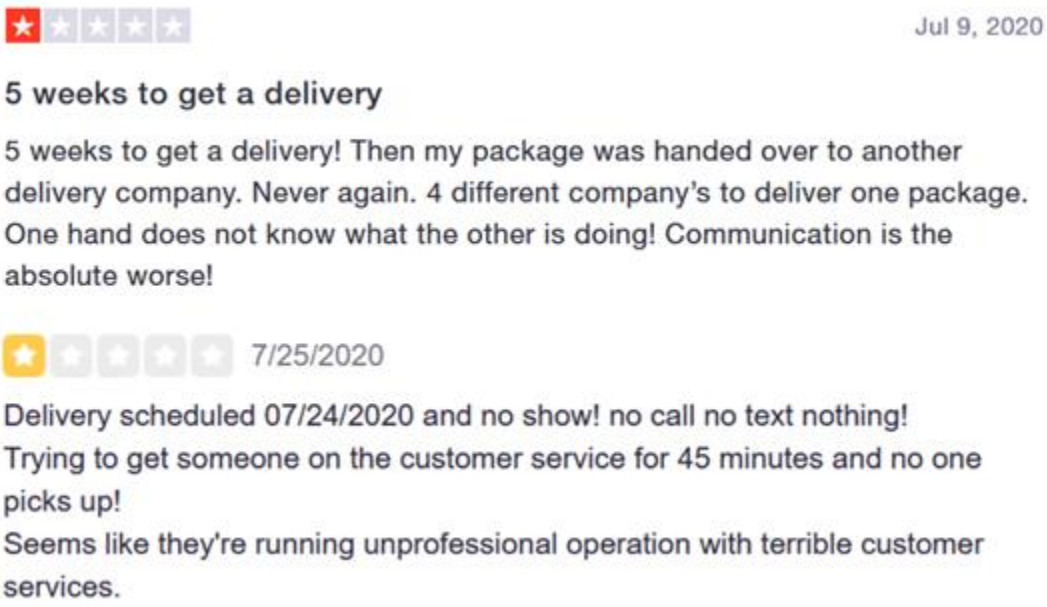

Figure 6: The figure above showed negative customer service reviews. Source: Live Agent

3.6.2 Elements of logistics customer service

Logistics customer support is an essential concept within logistics transport systems operations. This idea is based on the supply chain's overall reach. Logistics customer service is a component of the entire customer product offering of a company, involving fulfilment, speed, performance, and cost, customer service elements that are unique to logistics activities. The concept fulfilment process was described for the whole orders fulfilment process for the client. The method involves obtaining the order, organizing the

invoice, choosing and packaging the goods, shipping the shipment, distributing the package, providing the end-user with customer support, and managing the return of the goods that might be possible (Sarder, 2020).

There are many integral parts of customer service interlinked with one another, including price, quality of products, and service speed. The price, for example, rises with better delivery speed, and conversely. All stages have 3 phases: pre transition elements, transaction elements and post transaction elements.

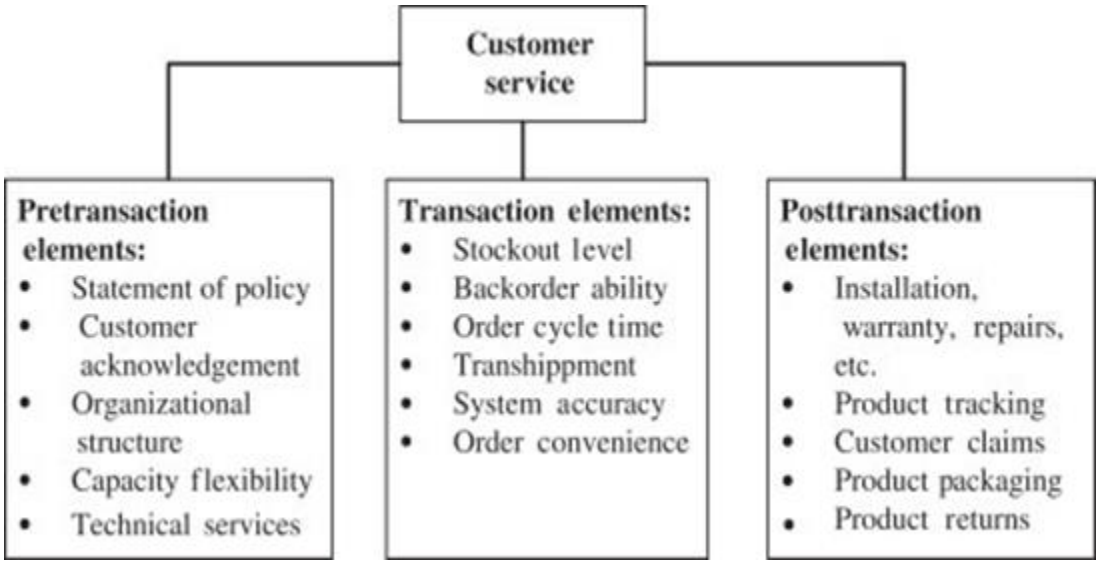

Figure 7: The model showed the elements of customer service Source: NCBI

- ***Pre-Transaction elements***

Customer service pre transaction components mean building an environment for effective customer service. In qualitative and quantitative terms, this operation aspect deals with the level of

service and similar events. Pre-Transaction components do provide the operating team with a roadmap for the management and strategic dimensions of the company's service operations.

- ***Transaction elements***

Transaction components cover anything between the receipt and distribution of an order to the client. A company focuses on recovering, packaging, and shipping the order to the client in a timely and cost-effective manner during the transaction process of customer service. This stage also involves shipment preparation, customer contact, monitoring of delivery, and confirmation of delivery.

- ***Post transaction elements***

This step reflects the variety of resources necessary to support the product in the field; to protect the consumer from faulty products; to guarantee that packages are returned; and deal with claims, grievances and refunds.

4.0 Logistics Information System (LIS)

Logistics Information Systems (LIS) has been specially designed to facilitate all areas of logistics activities, including the coordination of logistics tasks, material transfers and inventory replenishment. This involves a variety of operating systems. In addition, to promote data sharing and capture technology, assisted by commercial, industrial and logistics processes between various organizations through advanced logistics information systems. It is acknowledged that the overall efficiency of the supply chain can be increased by using information technology (IT). While several businesses have made it possible to process transactions. They also advocate for improvements to allow them to promote better planning and decision support

applications. It is also a key for a range of third-party logistics (3PL) sectors to whom other organizations have outsourced their logistics needs (Wood, Reiners & Pahl, 2015)

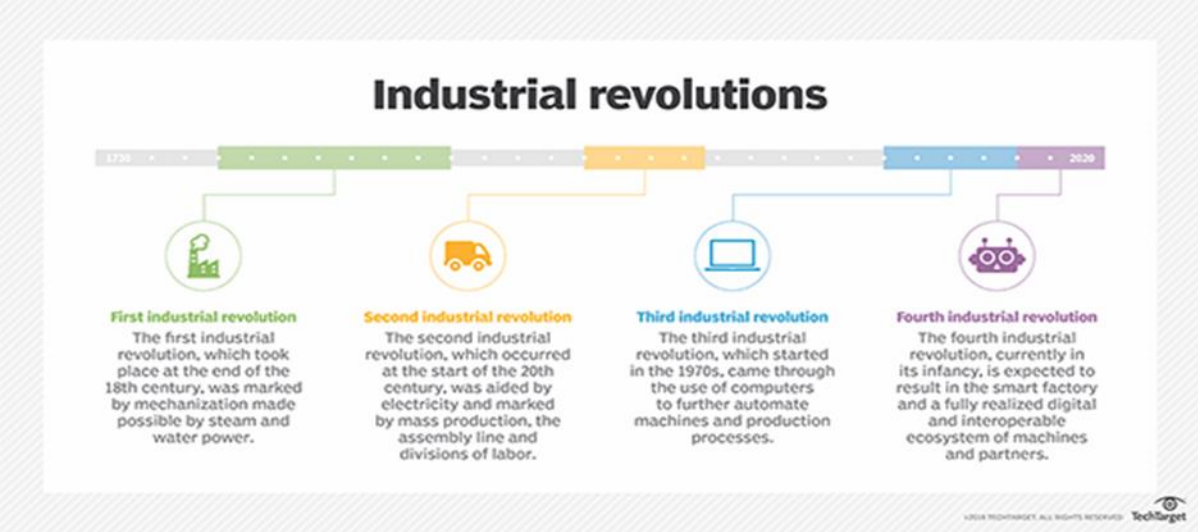

Figure 8

Source: Industrial Revolutions (Industry 4.0, 2021)

According to Papp, Szegedi & Malouin (2018), the creation of Industrial Revolution 4.0, as well as logistics operations and supply chains are closely related to future developments. High-quality data on future logistics and IR 4.0 growth can be collected for technical projections, which can help influence business strategy and vision. If predictions are consistent, professionally and on a frequent basis, the forming of energy policy initiatives would be more efficient, more constructive and more compatible with the overall growth. Forecasting requires a scenario study, steps for potential uncertainty can now be established today and effects can be anticipated more accurately. Nowadays, logistics firms are required to use at least certain actions related to identifying potential patterns and making their sector more effective. As an example, there are even more improvements to the security of the surroundings. Therefore, regulations and growing public awareness of

environmental constraints created by logistics and industry. Industry must be prepared to adjust and adapt as well as becoming more environmentally conscious before it is too late and continues to lose their consumers. Observation regulations and environmental conservation acts may also be characterized as part of strategic planning and shaping the direction of the industry. Logistics and Supply Chain must also strive towards being a good business and make it fair and responsible in industry.

4.1 Internet of Things (IoT) in Logistics

Mainstream logistics focuses on the data technology that facilitates the introduction of business processes and enhances the participation of users in supply chains. The identification of artefacts and contact between participants is of great importance in logistics. Identification systems applied to a wide range of transportation processes have contributed to the production of smart containers, pallets, packaging goods, cars and trucks, racks, heavy machinery, infrastructure services, ports, terminals and many others. RFID, GPS and Warehouse systems have a broad variety of uses in distribution and supply chains, including RFID systems, which encourage automated object recognition and wireless internet reading. RFID tags can be active, passive and semi-passive and provide a vast volume of data on the items they have been installed. RFID tags are used for the identification of traffic, distribution and loading and unloading means, logistic systems, individual items and shelves in the retail industry, special forms of merchandise, mail parcels, storage and traffic positions, identity cards, records and others. Subsequently, GPS devices make it possible to position objects in real time.

The signals of the satellites are received by GPS systems, their place in space and time is determined, location data is preserved, and transmitted to machine users. GPS is also used in virtually any logistic field, delivering precise

location and time data when and when an object is detected. GPS systems are mounted on freight vehicles in all forms of traffic, semi-trailers, pallets, containers and personal items, industrial and reloading machinery, all equipment used by workers in business operations. In addition, WSN enables data to be obtained and shared between sensor nodes, input servers and network users. A sensor node comprises a set of passive and active detectors and is capable of communication, storing and analyzing the data gathered. Detectors are used for the identification of items and their physical features of goods, means of transportation and loading and unloading, containers, storage and sales infrastructure, products and transport networks, and others.

4.1.1 Internet of Things is Improving the Transportation Industry

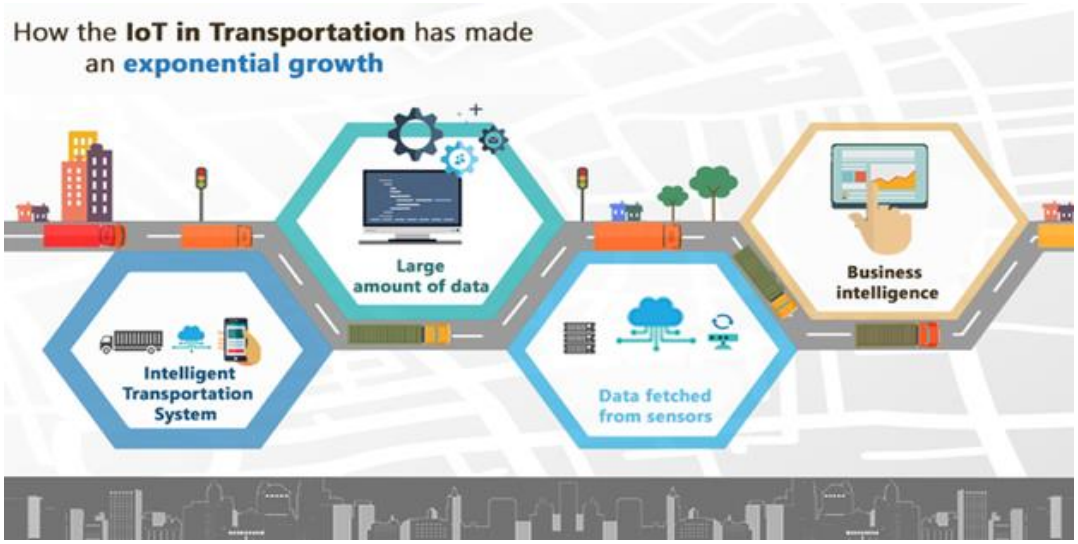

Figure 9

Source: IoT in Transportation and Logistics Industry (Verma, 2018)

Logistics and transport have historically been dangerous areas due to lack of control over environmental conditions, high frequency of scams, and a wide variety of properties to be handled. Through the Internet of Things, logistics will eventually become a completely regulated domain, where all

variables that might adversely influence the distribution process can be either neutralized or prevented. In addition, these will be the advantages of using the Internet of Things in transportation. The Internet of Things is used for reliable monitoring of the car. The Internet of Things lets companies monitor the path of each car and equate the most cost-effective route with the one the driver has taken. Being aware of the ins and outs of the distribution process lets business owners assess the success of workers and promote best practices, proactively respond to challenges on the ground and handle them with the minimum number of losses.

Besides that, reduction of freight prices. Automated order management and status alerts help businesses minimize the number of workers in charge of shipping and reduce total operational costs. The use of wired last-mile distribution bots helps minimize costs exponentially as well as improve customer loyalty. Amazon has been using stand-alone bots and drop-off lockers for more than 5 years, enhancing shipping comfort and making a profit. Then, it can optimize preparation of the supply chain. The Internet of Things offers organizations with multi-faceted data which is how much time it would take to sell a given quantity of goods in the inventory, how best to maximize deliveries, which workers have stronger track records of which delivery centers have the capacity to fulfil. As a result, company managers will schedule their activities and forecast the results of their business decisions quite reliably.

Moreover, the Internet of Things can monitor staff. IoT logistics equipment enables business managers to monitor the physical safety of employees using wearables and vital sensors. In the Internet of Things, you would be able to shield workers from exposure to hazardous chemicals and warn drivers if they do not comply with safety practices. There are also machines that can detect the running speed of the employee and the number

of scheduled breaks and determine the productivity of the worker based on the results. For certain administrators, such in-depth supervision can be over-the-top. However, it gives you a greater understanding of employee engagement and time-management techniques.

Lastly, preventing the smuggling of goods and tracking travel conditions. The spectrum of IoT and logistics anti-theft technologies is vast connected intrusion detection hardware, real-time asset monitoring cameras, warning systems, smart fences, and more. A company manager will be able to identify an IoT logistics approach that offers improved inventory and supply chain visibility, protects against scams, merchandise loss, or interference (Digitieum, 2019).

4.1.2 Impact of IoT in Logistics

IoT is offering far reaching opportunities for logistics providers and their industry clients and end-users. These advantages spread through the entire logistic supply chain, including warehousing, freight and last-mile distribution. They have an impact on fields such as organizational performance, safety and security, customer service and innovative business models. With IoT, we will get to solve challenging organizational and market challenges in fascinating new ways. Applying IoT to logistics activities would have a huge impact. It may track the state of properties, parcels, and individuals in the supply chain in real-time. Using IoT we may assess how these assets are doing and adjust what they are doing now and what they will do next. We can simplify business processes to reduce human interaction, improve consistency and predictability, and lower costs. We should refine the way individuals, processes and assets operate together and organize their activities. And finally, we will extend analytics to the whole supply chain to find larger areas for change and best practices. IoT would be about "sensing and sense making" in the field of logistics. 'Sensing' is the tracking of various assets inside the

supply chain across different technology and mediums; 'sense making' is involved with managing large quantities of data sets that are produced as a result, and then translating these data into insights that generate innovative solutions. But is this the best time to leverage IoT for logistics? Today, we see the perfect conditions for IoT to start-up in the market. There is a strong technological drive with the rise of mobile computing, IT completion, 5G networks and analytics of big data, as well as a pull from consumers that are constantly seeking IoT-based solutions. In combination, these aspects make it easier for logistics suppliers to implement IoT at an increased pace.

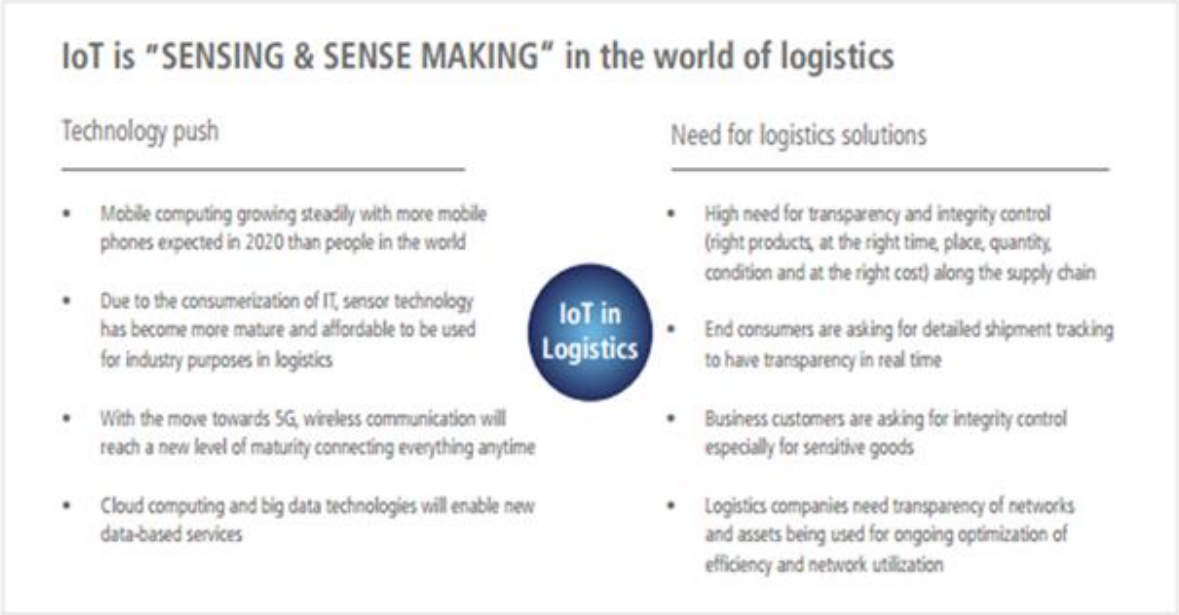

Figure 10

Internet of Things in Logistics (DHL, 2015)

4.2 Artificial Intelligence (AI)

Artificial intelligence also called computer intelligence is the intelligence exhibited by computers in comparison to the actual intelligence shown by

humans and another category. Any of the things it seeks to achieve are voice comprehension, listening, preparation and solution. Artificial Intelligence (AI) helps robotics to learn from experience, respond to new conditions and perform human-like tasks. Many applications of artificial intelligence studied today from chess to playing machines to self-driving cars rely heavily on computer learning and speech recognition. Using these methods, machines may be programmed to perform sophisticated tasks by processing huge volumes of data and recognizing data patterns (Insights, 2020).

"*Artificial intelligence is a tool, not a threat"*

Rodney Brooks-

Artificial intelligence plays an extremely important function in the logistics sector. As the logistical world needs begin to become ever more complicated, big-data-driven technologies have already started to optimize global logistics (Peters, 2018).

4.2.1 Artificial Intelligence in Logistics

Warehouse intelligence is the greatest representation of artificial intelligence to boost the operating performance of the logistics sector. Another machine after the other collaborated with the work in such a way that storage density, handling speed, pick-up precision was improved significantly. Packing, unloading and management are one of the most important practical facets of the logistics system. It operates in the shipping, storage, packing, processing, manufacturing and sale of goods and running via the start and end of logistics activities. The use of logistics robotics specifically enhances the success and productivity of the logistics system. For example, the logistics worker worked with a warehouse technology plan which hauled 250 warehouse robots around a large-square-meter warehouse and filled almost

20,000 moving racks. Rather than people seeking the racks, warehouses are waiting for robots to come along with them. According to the official report, if 1000 pieces of goods are collected, the use of a factory robot would reduce labor by between 50% and 70%. The supermarket robot gathers small items, the output can be more than three times the manual pick-up, and the precision may be 99.99 % (Zhang, 2019).

Besides that, Artificial intelligence technology transforms various logistics operations, such as data processing, inventory processes, and others. As an outcome, companies will boost their income. AI in electronics manufacturing is used to estimate the demand for individual products. On the basis of these reports, orders will be revised and products on sale may be delivered to the nearest warehouse (Kuprenko, 2019).

Artificial intelligence is used in the transportation field. In certain cases, it is difficult to understand carefully the relationship between the characteristics of the transportation system. Thus, artificial intelligence approaches can be viewed as a clever approach for those dynamic processes that cannot be handled using conventional methods. Many logisticians have seen the benefits of artificial intelligence in transport. An example of this is the turn off-road traffic sensors into a smart agent that instantly identifies collisions and forecasts potential traffic conditions (Abduljabbar et al.,2019).

Some other direction where certain artificial intelligence applications have been used in transport is by traffic management systems. Once again, due to its computing, monitoring and analysis skills, artificial intelligence will be applied to traffic control and statement processes in order to improve and standardize traffic management and make their roads safer. The computational capabilities of artificial intelligence are still of considerable importance to vehicles and infrastructure, as they can detect personal and biological variables that may lead to, or result from, higher traffic levels and

obstruction. For example, Transportation authorities are testing an experimental control system that uses artificial intelligence at traffic lights to deliver a last success to the dreaded traffic congestion. That is an amazing machine that is going to help with traffic congestion.

Besides that, there are autonomous cars. Driverless cars are one of the most innovative technological technologies to become a possibility within the transport sector and may be the first step in a new direction era of intelligent transportations. Artificial intelligence is important in this autonomous car because of their processing, control and optimization abilities. Real-time data transfer and retrieval is a critical feature of autonomous vehicles and others interruption to these systems may prove disastrous in a real-life environment. The capability of artificial intelligence to control the transmitting and retrieval of collected data, so to refine communication to make sure the better link is always used and can allow in making driverless cars smarter and more advanced (Lanner, 2019).

Another use of artificial intelligence is in procurement. Placed at the core of the financial operations of the organization, procurement and its affiliate accounts payable has a huge effect on the overall financial stability and strategic success of the organization. As procurement procedures including the whole procurement to pay process (P2P) operate at optimum performance, quality, and procurement agencies not only save time and resources but also create value for their corporations. By seeking ways to minimize the effects of major problems facing each organization, including minimizing the costs of both total spending and supply chain management in specific. Efficient Data Processing will then refine the compilation, management and review of spending, inventory and quality data. Risk Management to overcome improper risk exposure created by internal fraud, rogue expenditure, process inefficiencies, external quality, price, contract

management problems, business threats, natural disasters, pandemics, and other influences. Finally, maintaining operational effectiveness and supply chain flexibility by optimized and reliable financial details and a sophisticated, ready supply chain that can ensure business continuity in the event of a disaster (Biedron, 2021).

4.2.2 Limitation of Artificial Intelligence

There are several limitations of artificial intelligence in logistics that are issues in law. One of the newest threats to artificial intelligence is the latest regulatory issues that companies must be careful of artificial intelligence. If Artificial intelligence is stored in private information, it could be in violation of state or national laws, even if the data is not in itself safe or problematic as collected. Even if it is not illegal, businesses need to be careful of any perceived effects that might negatively influence their organization. If the information gathered were viewed by the public as breaching their privacy, an upgrade to the company will not be worth a possible uproar in public relations (Development, 2021).

Besides that, is the bias. Bias is the major obstacle facing artificial intelligence. Logistics companies may have evidence that is an actual reality, there is an unavoidable prejudice were looking for certainty of which artificial intelligence may be used. The inherent difficulty with artificial intelligence systems is that they are all as successful or as bad as the data on which they are prepared. Poor data is often attributed to religious, caste, social or ethnic discrimination. The owner is used to determine who has been called for a job interview, who has been awarded parole or whose loan has been sanctioned. If the bias that makes important choices is unrecognized, it can contribute to immoral and discriminatory results. For future, such prejudices are likely to

be more enhanced as many artificial intelligence recruitments programmed will continue to be educated using bad data. It will be to practice such models with unbiased data and to create models that could be controlled easily. Microsoft is creating a tool that can help classify prejudice in a range of artificial intelligence.

4.3 Blockchain Technology

Blockchain technology is a globally distributed archive that anybody, anytime, with the internet can access. Unlike standard databases, which are operated by central figures such as banks, blockchain does not belong to anybody. And with the whole network watching after it, spying on the infrastructure by faking records, transfers and other evidence becomes almost impossible (CNBC International, 2017).

The first blockchain was designed by a person known as Satoshi Nakamoto in 2008. In history, we have witnessed four big industrial revolutions. The industrial revolution 4.0 is the improvement of the means by which goods are designed, generated, delivered and the financial online payment. Blockchain is one of the most innovative elements of Business 4.0. The status quo of hype among emerging innovations is contributing to misunderstanding. The volatile world surrounding Bitcoin and cryptocurrencies could keep the blockchain from thriving to its maximum potential. More industry-oriented research is also being performed on blockchain technologies. Even though increasing attractiveness in the transport sector is slowed by the first-wave sectors, most transportation companies expect that the blockchain approach will minimize the time, expenses and risk of their operations (Sarmah, 2018).

"The blockchain does one thing, it replaces third-party trust with mathematical proof that something happened".

Adam Draper

4.3.1 How Blockchain Technology Works?

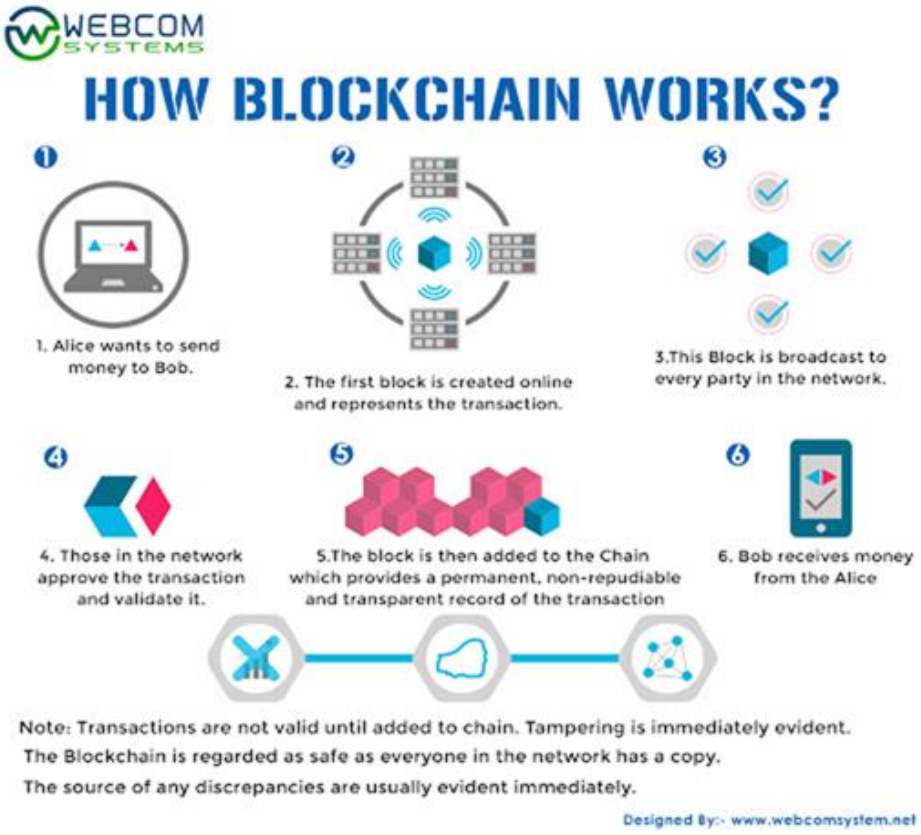

Figure 11

Source: How Blockchain Works? (Blockchain Technology in India, 2018)

A few years before this, several organizations around the world have adopted Blockchain technologies including the logistics industry. But how exactly does Blockchain technology work? Blockchain developments are also recent and may be troublesome in the future. Blockchain is a synthesis of the three largest cryptographic key schemes, a peer-to-peer network including a public ledger, and a means of processing payments and network information. Cryptographic keys contain two keys which are the private key and the public key. This key assist to allow efficient transfers between the two parties.

Respectively the user has these two keys that they use to create a protected digital identity reference. This secure identification has to be the most essential aspect of Blockchain technology. In the world of cryptocurrency, this identification is linked to 'electronic signatures' and is used to accept and track payments. Digital signatures are combined with peer-to-peer networks, a vast number of people serving as authorities use digital signatures to reach a goal on payments. When an arrangement is approved, it is authorized by a mathematical validation that results in an effectively protected payment between both the two network-connected entities (Simplilearn, 2020).

4.3.2 Blockchain Technology in Logistics

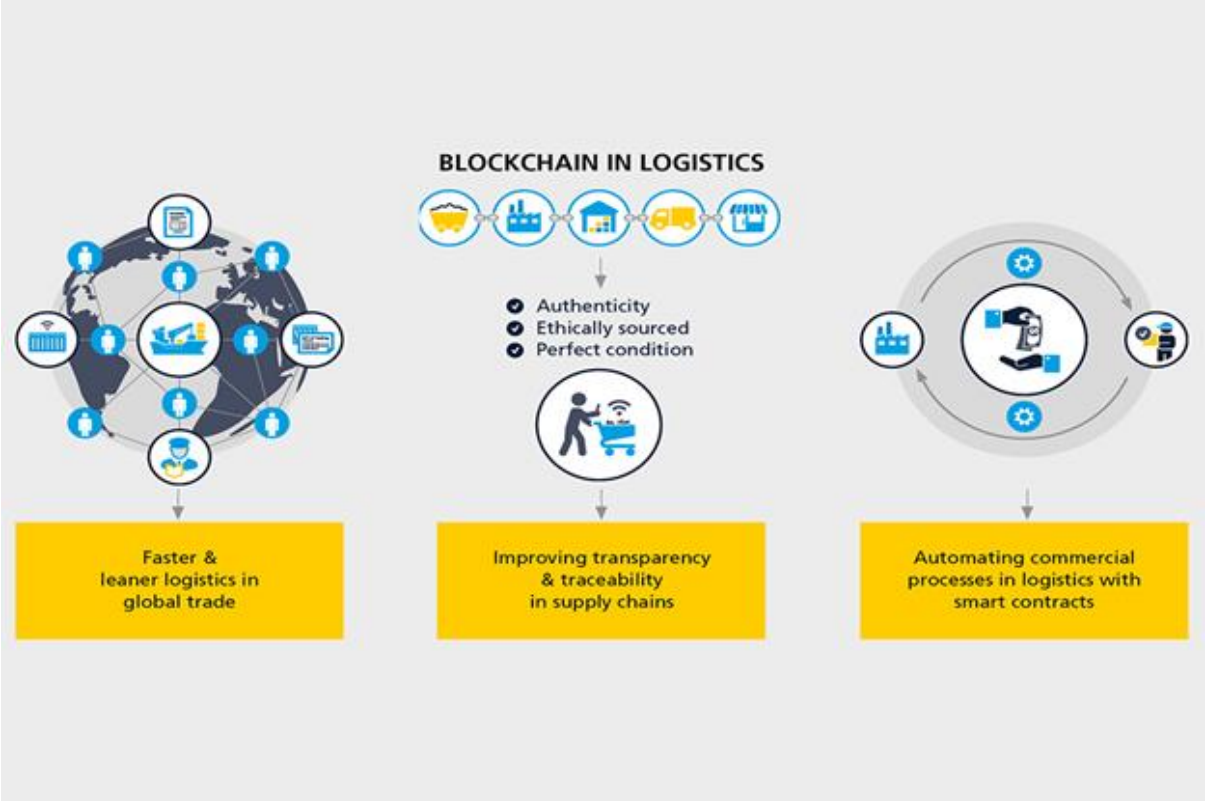

Figure 12

Source: Blockchain has Exciting Potential (Air Cargo News, 2018)

Achieving logistics perfection involves collaboratively with others to maximize the movement of tangible goods as well as the dynamic information flow and banking transactions. Today, there is a considerable amount of value trapped in logistics, mainly due to the decentralized and volatile nature of the logistics sectors. For such a vast range of players participating in the supply chain, this also results in poor transparency, unstandardized procedures, data and differing degrees of technological acceptance. Many areas of the supply chain of logistics are still related to the manual methods required by the regulatory agencies. For example, organizations also must focus on manual processes and document paperwork to comply with customs procedures. Much of this makes it impossible to trace the origin of products and the position of

exports as they travel down the supply chain and create friction in foreign trade.

Blockchain can theoretically help solve these logistic frictions and allow major improvements in logistics process performance. This technology will also allow data transparency and access between relevant stakeholders in the supply chain providing a single source of reality. Throughout, the trust needed amongst parties to exchange information is strengthened by the inherent security measures of blockchain technology. In addition, blockchain can help reduce costs by enabling leaner, more automated, and error-free operations. As well as adding clarity and predictability to distribution processes, the actual movement of commodities can be accelerated. Authenticity monitoring of commodities will allow sustainable and responsible supply chains on a level and help to combat counterfeit products. In addition, blockchain-based technologies provide the opportunity for modern logistics operations and more new business models (DHL, 2018).

4.3.3 Blockchain Technology Issues

According to Marr (2020), the blockchain issue in logistics is lack of regulation that creates a risky environment. This is primarily a bitcoin or other valuation blockchain network problem. But the truth is when those trading in Bitcoin or other cryptocurrencies have discovered their costs for the first time in the last few months, it is a rather unpredictable setting that to the lack of governmental regulation, scams and market abuse are widespread. Among the high-profile cases recently exposed as a Ponzi scam that is suspected to have cheated millions of customers who know they were having early on what would become the "next bitcoin." As in many fields of technology in recent years, policymakers have mostly struggled to keep pace with innovators, contributing to rich options for those looking to manipulate FOMO (fear of missing out). As a speculative investor in cryptocurrencies, they prefer to stick

to comparatively well-established coins such as Bitcoin. There is still a risk that the exchanges or online wallet where you store your coins would be compromised, closed by governments due to shady activities or abscond with your coins. Again, this is a result of the lack of administrative supervision around the companies that do not have fair and responsible in their business.

Subsequently, Blockchain is not a machine-based network. Blockchain is a protocol that depends on nodes to operate properly. The stability of the node is calculated by the characteristics of the blockchain. For example, the bitcoin network is reliable and requires nodes to be part of the framework. However, the same should apply to a blockchain network that does not stimulate the nodes. This means that it is not a different part of the supply environment where the network does not rely on the presence and engagement of the peers. In addition, the distributed computing system operates to make sure that payments are checked in compliance with the rules, to ensure that transactions are registered and to ensure that they provide a transaction history on each payment. All these activities are like those in blockchain, but there's still a lack of collaboration, mutual assistance and contrast for both. Thus, blockchain can be a distributed framework, but its weakness is the simplicity that allows the machine vision structure so important to companies.

Besides that, scalability is a matter of concern. Blockchains are not scalable like a centralized framework equivalent. If you have used the Cryptocurrency, you will recognize that transactions are made based on network congestion. This question applies to the issues of scalability of blockchain networks. Simply placed, therefore more people or nodes that join the network, the more likely it is to slow down. However, there has been a growing change in the way blockchain technology works. With the right development in technology, optimization strategies are now being

implemented into the Bitcoin network. The alternative is to execute off-blockchain transactions and then use blockchain to store and access information. Apart from that, there are already new approaches to addressing scalability, either through accepted networks or through a various design blockchain solution, such as Corda. However, these solutions are not yet in line with the unified systems. If the logistician equals bitcoin and VISA transaction speed, they would find a wide distance between them. Just now, bitcoin can only do 4.6 times per second. On the other hand, VISA would make a limit of 2000 times per second. It also indicates that there will be 150 million transactions per second per day. Finally, we realize that the blockchain would always never be well enough for real-world deployment. There is also a need for significant reform before it can be extended to daily life (Iredale, 2020).

4.4 Bitcoin

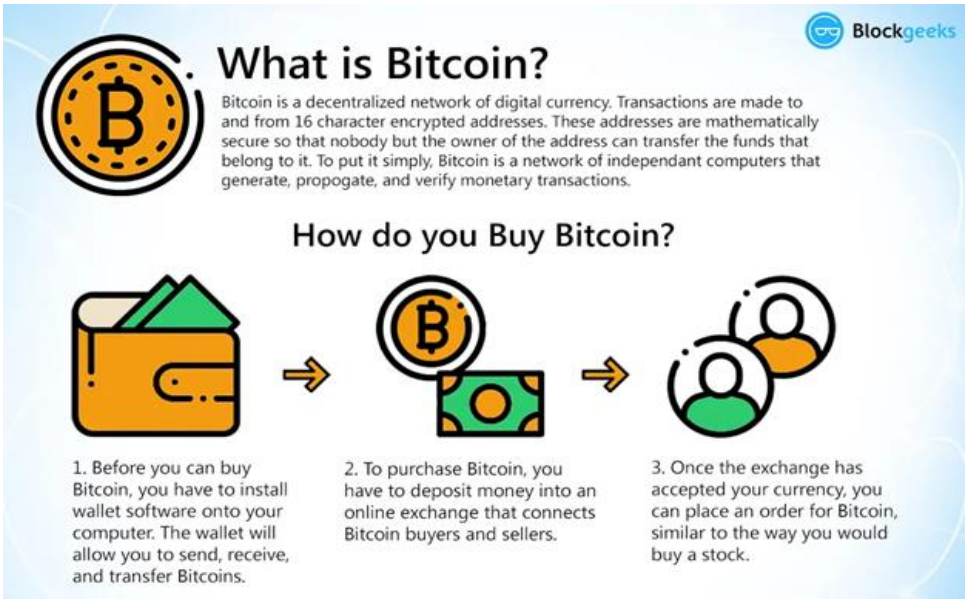

Figure 13

Source: What is Bitcoin? The Most Comprehensive Step-by-Step Guide (Rosic, 2019)

Bitcoin and blockchain are not the same. Bitcoin is a cryptocurrency, whereas blockchain is a digital ledger. Bitcoin is driven by blockchain technology, but blockchain has uncovered many applications besides Bitcoin. Bitcoin, a decentralized currency or a digital currency is a form of money that is fully virtual. It is sort of like an online equivalent of currency. We may use it to purchase goods and services, but not many shops accept Bitcoin, and some countries have prohibited it entirely (BBC, 2018).

4.4.1 The Operation of Bitcoin.

The bitcoins that give to somebody else have been sent by someone else to you. When they sent it to you, the address from which they sent it was recorded on the bitcoin blockchain that is encrypted and unavailable to register as the transaction entry and your address. The address they sent it to be recorded on the bitcoin system as the payment exit. When you transfer the bitcoin to somebody else, your wallet produces a payment output, which is the address of the individual you transfer the coin too. This transaction would then be recorded on the bitcoin system using your bitcoin wallet as the payment input. If the person transfers those bitcoins to somebody else, their address will be becoming a payment input, and the other individual's bitcoin address will become the transfer output. Using this method, people can track bitcoin transfers all the way back to when bitcoin was first developed, knowing who sent it to whom at any moment in time. This provides a truly open structure in which all transfers can be reviewed at any time (Bradbury, 2020).

4.4.2 The Risk using Bitcoin.

Therefore, if bitcoin is so amazing, why does not everybody use it in logistics? Well, there are still some pitfalls particularly at the present time. Therefore, the risk of using Bitcoin is possible intervention from the authorities. Whenever there is something new and there are constraints, the

government will have to ensure that things stay the way they are bound to have been. The truth is that the authorities and certain other countries are targeting Bitcoin for a range of reasons. Subsequently, there is no currency sovereignty. Possibly the main downside to Bitcoin being that this is not a regulated fiat currency. It is not covered by the absolute confidence of every regulatory body. Though this can be an advantage, the reality that Bitcoin is fiat currency that is accepted on just the subjective valuation of certain other Bitcoin consumers makes it highly vulnerable to destabilization, since if someday a large number of logistics traders who consider Bitcoin as a means of transaction stop using it, therefore the value of the currency will fall sharply. Bitcoin's present high value is the product of both the easy availability of Bitcoins itself and its popularity mostly as means of savings and income development. They assume that the Cryptocurrency industry is suddenly and quickly decreasing. For example, if the main government has announced that it is illegal to use Bitcoin, or if one of the largest cryptocurrency exchanges is compromised and losing all its regular currency. The price of capital will fall, and the lenders will lose a substantial sum of money. Another field does not embrace Bitcoin as a conventional currency, but accepts its position as a commodity, such as equities and bonds. No other country has deemed Bitcoin a regulated currency, but participation in Cryptocurrencies like bitcoin changes from location to region. Few nations are researching bitcoin as an increasing commodity market, have the same role as they declared their currency, while some have explicitly banned their use for the transport of products or services, but the means to impose those bans are restricted.

Besides that, Bitcoin also lacks security. Bitcoin has no built-in security features when it happens to unwanted failure or burglary. For example, if others ruin the disk drive at which the Bitcoin wallet document is kept afraid about manipulation or error with no recovery, the Bitcoins found in the wallet will be forever lost to the whole nation. Incidentally, it is really a factor that

just worsens the meagre availability of bitcoins. If the wallet document is compromised or corrupted as well as the Bitcoins deposited inside it are spent by the thief before the rightful owner, the dual-cost encryption device built into the network means that the real owner has no solution. For example, when a credit card is lost or stolen, we would call the bank to cancel the card, but Bitcoin really has no authority. The Cryptocurrency only ensures that perhaps the bitcoins in the robbed wallet document are valid and properly controlled. In fact, there's still malware out there who has deliberately built to steal bitcoins. Bitcoin exchanges are resistant to threats and fraud. Significant exchanges, like another logistics business, have now been suspended, with so many Bitcoin delegated to their protection theoretically stolen.

Meanwhile, Bitcoin is restricted to concurrent transfers. The Bitcoin network system must be downloaded and authenticated from a community node to be verified. Because each chain requires a limited monitoring of data and an upper limit on the number of new purchases to be registered, there is a constraint on how many businesses can charge and sell with the device at any given time. As so many traders and people use Bitcoin to do business, the number of transactions per minute is rising, and the community system is overloaded with some transactions avoiding transaction fees taking hours to complete. Thus, while conventional payment networks like personal loans essentially expand their networks and process the ability to speed up delivery, the decentralized community structure of Bitcoin does not allow it to align with the world economy.

Lastly, is dark market attraction. Bitcoin protocol there is no single transaction which is based on distribution authority. Consequently, no user can exit this scheme. Combine this with the intrinsic privacy of purchases and they have the perfect means of trade for evil intentions. Bitcoin has been a stable way of selling counterfeit products and services. The most significant

case, a black web site that users can allowed to sell unknown products such as narcotics and false identification. Both of which were purchased with Bitcoin because of its undetectable existence. The agent of the Secret Service is accused of stealing more than billion in Bitcoin from prosecutors who kept the stolen virtual currency to be sold at auction for the advantage of law enforcement officials. Though this is not true a flaw of Bitcoin. After all, cash-based drug dealers should not weaken the credibility of the money themselves. The unforeseen effect of its use for questionable reasons might be perceived to be one. In fact, other countries tried applying the regulations on money laundering to bitcoin exchanges (Crider, 2020).

5.0 Conclusion

The corporate governance, customer service and logistics information systems are related to the fair and responsible in logistics industry. It will make the efficiency and consistently in doing processes. Subsequently, having IR 4.0 nowadays also can simplify with using the technology. Therefore, it can reduce human workers and make the tasks running fast. These three aspects are help logistics industry to improve their selves to make sure they are doing a great work. In addition, they will compete with other sector in implementing their business. Therefore, the corporate governance, customer service and logistics information system is very important to make the business in good service.

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