

EVALUATION OF DIGITAL TECHNOLOGY OF E-COMMERCE AND E-BUSINESS IN LOGISTICS BUSINESS ORGANISATION



By

Ekeoma Onuoha-Onuoha, (2025)



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**Visions of the Future: Theoretical Perspectives on Management. A Report
Assessment**

Student Number: 2323736

Lecturer: Dr. Masud Ibrahim

Main Title: Technology advances - specifically in the areas of e-Commerce and e-Business have rendered traditional models of organisational structure and theories of management roles obsolete in the light of the changing nature of 21st century corporations.

EXECUTIVE SUMMARY

The study focuses on the evaluation of digital technology of e-commerce and e-business in logistics business organisation. Peer reviewed literatures were retrieved from databases like ACM Digital Academy of Business Reviews, PubMed, and Web of Science which helped to evaluate the impact of the phenomena. Theoretical foundations of Management theories provided the collection of ideas that influence organizations' business where visionary Leaders adapt their strategies to achieve organisation objectives.

Theories that help leaders maintain objectivity and informed changes towards technology advances helped to justify that traditional management theories have lost their utility. The Scientific management theory of Frederick Taylor; the bureaucratic management theory of Max Weber; the Human relations theory of Elton Mayo; Contingency management theory; Theories X and Y provided the Human Side of the Enterprise by Douglas McGregor were all evaluated. Contrary to the classical, this modern management theory recognises motivation, happiness, satisfaction and lifestyles of employees.

The conclusion is that the impact of technology advances on organisational structure and management roles have rendered traditional models of organisational structure and theories of management roles obsolete. However, ethical concerns on digital technology like privacy and cyber-attack that caused disruptions at several European airports and Heathrow remain. Therefore, managers, leaders, researchers should do advanced investigation into organisational benefits of artificial intelligence, blockchain, the Internet of Things beyond the fourth revolution.

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1. INTRODUCTION

Traditional principles of management have dominated the debate for centuries over the suitability or otherwise of the organisation structure which defines how responsibilities and authority are distributed including hierarchy, relationships, and communication (Kim et al., 2022, p. 10). Notably, different organisation structures are suited for different types of production (Woodward 1958). Undoubtedly, organisation structures define the resources and roles of performance managers (Kim et al., 2022, p. 11).

Having gone through many changes, organisational structures encountered high-profile digital technology which changed the debate from the relevance of classical theories to the utility of technological advances within the organisation structure (Kim et al., 2022, p. 12). Based on the forgoing debate, this study focuses on the evaluation of digital technology of e-commerce and e-business in logistics business organisation. This helps us to understand the impact, utility and future enhancement of digital technology in logistic management. Technological advances involve the strategic incorporation and integration of digital tools and other technologies for efficient and effective management of products and services to reduce costs (Klein, 2020). The mission is to challenge the dominant culture of surreptitious application of obsolete traditional theories of management thereby establishing the advantage of technology knowledge in logistic management.

There is an exponential increase in technology advances in logistic management according to (Anderson et al., 2017, p. 6). In recognition of this Lee and Shen, (2020) found that technological advances have led to establishment of "Cross-border E-commerce Zones Andonov et al. (2021) while James, (2023) examined factors driving technology for big and small organisations and indicated financial solvency based on the credit markets, and big tech credit, across 94 countries from 2013-2019. Furthermore, Free Trade Zones and digital trade zones helped to streamline order processing, inventory management, and delivery actions. He concluded that technology has energised infrastructural development in physical improvements like railways, ports, and roads which directly impact logistics operations, enabling faster and more reliable transportation (Lee and Shen, 2020). On his part, Poi and Lebura (2022) averred that in a "constant disruption, adaptability and agility are paramount for organisations not just to survive but to thrive in the 21st century."

Based on the forgoing, this report focuses on the evaluation of technology advances specifically in Logistics, to justify that e-Commerce and e-Business have rendered traditional models of organisational structure and theories of management roles obsolete in the light of the changing nature of 21st century corporations. Anderson et al., (2017, p. 6) affirmed that “logistics management is typically concerned with managing an organisation’s supply chain efficiently and effectively,” (p. 6). It is accepted by many authors that the integration of technology into the organisational set-up facilitates cost-effective outcomes, faster decision-making and effective communication (Anderson et al., 2017, p. 636; Klein, 2020; Kim et al., 2022, p. 16).

As a result, this report delves into the intricate technological advances to close the gap of knowledge in relation to enhancement of technology in logistic, supply chain businesses combined by e-commerce enterprises (Andonov et al. 2021; Li and Luo, 2024; Ran et al., 2024). This helps to provide evidence for or against it and this justification will be borrowed from another discipline and another entity and replanted to integrate in logistics. To answer this question, this report illustrates various types of logistics like the Amazon logistics company, and types of development which will help to understand how and where technology is applicable, their benefits and challenges. Their suitability or not will be reviewed critically using scientific management theories, system thinking Baporikar, (2020) in relation to behavioural management theories, and general systems theory which Odek and Oluoch (2023) said that it perceives organisations as interconnected entities using holistic approach.

1.1. Evolution of Logistics Management Organisation in Some Countries

An example of a dominant global player is the United States of America which has a logistics industry that proposes \$2.8 trillion expenditures by 2025. This resulted to many technical decisions and far-reaching changes which affect the cost of management (Anderson et al., 2017, p. 636; Klein, 2020). Recently, domestic manufacturing, reshoring, and supply chain technology investments has triggered new generation logistic growth in Warehouse automation, e-business, e-commerce fulfilment, and cold chain logistics, etc.

Another is the United Kingdom Logistic logistics which established broadband with local banks and small businesses connecting ethnic minorities (James, 2023). Though there are about 129,210 logistic companies, majority adopt the application of systems thinking Baporikar, (2020), which helped to run the logistic e-commerce and e-business companies like Mango Logistics, Magento and Shopify, Zendesk and NetSuite); Royal Mail Courier/DHL; and Zendbox, (2012) Technology Ecommerce. Therefore, Baporikar, (2020) affirmed that the

application of systems thinking in logistics management is worthy, emphasizing complex challenges and enhancing organizational effectiveness. The graphic representation of the logistic development in United Kingdom will be explained hereunder in fig 1.

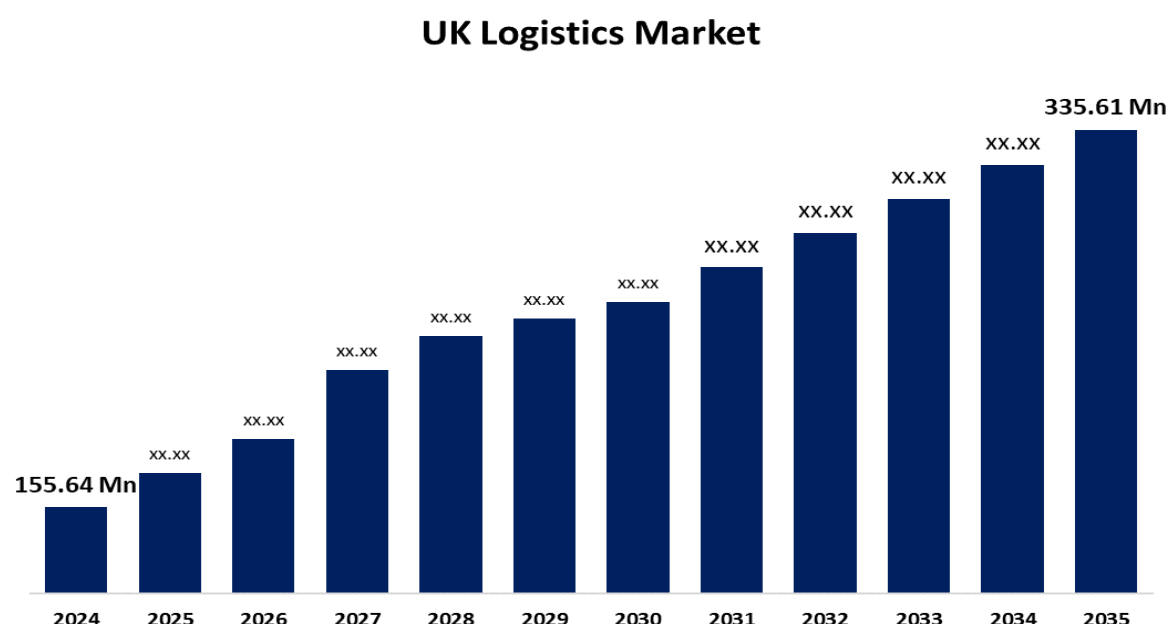


Fig 1. United Kingdom Logistics Market Insights, Industry Trend, Forecasts to 2035

The explanation for fig 1. above shows the market size of logistics development in United Kingdom in (transportation services, warehousing and distribution services, freight forwarding services, inventory management services, value-added logistics services, and consulting services), by model (3pl/contract logistics, 4pl/lead logistics, etc.), by mode of transportation (roadways, seaways, railways, and airways).

From the above graph the size of the market is estimated at £118.23 Million in 2024 which is expected to grow around 7.24% from 2025 to 2035 and by 2035 it is expected to reach £255.45 million according to (Spherical Insights & Consulting, 2025), The United Kingdom Logistics is facilitated by technology, efficient transportation, mergers or trade deals, and increasing last-mile delivery services for example, in December 2023, UK government merged with some logistics companies to enhancing supply chain efficiency, trade, and sustainability while contributing about £163 billion to the economy. The report averred that logistics was pushed by the growth of e-commerce, automation and technological breakthroughs which are improving operational effectiveness and propelling industry expansion and sustainability programs that aim to lower carbon emissions too. The limitations and challenges are high

upfront expenses, geopolitical unpredictability and regulatory barriers. Presently, it's necessary to look at the logistics in other spheres.

1.1.1. An Overview of Logistics in Africa and India

Logistics in Africa region the volume of goods moved annually is estimated to exceed 100 million tonnes in 2025, with maritime around 58 million tonnes in 2023. Growth is estimated at 15-30% cumulative (5-10% annually), driven by e-commerce, as proposed by African Continental Free Trade Area (AfCFTA, 2024). Africa logistic business is evolving steadily and hope to integrate more artificial intelligence (AI), the Internet of Things (IoT), and blockchain as spelt out by World Bank's Logistics Performance Index (2024).

Logistics in India region links a global hub for distribution of cheap goods and services especially UK and USA. Therefore, their logistics contributes 14% to the nation's GDP, facilitating agriculture, and e-commerce and employs about 22 million people according to World Bank's Logistics Performance Index, (2024). Due to the role of this sector to the economy, a study of this nature reveals the power of technology which facilitates the interconnectedness of global logistic whereby goods produced in India are channelled to UK, USA and vice versa.

1.2. Definitions of Logistics

Logistics is defined by Encyclopaedia Britannica as "the things that must be done to plan and organize a complicated activity or event that involves many people". The Chambers Dictionary (2014, p. 889) defined logistics as "the art of movement and supply of troops, the handling of the practical detail of any large-scale enterprise or operation"

Therefore, business and logistics management refers to a well-structured movement of material, money and man (3M). Though military and political campaigns adopt this logistics terminology, we prefer to concentrate on the impact of technology on logistics as a business organisation and enhancement of digital technology in logistic management. Furthermore, business logistics is the "process of planning, implementing, coordinating and controlling the efficient, effective flow and storage of goods, services, and related information from point of origin to point of consumption for the purpose of conforming to customer requirements."

The major activities of logistics management involve: Stock inventory, warehousing, transportation, customer service, demand and supply forecasting, documentation flow,

interplant movements, management, order processing, packaging, parts and service support, plant and warehouse site selection, production scheduling, purchasing, returned products, and distribution centre management at local and international distribution networks.

1.3. Definitions of Technology

Contributing, the Chambers Dictionary (2014, p. 1600) defined Technology as the “practice of any or all of the applied sciences that have practical value and/or industrial use... technical means and skills characteristic of any particular civilisation, group or period”. Logistic companies operate as 1PL (in-house) and 3PL (third party), or by functioning as a specialised purveyor of goods and services involving e-Commerce and e-Business Logistics, freight forwarding, warehousing and reverse logistics, and shipping (Andonov et al. 2021).

1.4. Justification for the Study

The hue and cry on delays, customer satisfaction, agitation and grievances of labourers who physically carry heavy 20 to 30 kilograms of loads and those who pick and pack in warehouses have not been given sufficient attention. Since they have not been studied adequately it is the justification to explore the problem. This technological advancement will help to integrate digital systems in the administration of logistics business, thereby, helping them to escape from the burden of traditional management styles which inevitably provides evidence that technology advances in the areas of e-Commerce and e-Business have rendered traditional models of organisational structure and theories of management roles obsolete.

Technology has become the backbone of global e-commerce and e-business, and this is why it is imperative to show a report on how technology performs better or not for logistics management. This means that logistics management is driven by digital transformation and artificial intelligence (AI), and the Internet of Things (IoT) which makes it a justification for this study.

The need for technical training of logistics employees is imperative so that other workers would not get the notion that their job is at risk thereby posing a threat to implementation of technology. Undoubtedly, stakeholders help their companies to implement innovative digital technologies for decision making and co-create value for digitalization, especially in health promotion (Haque 2020; Nipa, et al. 2021).

As this report enters the second part there will be a presentation of the theoretical perspectives on management and visions for future, followed by implications for the future: training-based robotics increase; negative consequences and challenges; traditional models of organisation structure and theories of management roles. There will be different roles of management, Fayol, Weber, Taylor and Henry Mintzberg's (1979), followed by Theory of Management Science. Accordingly, the second department will evaluate the major categorization of logistics business like five types of actor-wise, decision-wise and will sum up with Paradigm shift and their problems: why and where. The methodology adopted a descriptive method, and the literature are those articles and books that are peer reviewed and published in English language. Search terms and themes were used to extract materials from credible databases.

2. Theoretical Perspectives on Management and Visions for Future

After the advent of traditional theories of management by Max Weber's Bureaucratic Management, "Administrative Management" of Henri Fayol (1916) and Frederick Taylor's Scientific Management, a paradigm shift occurred Kuhn (1962) specifically in Logistics management.

Furthermore, great discoveries, scientific theories, engineering and technology have emerged challenging the way we manage and govern ourselves. All these rely on the discovery of new knowledge which is distinct from other resources. Knowledge is the bedrock of production and industrial advancement but the knowledge we have today may become tomorrow's ignorance.

2.1. Technology Advancement and Intersectoral Overview: Finance, Banking, and Automobile Industries.

Reflecting on intersectoral evolution of technology, virtually all organisations, big or small employ changes to enable them to confront turbulent unexpected events. The precision and speed offered by technological innovations are putting many organisations stretch jacket and that is why are often reallocating human resources and streamlining organizational structure (Anderson et al., 2017, p. 636; Kim et al., 2022, p. 15; Pérez et al., 2002).

This is predicated on the fact that the speed of technological developments has added a new layer to new revolutionary changes in organisational management. Consequently, technology changes are calculated in gigahertz, rams and megabits which led to the evolution of super computers, electric cars, smart TVs, OPENAI's-ChatGPT, social networks (WhatsApp, LinkedIn, X, YouTube). Therefore, blackboards and chalks produced in 1970 and obsolete in

2025. Many banks like Lloyds, Barclays, Santander and HSBC have closed their well-furnished offices in exchange for internet banking. Banks have moved from personal face to face interaction to virtual and digital services.

Therefore, the knowledge we have today may become tomorrow's ignorance, e.g. the stock inventory in logistics, shows that the traditional knowledge used are manual handheld scrutiny processes with pen and paper logs, spread sheet and physical counting to tally items. However, modernity has jettisoned these antiquated methods to embrace new knowledge of automated technology with barcode scanning with special real-time software and click apparatus for accurate analysis of holistic accounting.

The Logistic companies like Amazon, UPS, DHL, Royal Mail, Williamson Global, etc. adopt radio frequency identification using electromagnetic fields to read tags attached to items. In inventory, they adopt computerised system that constantly tracks records and update them in real time for marketing and warehousing. According to Klein, (2020) managers are expected to integrate artificial intelligence (AI) in their organisation with different types of cloud computing to boost effectiveness, efficiency and reduce costs.

In today's Logistics business, workers manually move materials using forklifts therefore many workers' coordination is used leading to inefficiencies, accidents and misplacements. In Quality control, products are visually inspected and touched by workers therefore the execution is slow, expensive, subjective and prone to human error.

For these reasons the fourth revolution Logistics would need to deliberately employ AI-driven autonomous mobile robots to handle materials end-to-end, ensuring the right parts are delivered on real time. For quality control and stock inventory; there will be a vision-guided robotic arms scan for every unit in real time, and the performance of automated inspection tests would be exact.

2.2. An assessment of the Implications of Training-Based Robotics for the Future of Logistics' Industry.

There have been divergent arguments over the impact of technology on business management in coming decades. This is because, the former assumptions on which the organisation is base that shape organisational behaviour has become obsolete. Based on the impending doom or game, many companies have decided to apply serious management technics which may include but not limited to downsizing, outsourcing, total quality

management, economic value analysis, re-engineering aimed at doing things differently from the way it is done now.

In the next 20 years from now children will be able to do more things than their parents. As the changes brought by the social media, digital publications and e-commerce escalate, the most in-demand occupations that did not exist 10 years ago will surface.

The future will look like the smart watch under illustration hereunder: NHS smart watch monitors patient's health will be capable of determining when a patient will die; send coloured signal indicating high blood pressure. Weather and natural disaster forecast will be more accurate. Schools/Universities will scrutinise certificates virtually before admission. Human Resource Personnel will not read CVs; an app will read and determine the best candidate based on criteria.

Among various occupations that will be affected by future digital technology, these ten occupations are selected for demonstration: (1) petrol/gas station attendance, telemarketers (2) title examiners, abstractors (3) burial undertakers, (4) mathematical technicians (5) insurance underwriters (6) watch repairers (7) cargo and freight agents (8) tax preparers (9) photographic workers and machine operators (10) bank accounts clerks.

Ten occupation from a long list which are expect to be secured will include: (1) medical scientists (2) education administrators, human resources managers (3) museum/recreation workers, recreational therapists (4) first-line supervisors of mechanics, electric/gas installers and repairers (4) emergency managers (5) mental health and substance abuse social workers (6) audiologists (7) occupational therapists (8) orthopaedics and healthcare (9) Dentists (10) fire fighters and prevention workers and farmers and gardeners.

The Fourth Economic Revolution has consequences such as increased productivity, efficiency, and personalized products, but also drawbacks like job displacement due to automation, growing cyber risks, and widening digital divides. It reshapes industries through technologies like AI and the Internet of Things (IoT), leading to new business models like the sharing and on-demand economies, while creating challenges for policymakers in areas like education, retraining, and taxation. For this reason, Klein, (2020) suggested that the integration of artificial intelligence (AI) in an organisation will boost effectiveness, efficiency and reduce costs.

Population will start growing because of living healthier and more people working from home. Production of goods, services and population will increase. More nuanced quality decision-

making through automation and smart technologies will help to improve productivity. The dangerous jobs that emerged with traditional philosophies will wither away like communism. New jobs and new industries would emerge to cater for employment.

2.3. Negative consequences and challenges.

Human resources will use AI to make selection which may be abstract. Automation will lead to job losses and displacement which could lead to unemployment and a need for reskilling. Equality of persons will not adapt to technological know-how. The benefits of technology may favour those with intellectual and physical capital, potentially increasing income inequality and stagnant wages for lower-skilled workers.

More bizarre cyber-attacks will be on the increase and people will be more vulnerable to data robbery and cyber threats, such as hacking and data tampering. There will be a digital disruption whereby more yawning gap will exist between those with and without access to technology. According to Poi & Lebura (2022) The “constant disruption, adaptability and agility are paramount for organisations not just to survive but to thrive in the 21st century.” Business disruption will occur at the traditional industries from robots to new players for instance online services like Uber, Netflix, and Airbnb are overtaking traditional taxis and cinemas.

More ethical problems as people will have their privacy evaded. Ethical concerns on the use of AI and social networks will increase and other ethical questions about bias, privacy, and manipulation will come to the fore. On the part of government, more taxes will be generated and, educational and health programs will jettison the workforce.

2.4. Traditional Models of Organisational Structure and Theories of Management Roles

Based on the condition of work in the 1800s, the organisational role of managers was only meant to maintain high level productivity and high profit for the company with no consideration for worker's welfare. Therefore, workers work for 14 hours per day, had only two days holidays per year and such diseases like bronchitis, pneumonia and tuberculosis were rampant. Unfortunately, no NI; no insurance covered them.

2.4.1. Different roles of management, Fayol, Weber, Taylor and Henry Mintzberg's (1994, 1979)

Chambers Dictionary (2014) foresees management as “the capacity to control, to administer, be at the head, to deal tactfully, to handle, to wield, to conduct, to husband, ... to manipulate, to have time, to conduct affairs ...contrive to succeed” (p. 927).

Therefore, management is a collection of ideas which set forth general rules on how to manage a business or organization. Management theory addresses how managers and supervisors relate to their organizations in the knowledge of its goals, the implementation of effective means to get the goals accomplished and how to motivate employees to perform to the highest standard. Different roles of management and responsibilities are decision making, leadership, planning, communication, coordination, resource allocation, monitoring, training and negotiation.

Mary Parker Follett, (1868–1933) defined management as “The art of getting things done through people.” She argued that “community, experience, groups are related to the individual and the organisation. She submitted that business is a microcosm of human society and that people should be motivated to work with the organisation and that may be the reason Henry Mintzberg (1994) followed her approach in developing strategic business management.

On his part, Hammel’s principles declared that management planning and control would be able to forecast demand, budget resources, schedule tasks, then track and correct deviations from plan. Its objective is to establish regularity and predictability in operational plans. In Hammel’s principles, a hierarchy just like the ordered hierarchy of Max Weber would create a pyramid of authority based on a limited span of control with a view to maintain control over the scope of operations,

2.4.2. An Overview of Management Science Theory from evolutionary perspective.

The historical Management Science theory responded to the industrial revolution of late 1700-1800s. This revolution led to working from farms to factories, from small shops to large companies, bikes to powered machines, steam engines and transportation which provoked large companies to work together, increased productivity and organisations sought to answer management questions.

Therefore, the American Frederick W. Taylor (1911) and others sought to answer the questions relating to how to organise man, material and money, (3M); how to maximise production and how to manage people. Taylor (1911) postulated for simplified tasks, equal division of tasks in small parts, the use of monetary incentives where people are treated like machines, Scientific

management emphasised efficiency in factory production, systematic management and empirical approach.

Scientific management proposed that workers should get a fare day's pay for a fare day's work linked to the amount produced. However, Taylor's differential price rate plan proposed that if efficiency is greater than the defined standard then workers should be paid 120 % of normal piece rate; if efficiency is less than standard then workers should be paid 80% of normal piece rate, hence it is known also as Taylorism. It should be noted that the whole gamut of Principles of Scientific Management is found in time and motion study which studies the way jobs are performed and find new ways to do them while teaching, training and developing the importance of social interaction. This is expected to engender the highest level of performance which attracts highest pay packet.

On his part, the Bureaucratic Theory of Max Weber (1864-1920) proposed a hierarchical structure adhering to strict rules whereby authority differs from power. He emphasised that employees can be hired or fired for a variety of non-organisational reasons like race, religion, sex and family relations which equals favouritism. Consequently, this is the proposition for discipline, reliability. In today's circumstance we believe that effective leadership and organizational success rely on power to influence behaviour and authority to act on behalf of the company.

Max Weber extended his theory to include division of labour, formal hierarchical structure in consonance with Hammel's (2007) principles of hierarchy and technical expertise, legalities, formal and impersonal relations of particularism. Consequently, leadership became clearly entrenched and authority resides in the position or authority. However, this led to red tape where people feel caged. From the forgoing, what is common to all the pioneer theorist was centralisation of authority and power, separation of the individual from the company and life, hierarchy, and division of labour.

The much awaited, but missing welfare for workers emerged with Human Relations or Behavioural Management Theory of Elton Mayo who postulated the promotion of social interactions within an organization. His psychological stimulus of being recognised and made to feel important led to increase in workers' higher productivity. The better illumination, clean workstations, relocating workstations of the workplace generated higher productivity and was latter dubbed as the Hawthorne Effect.

Furthermore, the Systems Theory of Ludwig Von Bertalanff postulated System-wide coordination between business functions. This report submits that carryover of centralisation of authority and power, hierarchy, division of labour can still be experienced today in many organizational structures, albeit lightly and in a new form. However, from the point of view of Odek and Oluoch (2023) this systems theory perceives organisations as interconnected entities, emphasizing holistic views in management approaches.

Based on the forgoing historic situation, Mintzberg (1975) in Mullins (2010, p. 432) outlined why organisation needs management to adapt the organisation in response to environment; to ensure the organisation serves its basic purpose and to design and maintain the stability of operations, among activities. Henry Mintzberg's (1994) theory centres on ten managerial roles, categorized into three groups encapsulate in interpersonal, informational, and decisional activities.

These roles describe the wide range of activities managers perform daily, including communicating, problem-solving, and making decisions. The theory suggests that managers fluidly shift between these roles depending on the situation and can use this framework to improve skills, guide hiring, and assess performance. It is sufficient to say that his theory is adaptable to the logistic industry.

2.5. Categorization of Logistics Business

As a global network system, depends on the nature and volume of the supply chain, therefore categorised as supply chain direction-wise, Decision-wise, or Actor-wise. According to The Logistics Report 2025, of 04 June 2025, UK's logistics sector "generates £170 billion for the UK economy and employs over 8% of the nation's workforce and is a key enabler in the government achieving its growth agenda". The president Logistics UK President Phil Roe added that logistics "it is a driver of growth and a barometer of economic efficiency"

2.5.1. Five Types of Actor-Wise and Decision-Wise logistics and supply chain

There are five actors engaged in Party Logistics (PLs) with 5 basic principles of people, products, processes, partnerships, and performance. The 1st party logistics is owned by an individual or company who owns a cargo and freight equipment and services with the sole aim of transferring it to another location. Whereas 2PL – second-party logistics adopts an undertaker's warehouse. The 3PL – third-party logistics sub-contracts a transport or logistic

company who subcontracts to another specialist, In the 4PL – fourth-party logistics management is leased out. The 5PL – fifth-party logistics like airlines and trailers that negotiates fares or prices and streamline them to suite their services. Logistic company managers are always confronted with three strategic decisions according to Wanke and Zinn, 2004) like ordering, transferring, keeping the order. The main divisions include production, procurement, sales/marketing, recovery/contingency.

In Decision-Wise, production and procurement logistics a more traditional, autocratic style of leadership, applies with full control that assumes humans typically dislike work and must be “coerced, controlled,” (Pearson, 2020, p. 84). This is amenable to Theory X leadership styles of Douglas McGregor’s (1960) and division of labour theories of (Frederick Taylor-1911; Max Weber).

2.5.2. A Paradigm Shift and their Problems: Why and Where

Delving on paradigm shift Thomas Kuhn (1962) defined it as “distinct set of concepts or thought patterns, including theories, research methods, postulates, and standards for what constitutes legitimate contributions to a field at any period.” He believes that greater anomalies lead to crises, prompting shifts in understanding. Changes in marketing efforts which hitherto focused on efforts on foot vending or through TV, print, radio, and billboard advertising has caused a generational paradigm to shift in logistics managements. There is a palpable ease within which people buy and sell because e-commerce has empowered consumers to shop at their convenience, whether from the comfort of their homes or while on the move (Andonov et al. 2021).

Kuhn (1962) postulated the “description of a fundamental change in the basic concepts and experimental practices of how something can be accomplished.” A paradigm shift occurred in logistics management. The shift took organizations towards an inter-disciplinary approach where all functions of an organization interact with technological tools towards the achievement of organizational objectives. Hence, this study adopts a grounded theoretical approach to discuss technology advances in Logistics, to justify that e-Commerce and e-Business have rendered traditional models of organisational structure and theories of management roles obsolete.

Some decades ago, logistics operations relied on manual processes and extensive paperwork, where shipments were tracked through paper records and phone calls. Today, the logistics industry is transforming from a labour-intensive, paper-based process to a data-

driven, automated system. These changes in organisational structure and changes in technological developments provide enough compelling evidence that shows that we agree with the claim that technology advances in e-commerce and e-business have rendered traditional models of organisational structure and theories of management roles in logistics obsolete.

3. Theoretical Foundations for Management, Logistics and Technology

The industrial Revolution triggered an inclination to change the administrative bottlenecks of business operation. Traditional management theorist like Frederick Taylor's Scientific Management ushered in a new vista which believed that clear tasks and incentives will propel high productivity. Taylor proposed studying each part of a task and training workers for economic efficiency by applying scientific methods to the workplace. In his principles of management, "Administrative Management" Henri Fayol presented planning, organizing, commanding, coordinating, and controlling, to improve the overall organizational activities. While Max Weber's Bureaucratic Management advocated for hierarchical structure with clear roles, rules, and procedures to ensure fairness and efficiency.

Progressively, the Behavioural Management Theories, George Elton Mayo launched "Human Relations Theory" where he advocated the importance of social factors, employee motivation, and psychological aspects of work, as seen in the Hawthorne Effect which can be applicable in the logistics management. Moreover, Douglas McGregor, presented Theory X and Theory Y which assumed that in Theory X workers are perceived by managers as inherently lazy and Theory Y suggesting managers take it that employees are naturally motivated and responsible.

As a rescue mechanism, the Modern Management Theories emerged with the Systems Theory Odek & Oluoch (2023), which perceives the organization as a system of interconnected parts, echoing the propositions of Ludwig von Bertalanffy, who proposed that if a part of the human body ails the whole human body will be affected and so it is the same for the logistics workplace because other elements can interact with one another to cause damage to the environment.

On its part Contingency theory postulates that there is no universal best practice therefore, the most effective management approach depends on the specific situation. Contributing the Quantitative Management adopts a mathematical cum statistical models and data analysis to make informed decisions and solve complex problems within an organization. Additionally, to

enrich the business management school of thought the Total Quality Management (TQM) introduced customer satisfaction through continuous improvement of processes and productivity.

Previously, Max Weber had incorporated Bureaucratic Management Theory as appendage to existing theoretical foundation which advocated that the impersonality of the bureaucratic organization is only interested on high productivity than the employee's wellbeing. He added more objectives and divisions of labour with stiff hierarchy of command. Weber borrowed Taylor's theory of efficiency in completing tasks, but he distinguished his postulations by adding human emotions.

On technology, Weber diluted his proposition claiming that the increased use of technology could have a negative impact on a company's culture which is a direct opposite of today's business management. In fact, without technology, there would be no business management (James, 2023). However, just like the paradigm wars, some companies adopt leader or supervisor instead of using "Managers" because the word may have the bureaucratic tone of Weber's notion of employing highly skilled with high personality which is antithetical to diversity, wellbeing and productivity of the company.

3.1. Human Relations Management Theory,

While Taylor, Fayol, and Weber were engrossed in profit maximisation and stringent working conditions, Elton Mayo contrarily launched Human Relations Management Theory based on how money affects employee performance known as the "The Hawthorne Effect" of 1820 - 1930. These lightning experiments revealed that the daily employee interactions were a psychological motivation for effective workers' efficiency and output. As a result, workers willingly voiced their sentiments, successes, and hindrances which facilitated productivity. Advances in logistics technology provides clients with video conferencing, teams and calls which offers working from remotest areas thereby debunking the traditional theories. This is one of the pieces of evidence that technology advances of e-Commerce and e-Business have rendered traditional models of organisational structure and theories of management roles obsolete

3.2. General Management Theory

The General Systems Theory developed by Ludwig von Bertalanffy, a biologist who proposed that external factors can prove to be toxic to an environment. Although he was referring to the

human body, the same can be said for the workplace. His biological treatise led to the assumption that if the nervous system function together with your digestive system; this makes other organs and muscles to work in synergy. Going by this concept, if one part of the body collapses, it will affect the whole system. Using a broken leg or flu which can keep one idle or sick for day's productivity of the individual will be affected.

The X and Y Management Theory developed in the 1950s and 1960s by Douglas proposed that managers have a negative view of their employees and believe that employees are lazy and do not like to work and need to be forced or coaxed into working. In this theory X managers manipulate this concept, therefore they fail to see quality workers but see only their usefulness for exploitation. Therefore, this theory may have been employed previously to control logistics labourers, miners, precariat, and gig workers.

On the other hand, Theory Y managers perceive their employees as inherently motivated to work, therefore these managers encourage and further motivate them to action by creating numerous opportunities for learning and development. McGregor emphasized professional development which reproduces better results and a healthier working environment. In today's business management, Theory Y concept link itself with organizational behaviour theory which encourages companies to adapt diversity programmes that engender the recruitment and maintenance of disabled and ethnic minorities.

4. Methodology adopted for this report

The literature on evaluation of digital technology of e-commerce and e-business in logistics business organisation was retrieved by searching the following databases: ACM Digital Library and IEEE Xplore, Academy of Business Reviews, PubMed, Embase, and Web of Science. Discussions were held with supervisor and lecturer on the suitability of these studies. The materials used were Peer Reviewed and in English language. It focused on articles for its literature review published anywhere within five years.

Terms used for the search strategy: "technology," "logistics," "digital," "supply chain," "organisation," "management," classical theories." The searches were restricted to the English language. Articles, reviews, abstracts were reviewed, and studies that met the inclusion and exclusion criteria were included in this article. Special individual reports case reports, focus groups, and editorial commentaries were also excluded. There were limitations identified relating to time factor and it takes a long time to have ethical approval which will enable us pass questionnaires on the participants

5. Management of Logistics

Changes in management of logistics companies, specifically in counting products physically in stock inventory is cumbersome. This agonising management model led to long delays and suffocating agony on workers. These were done manually, memorising the details fiddling with administrative cores in a traditional way. This is in obedience to the classical theoretical frameworks of management postulated by F. W. Taylor, Henry Fayol, Max Weber.

These theoretical frameworks are ubiquitous in, not only every aspect of business administration, but also in philosophy, economics, political science and law, etc. This can be summarised in this way: (A) Classical Theories of Management: Max Weber- Bureaucracy: Frederick W. Taylor and others - Scientific Management: H. Fayol-Process/Administrative Management. From thence entered the Neoclassical Theory of Management headed by B.E. Mayo and Roethlisberger - Human Relations and refined by McGregor. D, Maslow, A. with Behavioural Science approach whereas Peter Drucker came with Modern Management theories.

Historically, the classical theories of management made indelible marks with enormous advantages i.e. Max Weber's Bureaucracy encourage the use of force or the threat of force to get compliance which is applicable in many companies found in in the world today. With these traditional models of business administration, division of labour, strict adherence to legality, motion and man became the order of the day than the exception.

For instance, they are prevalent in the city metropole and ghettos with what I tag 'thick ghettos' and 'light ghettos.' The light ghettos for immigrants are accessible while the thick ghettos for precariat and immigrants are not easily accessible and are more dangerous. Some of the thick ones are in east London and Spanish ghettos. The police rarely venture into this thick ghetto called El Príncipe in Ceuta, where unaccompanied minors, penury, banditry, drug trafficking and violence are mixed. Reporting for El Mundo daily Newspaper, Jesús Rodríguez on 3 November 2014, confirmed that this ghetto is a third-world slum dominated by rival drug lords including some neighbourhoods in Russafa, Carmen, and Cabanyal, in Spain.

Cheap labour for managers who control workers firmly, the iron clad of concentrating the crass people into one ghetto has helped management of Addidas, DHL and other companies to utilise cheap labour. Focusing on these areas has enabled us to mirror the type of management policies applicable for-profit maximization despite the integration of technological tools. Cheap labour debates are political debates because of perception and

only ghettos can supply cheap labour. For this reason, Bauman, (1997, 1998, p. 18) concluded that the perception of the state is that:

Strangers were the waste of the state's ordering zeal. What the modern strangers did not fit was the vision of order. When you draw dividing lines and set apart so divided, everything that blurs the line and spurs the division undermines your work and mangles the product" (p. 18).

Red tape is applied to reinforce order though it is inimical to progressive business management of the 21st century where rules and regulations make workers unfit for the organisation because people are treated like man machines.

Delving into the traditional models of organisational structure and theories of management of Max Weber's Bureaucracy of 1864-1920, management and communication organisational propounded that workplaces used relationships or customs to lead and make decisions which he denominated "particularism" whereby employees are simply hired or fired on flimsy excuses like race, religion, sex and family relations which I regard as favouritism. By extension the sociologist Haralambos et al., (2004), argued that the absence of nepotism and favouritism guaranteed fairness and equity in which staff fulfilled their roles impersonally without allowing their personal prejudices to affect their judgement and rational social action.

However, in some quarters Max Weber's concept still hold sway in business management. There is more sexual feminisation in management whereby CEOs are accused of flippancy sexual harassment, then they are charged to court which leads to dismissal, e.g., Epstein's saga, Cristiano Ronaldo, and Luis Rubiales innocent world cup kiss of player Jenni Hermoso who was latter judged, dismissed and fined €10,800.

In Weber's rational approach, organisations should maintain clear leadership and rules for legal rational decision making. His propositions demand a division of labour. (In logistics management it involves from CEO to director of operations to fleet managers and to the security man and packet pickers. In this university, it involves formalising of semester, schedule of courses divided into payment, finance, registration, confirmation. Weber's propositions involve hierarchy like a pyramid of offices and evaluated by productivity, sales numbers and customer service.

This rigid separation of personal life from work-life also means that if you get married to your work colleague, you are sent to another position where you will have another person to

supervise you, and recruitment is based on qualification and equal treatment of all employees. You are fired if you disobey or amorous practice. Therefore, the principles of Weber's bureaucracy are everywhere-in business logistics companies, Amazon, Internal Revenue Services, Universities, Military, Royal Mail, etc. the major disadvantages are rigid red-tape, emphasis on policies and procedures whereby employees feel caged.

However, all organisation theory emanates from the same philosophical standpoint, of classical scientific model like all the classical theories of management according to (Harmon and Mayer 1986). They all agree on hierarchy, centralisation of authority, division of labour standardised approach to works, selection of best workers and paying the best people higher. Therefore, this report aligns with the contribution of Hudson, (2025), that "most managers and management theorists assume that organisations have a single purpose, should be stable and hierarchical and have structures based on impersonal rather than personal relationships" (Hudson, 2025, p. 6).

Some new theories are against the classical theories because of suitability of businesses, for instance, companies like Amazon, Shein, UPS, Facebook, do not manufacture tangible goods. However, this is clear evidence that technology advances of e-Commerce and e-Business have rendered traditional models of organisational structure and theories of management roles obsolete. Moreover, digital technologies have helped companies to network a global system management composed of heavy traffic businesses which is a good justification for the application of technology.

On a critical lane, when the concept of the "Survival of the fittest" of Henry Ford is merged with the "selection of best workers and paying the best people higher" of Fredrick Taylor, management scientists can understand that this is the very concept adopted by CEO of banks and oil companies to remunerate themselves excessively. On this critical base, if a logistic company applies this traditional model, the company can bankrupt and may not be able to incorporate technology advances adaptable to e-Commerce and e-Business. Largess salaries have led many companies to collapse; therefore, this classical theory is discountenanced in this study.

5.1. Leadership and Human Relations

Leadership is defined by Kindersley, (2022, p. 56) as "the process of providing direction, influencing and energising others, and obtaining follower commitment to shared organisational goals". Kindersley, (2020) claimed that "leadership is the art of getting someone else to do

something you want done because he wants to do it” [attributed to Dwight Eisenhower, US President, 1954] (p. 16).

Leaders must exhibit visionary qualities and ability to motivate people in an organisation to set drastic pace for changes, (Gilli et al. 2023, Kindersley 2022, p. 148; Buchbinder and Shanks 2017, p. 25). The visionary thinker incorporates system thinking to inspire employees and foster relationships and will encourage evolving technological development (Baporikar, 2020; Gilli et al. 2023).

This is based on the circumstance, teamwork and changes from the concept of an authentic leader as postulated by George and Sims, (2007) who argued that “people will naturally associate with someone who is following their internal compass of purpose.” To understand leadership in a logistic organisation better, performance management is adopted thereby helping logistic managers in running the supply chain management. Therefore, leaders in Amazon logistic organisation nurture a vision to achieve its company objective and motivate people to action in periods of change, (Buchbinder and Shanks 2017, p. 25; Gilli et al. 2023).

5.1.1. Ethical Concerns of Digital Technology

Despite all the advantages of digital technology, there are disadvantages and ethical concerns on digital technology: accountability, invade privacy, transparency, cyberbully, legalities, security, data robbery and hacking (Carter 2012; Parker 2007; Karampatakis 2023). Clearly, social networks may not change this behaviour (Michie et al. 2017; Audrain-Pontevia 2019).

5.1.2. Drawbacks of Technology: Cyber Attacks

According to BBC News, (19-09/2025) a cyber-attack caused disruptions at several European airports and Heathrow. For this reason, passengers were asked to check airports before traveling. The cyber-attack was codenamed “third party system failure” which shows the cancellation of flights. to CNN (Sep 20, 2025) said disruption from cyberattack on European airports to stretch into Sunday. These cyberattacks at check-in boarding systems disrupted operations. It takes ten minutes to physically check-in a passenger frustrating over 80,000 passengers. Lack of personnel has shot down Dublin Cork, Frankfurt, Brussels, Paris and London airports because, while logistics business at airports are automated systems, it is difficult to manipulate manually the large number of passengers. For these disruptions organisations must adaptability to survive (Poi and Lebura 2022).

Earlier, a string of hacks of governments and companies across the world, hitting hospitals, NHS, defence M&S retail and autos including Jaguar Land Rover collapsed administrative and production lines. According to Collins Aerospace, it was caused by MUSE software which provides systems for several airlines at airports globally. While managers are pointing accusing fingers on the software company, potential passengers and bureaucrats are insist that the airlines should take the blame and responsibility.

5.1.3. Potential Barriers to Implementation of Digital Technology

Although digital technology promotes organisational business delivery lack of resources can pose a significant barrier to digital transformation. The major barriers include:

- A. Population explosion in some areas have aggravated the application.
- B. Education and training pose a threat to its implementation.
- C. They are expensive and need expertise for installation.
- D. Budgetary allocations may be missing and lack of funds and limited loan.
- E. Fear of job security and resistance to change can scuttle a good digitalization project.

6. Discussion

In many logistic companies, manual unloading and loading of goods which form part of the traditional theories are still prevalent especially rice, flour loading and unloading at seaports, airports and warehouses. Managers can assign these heavy-duty jobs are assigned immigrants who are not covered by this research and who have no insurance, the crass people. It must be noted that stiffness, meeting the company's objectives is the only concern of the managers. It is understood that these heavy loads can cause back injuries, strains, sprains, and musculoskeletal disorders. The introduction of technology and use mechanical aids like forklifts and pallet jacks can reduce or eliminate manual lifting. The existence of good policy for the supply chain to incorporate digital scanning system for stock inventory would go a long way to boost management performance and welfare of workers. For this reason Kindersley, (2020) contended that that best suited is to stabilise "working environment with experienced employees... who must seek team members' thoughts and ideas as part of building a consensus for action" (p. 18).

7. Conclusion

This report can conclude that different organisation structures are suited for different types of production and that organisation structures define the resources and roles of performance

managers. It concludes that the exponential increase in technology advances in logistic management is a justification that the traditional theory of organisation is no more relevant. The vision for future shows a strong movement towards the fourth revolution where training-based robotics would increase and negative consequences would also increase. This evaluate shows that all the major categories of logistics business would benefit especially airlines, stock inventory, tracking and warehouse distribution.

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