Open Awards Qualification Unit

This unit forms part of a regulated qualification.

8 Unit Details

Unit Title:	Technology and Automation in Supply Chain Logistics
Unit Reference Number:	L/618/2508
Level:	3
Credit Value:	3
Minimum GLH:	22

2 Learning Outcomes and Criteria

Learning Outcome (The Learner will):	Assessment Criterion (The Learner can):
1. Understand the evolving role of robotics in logistics operations and how it is shaping the sector	1.1 Explain the drivers behind the growth in robotics in the supply chain logistics sector
	1.2 Identify the advantages and disadvantages of robotics in the supply chain logistics sector
	1.3 Discuss five different types of robots found in supply chain logistics operations, explaining the roles these types play
2. Understand the term disruptive technologies and how it could feature in the supply chain logistics sector in the future	2.1 Explain the term disruptive technologies in the context of supply chain logistics operations
	2.2 Describe three disruptive technologies that could feature in the supply chain logistics sector in the future.
	2.3 Evaluate the impact of disruptive technologies could have on the supply chain logistics sector

Learning Outcome 1 - Indicative Content

The first part of this learning outcome highlights the macro factors that are driving the adoption of robotics within the workplace. The learners will understand that an ageing workforce in western economies, a constantly shrinking labour pool influenced by geopolitical activity for example Brexit, a stagnant GDP, are all factors that are demanding transformational change in order to address these challenges. In this climate adapting to a robotic operation is often seen as a key solution to these challenges, which is becoming exponentially evident within a logistics operation environment. The learner will understand this macro landscape and therefore will be able to assimilate this to the micro strategies of supply chain and logistics

operations.

The use of robots in the supply chain and logistics industry continues to grow exponentially with more and more tasks and activities being undertaken by this form of workplace solution. There are many advantages and disadvantages in adopting robotic strategies, whereby on completion of this learning outcome learners will understand how robots can increase productivity and efficiency, reduce operating costs (following return on capital employed), removal of human operating error, reduction in health & safety risk and flexibility in terms of scalability on behalf of supply chain and logistics operating organisations. However, there are disadvantages that also accompany employment of robots therefore the learner will also understand the costs associated with setting up and operating a robotic process, deskilling of employees and how this leads to under employment, and how the lack of human involvement, can reduce the creativity needed in organisations.

Robotics are becoming increasingly mainstream across global supply chain and logistics operations whereby this learning outcome looks to investigate the roles robotics play, and how they could shape the future of the sector. Through this learning outcome learners will understand the diverse types of robotics, for example, home delivery, drones, automated replenishment systems, automated security, swarm robots, cobots, exo-skeleton and automated guided vehicles plus any new technologies that may emerge.

Learning Outcome 2 - Indicative Content

The term disruptive technology is often used or applied to a range of situations or circumstances. This learning outcome provides the learner with an understanding of what disruptive technology actually is, in the context of supply chain and logistics operations. The learner will be introduced a range of definitions expressing the notion of disruptive and should be encouraged to derive their own example, in order to express their own understanding of the term.

Increasingly technology continues to disrupt business models and operation across all industry sectors with logistics operations being an area ripe for the transformational change, these innovations deliver. Following this learning outcome, the learner will understand how autonomous vehicles, 3-D printing, Block Chain, Artificial Intelligence (AI), Hyperloop transport systems plus any new technologies that may emerge could radically disrupt the sector and the benefits these could bring to supply chain and logistics operations in the future.

In order to enable the learner to understand the wider impact of disruptive technology, they should be introduced to the concept of Strengths Weakness Opportunities Threats (SWOT) analysis model, where they can apply this to their vision of the emerging technologies within the supply chain and logistics environment. By gaining this practical application, the learner will gain an understanding of the macro element of this unit.