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Level 3 Nationals
Information Technology

Unit 14
IT Service Delivery
(20161K)

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Grade Boundaries

What is a grade boundary?
A grade boundary is where we set the level of achievement required to obtain a certain grade for the externally assessed unit. We set grade boundaries for each grade, at Distinction, Merit and Pass.

Setting grade boundaries
When we set grade boundaries, we look at the performance of every learner who took the external assessment. When we can see the full picture of performance, our experts are then able to decide where best to place the grade boundaries – this means that they decide what the lowest possible mark is for a particular grade.

When our experts set the grade boundaries, they make sure that learners receive grades which reflect their ability. Awarding grade boundaries is conducted to ensure learners achieve the grade they deserve to achieve, irrespective of variation in the external assessment.

Variations in external assessments
Each external assessment we set asks different questions and may assess different parts of the unit content outlined in the specification. It would be unfair to learners if we set the same grade boundaries for each assessment, because then it would not take accessibility into account.

Grade boundaries for this, and all other papers, are on the website via this link:
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Unit 11 IT Service Delivery

Grade	Unclassified	Level 3			
		N	**P**	**M**	**D**
Boundary Mark	**0**	**11**	**21**	**31**	**41**

Introduction

- LE Report to be considered with the live external assessment and corresponding mark scheme
- Contextual introduction to the unit
- If the first external assessment, to include differences in specification

2001 is the fourth external assessment window for Level 3 BTEC Information Technology Unit 14: IT Service Delivery. This is an optional unit for learners studying the extended diploma.

The unit is a paper-based examination and is broken down into a two-part task. Part A contained material for the completion of the preparatory work for Part B and was to be taken over a maximum of 3 hours across a period of 2 weeks. No marks were awarded for Part A. Part B contained materials for the completion of the set task under supervised conditions, allowing a maximum two A4 sides hard copy research notes from Part A to be taken into the assessment.

Part B is broken down into five activities that cover different areas of the specification where learners are expected to apply knowledge and understanding of the IT service delivery requirements for the care home sector provided in the scenario.

The following section considers each activity on the paper, giving examples of responses and a brief commentary why the responses gained the marks. This section should be considered with the live external assessment and the corresponding mark scheme.

Introduction to the Overall Performance of the Unit

The overall performance of learners was similar to previous series, although 1806 had exceptionally low registrations so difficult to compare.

The performance for each Activity varied with a low number of blank responses, and some responses focusing mostly on the future developments rather than the system as a whole. Activities 3 (hardware & software and data & information solution), 4 (evaluation) and 5 (implications) performed the least best.

Activity 3 - responses ranged between Band 1 and Band 2, which showed limited/some accurate mapping of the IT service delivery solution for Neuton & Neuton. Learners on the whole showed limited/some accurate technical understanding, lots only including hardware requirements. When included, the data and information provided showed limited/adequate coverage.

Activity 4 – as in previous series, the learners attempted to evaluate the solution but mainly focused on future developments rather than the system as a whole. The inclusion

of alternatives was considered with more learners including them within their reports.

Activity 5 – even though this activity is still poorly answered, centres have taken on board previous LE reports and it was found that more learners included implications to the organisation of introducing the IT systems, but again mainly focusing on future developments only.

Individual Questions

The following section considers each activity on the paper and provides examples of learner responses. A brief commentary is included giving reasons why the responses gained the marks they did. This section should be considered with the live external assessment and the corresponding mark scheme.

Activity 1

(Outline IT service strategy)

Overall this was answered well with the majority achieving between 4 and 6 marks. From the evidence seen, the candidates produced some relevant information from the scenario, giving a mostly accurate description of the IT service strategy with appropriately prioritised IT service/process requirements that were mostly supported by a rational.

On occasions, some candidates did not link the IT service strategy to individual needs, and learners did not seem to use all the information provided in the scenario.

Response 1

Learner has provided relevant information from the scenario and to produce a comprehensive outline strategy that includes an accurate description of the IT service/process requirements for Neuton & Neuton that meet their needs. Learner has appropriately prioritised IT service/process requirements with supported, clear rationale.

Learner has shown logical chains of reasoning and a full awareness of the scenario.

There is a discussion that includes hardware, software, communication requirements and some legislation. The learner work would fit into **Band Mark 3 (7 – 8)** in the mark scheme.

Company Needs	
IT Service Requirements	**Explanation of priority (high, medium or low)**
Neuton and Nueton Retail is a family owned business based in Yorkshire that operates from the family home. All orders are taken online via its website however they decided to rent a building for a shop, office and stockroom due to sale increase. There are seven members of staff which consist of the two owners, three shop assistants and three stockroom assistants.	
PCs	**High**- this is a high priority as a desktop PC is the main access point into a system. They allow users to access different kinds of programs such as word processing, database and communication software. PCs are very powerful as they will allow users to complete multiple tasks with ease whilst opening up and using many applications simultaneously. This will allow the staff members to access data from the server, order stock online and record and save data.
Tablet PCs	**Medium**- this is a medium priority as tablet PCs could be used where portability would be very useful such as in the shop or stockroom. It functions the same way as a desktop PC, however the advantage is that it is handheld and could be less time consuming and more productive for the shop assistants. For example, if a customer had an enquiry about a product, the shop assistant can check the network from the tablet pc for product information and stock availability instead of going to the desktop PC in the office or stockroom, which could be in use of another staff member. However the disadvantage is that the tablet PC needs to be connected to the network through a wireless network connection which may be unnecessary for the company as they may not have enough money due to being a small business.
Mobile network	**High**- the stockroom assistants require a mobile network in order to connect to the network and internet from the stockroom.

Microsoft office software	**High**- Microsoft offer cheap and reliable software that comes in the package of Microsoft Office Suite. This software includes all the programs a business would need such as word processing software, spreadsheet, database and communication software. They tailored the software for business so it should include everything Neuton and Neuton retail would need, all for one cost. With large organisations like Microsoft, it is guaranteed that they have tested the software for bugs and glitches so it should be very safe for the business to use and will prevent them from buying many anti- virus software.
Word processing software	**High**- this is a high priority as this software will allow users to create documents to manage stock control and type up reports, invoices and schedules. Due to it being a part of a software package, it comes with its benefits such as vigorous testing and reliability.
Ethernet connection	**High**- this is a high priority as an Ethernet connection will allow the staff to connect to the network. They are cheap and reliable cables rather than fibre optics, which are far more expensive and use data at speeds the business would not need.
Printers	**High**- the owners would need printers in order to print out reports, schedules and invoices. It could also be used to print out customer receipts.
Card machine	**High**- this is a high priority as the card machine is used by the shop staff to take card payments from customers. The machine is linked with the business network to store details about the payment. The card machine will also have a built in printer so customers can receive their receipt as soon as their transaction goes through, instead of the shop assistant travelling to the office to get the receipt, which could be time consuming for the shop assistant and customer.
Epos system	**High**- this is a high priority as it is not only a requirement for the shop but it increases speed and efficiency. Epos technology is fast, efficient and designed to improve the customer's experience. For example, customer who are running late or are in a hurry, demand speedy service and the most accurate information possible. The latest security equipment can make sales at tills faster than ever before.
Router	**High**- the router will be the access point from the network to the internet. Desktop PCs will access the router through the ports with an Ethernet connection the router will be connected to a WAP to allow the tablets to access internet.
Server	**High**- the server will be the centralised storage and access point for all devices on the network. On the server, staff can share and access files via the file server, and will be able to access their files from any device on the network. The server will also house the database, which will be used by all staff to access their relevant data.
Social media sites	**Medium**- this is a medium priority as it will help build promotion and online presence for Neuton and Neuton. It allows businesses to communicate with their customers questions. It is also useful for sharing with their customer's new and existing products the business has to offer. One of the best social media sites for promotion is Facebook and Twitter. They have the best feature such as the hashtag feature and the share/retweet function.
Website	**High**- this is a high priority as the website allow users to view all products and allows them to purchase them without having to travel to the shop. Statistics show that most sales transactions are made online therefore it is useful to have a website to increase sales and profit for the business.
Receipt printer	**Medium**- this is a medium priority as customers in the shop may want to purchase their products with cash therefore a receipt printer may be useful as the shop assistant can print out their receipt immediately instead of going to the office printer. However, there are other ways of customers receiving their receipts such as email.
Anti- virus software	**High**- this is a high priority as the stockrooms computers will have remote access to the central server in the main office. This holds sensitive and confidential information about the staff and customers. In order to keep information from hackers, a reliable anti-virus software is needed to prevent staff from downloading malware or spyware. They can use AVG free anti-virus.
Windows 10 Pro	**High**- in order to interact with the computers and make use of them, the business needs an OS system that is most user friendly and reliable which is the Windows 10 Pro.

CCTV cameras	**High**- this will be managed by the two owners and will be used to monitor the activity in the shop. CCTV increases security of the shop and serves as a deterrent to prevent theft. CCTV cameras will be placed at the front and back entrance and will be recording live footage. If anyone was to enter the building, the company can look over the recorded footage, identify the culprit and take further action. This increases security which is important for a small business as they may not have a lot of money to purchase high security devices and systems.
Cloud backup	**High**- the server in the business will be used to share all the data the business needs, which makes it important to keep the data safe. Cloud backup service will be used to back up all data from the server to the internet.
Wireless network connection	**Medium**- this will be used on site and allows for a way for the tablet PCs to connect to the businesses network and the internet. It's what allows the tablet to be portable.
LAN	**High**- this is a high priority as the building will have two floors of Neuton and Neuton Retail. The devices connected to the LAN are able to access data from any device connected to the network. Users can also communicate with each other via email or chat.
Email	**High**- this is a form of communication that the owner uses frequently to send files and documents to staff and customers and is reliant. Without email, staff can't send reports.
Owners(2)	**High**- the owners are a high priority as they are responsible for running the business as well as managing the stock and payroll. They have important jobs that need to be met in order for the business to run smooth and efficiently.
Shop assistants (3)	**High**- the shop assistants are a high priority as they are responsible for the shop sales and for checking stock availability. This is very important as they will be taking transactions from the customers and in charge of customer's questions and queries they may have about a certain product.
Stockroom assistants (2)	**High**- the stockroom assistants are a high priority as they are responsible for managing stock that arrives at the shop and

	responding to online orders.
Future needs eBay	**Medium**- this is a medium priority as Neuton and Neuton want to provide an external auction site to sell any surplus stock. eBay is an auction site that is worldwide so international users can view the stock the business want to sell however it is not as necessary for the business to run and dedicate their time to as it is a future need.
EAS system	**Medium**- this is a medium priority as it important to have security within the building theft or any suspicious activity within the shop. I have decided to implement security alarms and EAS technology. By attaching security tags to their products, retailers can trigger off an alarm if a shoplifter walks out with a product with the tag still on through the electronic sensors at the exit gates. This will help prevent theft as the sensor will detect if the product has been bought and it hasn't, it will immediately set off an alarm and notify the staff members.
Unleashed	**Medium**- To control stock control for future needs, I believe Neuton and Neuton Retail should invest in the software 'Unleashed' which helps retailers, manufacturers and wholesalers achieve complete control over their products and ensures that the businesses inventory counts are always accurate. They offer a free 14 day trial so users are able to test out the software without losing any cost however, if users are happy with the software and wish to continue with it further, they can pay £15 a month which is a fair price for Neuton and Neuton Retail.

Customer Needs	
IT Service Requirements	**Explanation of priority (high, medium or low)**
General Data Protection Regulation	**High**- this is a high priority as the server holds a lot of personal and confidential information about the staff and customers. All

	personal and confidential information should be secure so no one gets a hold of it. The GDPR states that all data must be processed fairly and lawfully and should not be kept longer than needed. If the company fails to keep data and confidential safe, they would be in breach of the GDPR and will therefore face serious legal consequences.
Data Protection Act	**High**- this is a high priority as the server holds a of confidential information about the staff and customers. It controls how personal customer data is used by businesses. All personal and confidential information should be secure so The Data Protection Act states that all data must be fairly and lawfully processed, it should not be transferred to other countries without adequate protection, it should be kept for longer than needed and customers are able to ask for their data at all times. If the company fails to keep data safe and secure due to any malicious attacks or damage, they would be in breach of the Data Protection Act and could therefore face serious legal consequences.
Computer Misuse Act	**High**- the Computer Misuse Act states that all computer material should not be accessed by an unauthorised user. The computer material should not be accessed by an unauthorised user with the intent to commit destruction or modification of computer material. If the company fails to comply with the Act, they would be in breach of the Computer Misuse Act and later face legal consequences.
Website	**High**- this is a high priority as some customers may be restricted from going to the shop due to travel costs or the fact that some customers may have certain disabilities that will restrict them from travelling, therefore a website is a perfect solution as it will allow them to purchase products from their home. This prevents any customers feeling disappointed or excluded therefore, meeting customer needs.
Social media sites	**Medium**- this is a medium priority as it will help build promotion and online presence for Neuton and Neuton. Customers can go on Neuton and Neuton Retail's social media sites to check out their
	new and existing products. They can view other customer's opinions on the comment section regrading a certain product to see if it's worthy of buying and they can also contact the company through direct message which is much faster and effective than email. However they can access their website if they wanted to check out the products, reviews and even contact the company through the website as the website will hold all contact details

Response 2

An attempt has been made to provide a description of IT service/process requirements for Neuton & Neuton but the information from the scenario is limited.

Learner has attempted to prioritise the IT service/process requirements but all mentioned are unsupported. No discussion on individual personnel needs for the company, and the information provided is in isolation, which shows a limited awareness of the scenario. The learner work would fit into **Band Mark 1 (1 – 3)** in the mark scheme.

Company Needs	
IT Service Requirements	**Explanation of priority (high, medium or low)**
Four Computers (Two on the ground floor in the stockroom and two on the first floor in the office)	High priority – The computers are needed for the retail business to track data and keep the business running (profit wise). The stock management will be done using the computers as well which will make the staffs and owners life easier. Therefore this should be a high priority.
CCTV (for the ground floor: in the shop and the stockroom)	High priority – This is an essential piece of security which can be used in cases of theft or other situations. The evidence would help their claims. Especially as this is a retail shop standard security should be a high priority.
Three EPOS terminals (for the ground floor in the shop)	Medium priority – The EPOS terminals will be used to make the shop run faster as staff members can be able to use the system to get through customers at a faster rate. However it isn't as important as the CCTV and computers making it a medium priority.
Broadband, Router, switches and Ethernet cables	High priority – It is important that the office workers have full access to the computers so having a valid internet connection with good speeds is important.
Norton Anti-Virus	Medium priority – Anti–virus is always important to have on computers but as there will only be four computers the chances of one of the staff members downloading something dangerous is lower making it a medium priority but still should be used.
Electronic door system (for the shop floor)	Medium priority – To make the customers experience better and to cater for all types of customers an electronic door system should be in place.
Server	High priority – To provide a secure and reliable internet connection

	to the computers. They will all be on the same connection this way.
Firewall	Medium priority – Will make the computers more secure and allow for some ports to be blocked off so that the staff members cannot access some sites that are not needed.
Printer (For the first floor in the office)	Medium priority – A printer for the office so that the staff members can print off certain work needed.
Cloud system storage	Medium priority – Gives another option for users to save their data to and can provide backups to it as they will be looking at personal/business based data that needs to be secure.

Customer Needs	
IT Service Requirements	**Explanation of priority (high, medium or low)**
Anti-Theft systems	High priority – This will maximise the security of the building and give the company even more security.
Automated systems for stock control	High priority – This will be key in keeping costs at a reasonable price and help maintain the shop's stock so that they don't buy too much.

Activity 2

(Produce an IT service strategy)

Overall this activity was answered well. Most of the candidates seen produced an IT service catalogue and included current and future IT requirements. Most candidates identified the IT services. Some learners did not mention all staff and some software was missing with learners focusing mainly on hardware.

Response 1

Learner has been produced an IT service catalogue that includes relevant information from the scenario. The learner has identified services that are appropriate for the business functions and has included accurate service names and descriptions. This learner shows a sound awareness of the Neuton & Neuton's requirements, with descriptions being clear and concise to enable a non-IT specialist to understand. The learner work would fit into **Band Mark 3 (7 – 8)** in the mark scheme.

Function	Service name	Service description
Managing staff and overseeing the organisation Owners responsibilities: Manage stock control Manage invoices for processing Banking Payroll Manage income and expenditure Hiring and training new staff	Hardware Requirements: PCs with keyboards, mouse, and is capable of running software that will run big data Software Requirements: Google Chrome Windows 10 Microsoft Office 365 SAGE (business calculation software) Skype for business	The owners of Neuton & Neuton Retail will need a PC that is powerful to run the software that they will be using to calculate the pay checks of staff members. They will also have to respond to emails on the PCs, that would come from suppliers and customers. They will also be ones that are handling the financial side of the business, so that means that they are the ones that have to manage the income and expenditure of the company so it does not go over the money that they have currently in the bank or have set aside in case of emergencies. The owners will also be the ones that are in charge of the training of the staff so they need to have all of the software that the staff have access to so they can lead them through what they would be doing and who to respond in different situations. Before they are let on to interact with the system without supervision. They would also need the PCs that can use a multi-function printer. This is because the owners and some of the staff would be using the printers to print off information notices that would used in the shop and the rest of the building.
Managing stock Stockroom Assistants responsibilities: Manage stock arriving at the shop Respond to online orders	Hardware Requirements: PCs with a Keyboard, mouse, and is powerful enough to run accounting software e.g. SAGE and Microsoft Office 365. But it also has enough space for adding stock control systems in the future.	Stock Room assistants are the ones that will be in charge of the stock deliveries and updating the system as well as alerting the owners that more of certain products are required. They will also need access to the online website, because they are the ones that would be getting the orders from the site, then they would get it from the stock after which they will package it up and send it off to the customers address.

Managing the shop Shop Assistants: Responsible for shop sales Check stock availability	Hardware Requirements: PCs with a keyboard and mouse. EPOS terminal that has a secure connection to the cash draw. But it must also have enough space to run anti-theft systems on in the future	The shop assistant would need a PC, because they will be the ones that will log the sales that have been made from the shop, so the PC that they would be using will have to have a connection to the database that would be used to file all of the information from that data. They would also need the ability to check the availability of stock , this is because they are the public faces of the business that they customers will see when they come into the store, so if the customers have any questions about the product or want to check if they have a product in stock but is not on display at the moment.
Payment Machine	Electronic Point of Sales	This will be used by the owners and shop floor assistants to take electronic payments from customers that visit the shop, instead of relying on customers paying online, or by cash. The company would also have to
Legislation the must be followed	Consumer Rights Act Consumer Contracts Regulation Data Protection Act/ GDPR (2018) Health and Safety at Work Act 1974	Neuton and Neuton Retail will have to follow the consumer right Act because it is legislation that is specific to the sector that they are working in. It states that they must sell goods that are of reasonable quality, be fit for purpose, and they have to be as they are described. This is important for them to follow because not only does it stop them from receiving fines, but it also helps to build up the reputation of the company as selling good quality product. They would also have to follow the Consumer contracts regulation; this is another piece of important legislation that they must follow because it states that they must give a full description of products, as well as the delivery cost and what the returns policy is. It also means that they would have to display the contact details of Neuton & Neuton Retail. This would be important to follow because it would help to avoid fines from the regulators and avoid getting a bad reputation The Data Protection Act/ GDPR is important to follow because it helps the company to avoid a massive data breach by people from outside the company, because it tells them what they must and must not do when they are taking their clients information. It also sets the terms for what the company can do with the data, if they get the clients permission. Neuton and Neuton Retail will also have to follow the health and safety at work act. This is because it makes sure that the staff members of Neuton and Neuton Retail are well protected when they work at the office, shop floor and the stock room. It also makes
		sure that the workers don't get sick from working, so the owners would have to take precautions against certain scenarios.
Security	Auto Lock Access levels VPN Anti- virus software Firewall	Neuton & Neuton Retail would have to have some security features like auto lock installed on their computers this is because it allows the computers to lock themselves after a period of inactivity from the personal that would be using it. This would be especially useful to have on the shop assistant's PCs because they are the ones that are going to leave their computers to go and help customers find products within the store. Access levels, would be a good thing to add to the system because it makes sure that other staff members don't access data they have no need for. It also makes sure that if staff do give out their details or lose them, then it would make sure that the damage is limited to a small part of the network, and it makes control the damage easier e.g. Neuton & Neuton Retail can make sure what particular data is under threat and take extra measures to stop it from being leaked on the internet. VPN is another security feature that would be good on the Neuton & Neuton system, this is because it would allow the independent company to remotely manage the network safely instead of having a person at the office every day to make sure it's all looked after. Anti-virus software is another security feature that would good to have on the Neuton 7 Neuton Retail network. This is because it will be installed on to the network devices, and will stop threats such as a computer virus from attacking the system if it gets past the firewall A firewall is another security feature that could be installed onto the Neuton& Neuton Retail network is a firewall. This would add another layer of security to the network, because it could work with the VPN to block any incoming traffic to the system that is not wanted.
Future Systems	Automated stock control External auction site	Neuton & Neuton Retail could in the future add these systems onto the network, automated stock control would be a good thing to add into the network because it would allow for the staff workload to be reduced, and keep the system more up to date, instead of the staff members having to manually add things into the staff each day. But

| | Anti-theft devices | to do this it would need a lot of different pieces of information ranging from stock inquires and Product history to cycle counting and product measurement. There are different pieces of software that they could use, but the price could be an issue because there are some that are free but not of good quality and others that charge monthly but provide a good service with support if need.

External Auction Sites could also be added to the system because it would allow Neuton & Neuton Retail to sell any excess stock, on online. They could use sites such as EBay which would charge 35p per item listed but Neuton & Neuton Retail would also have to pay 10% of the final price which includes in the posting of the item. But Neuton & Neuton Retail could also use other sites which sell products at auction for a company but at a price.

Anti-theft devices could also be used by Neuton & Neuton Retail in the future, one of those systems would be Electronic Article surveillance (EAS) e.g. security tags, stickers, labels and cables that are all paired with a sensor that goes off if the item leaves the store. However there are other low tech devices which could also be used such as, Physical locks on things like the cash draw, mirrors which would be used because it allows staff to see into other parts of the store from wherever they are stood. |

Response 2

An attempt has been made to produce an IT service catalogue, however there is limited information to show individual IT services for each function of the company. An attempt to identify IT service names and service descriptions, showing a limited understanding of Neuton & Neuton's requirements. Learner work would fit into **Band Mark 1 (1 – 3)** in the mark scheme.

Function	Service name	Service description
To make databases	Microsoft Access	Allows you to be able to make a database of all the products in stock and will be edited when a product has been bought online or in store. Subtracting and adding the stock when you have delivery or even when you are selling or moving products. It will also help the employees determine what is in stock and what isn't on the EPOS terminals as it will all be linked. It will also provide information such as telling you what has been ordered therefore what the stock **will** be once the delivery has come in.
To make spreadsheets	Microsoft Excel	This will allow you to add all different calculations into one spreadsheet helping you manage income and expenditure, manage invoices and help calculate payroll and banking, all the data can be summed up how it is needed formatted conditionally to help identify weak spots in the business such as if something is selling really well and another thing isn't you would increase the demand for in stock items and have more of the well selling product out and decrease the stock of the bad selling product, alternatively you could promote more the non-selling products and decrease advertisement for the well selling as it starts to sell on its own.
To make statements and other documents	Microsoft word	This will allow the business to create any form of document, whether or not you want to make a document in which you want to fire someone, if you want to hire someone and even just use them for general notes, it can also be used to help promote the business as you would be able to make advertisement.
To protect against viruses and hackers	Firewall	This will prevent viruses getting into your network and help avoid losing any valuable information or losing any needed files. This helps keeps the businesses security up and makes sure no data is stolen or lost.
To watch out for intruders	CCTV	These cameras are hooked up to a computer or a monitor to be able to view by the owners and the authorities if need be. As they are live streaming to the monitor and recording, therefore if anything happens during the night they are able to send the video

		to the police and also acknowledge what had happened and how and then put in precautions to prevent it from happening in the future.
To allow access into the building and different rooms	RFID cards & Sensors	This will allow employees access the certain rooms in the building depending on how high authority you have, the higher you are the more access you get. This keeps the building safe and secure as only those who hold a RFID card.
To make in store transactions and check availability	EPOS Terminals	This will provide a purchase method in the store to allow customers to buy products in the store as well as just online. It will also allow people to ask a employee if they have a certain product in stock or if they can order it in which would be available to see via the terminals.
To have a backup of all files and also make files be available anywhere in the world	Cloud storage	This allows you to have a backup of all files on the cloud which is hard to hack, accessible anywhere with an internet connection.
Security	Alarm system	This make sure if there were any intruders the alarms would go off and alert the owners and the police immediately.

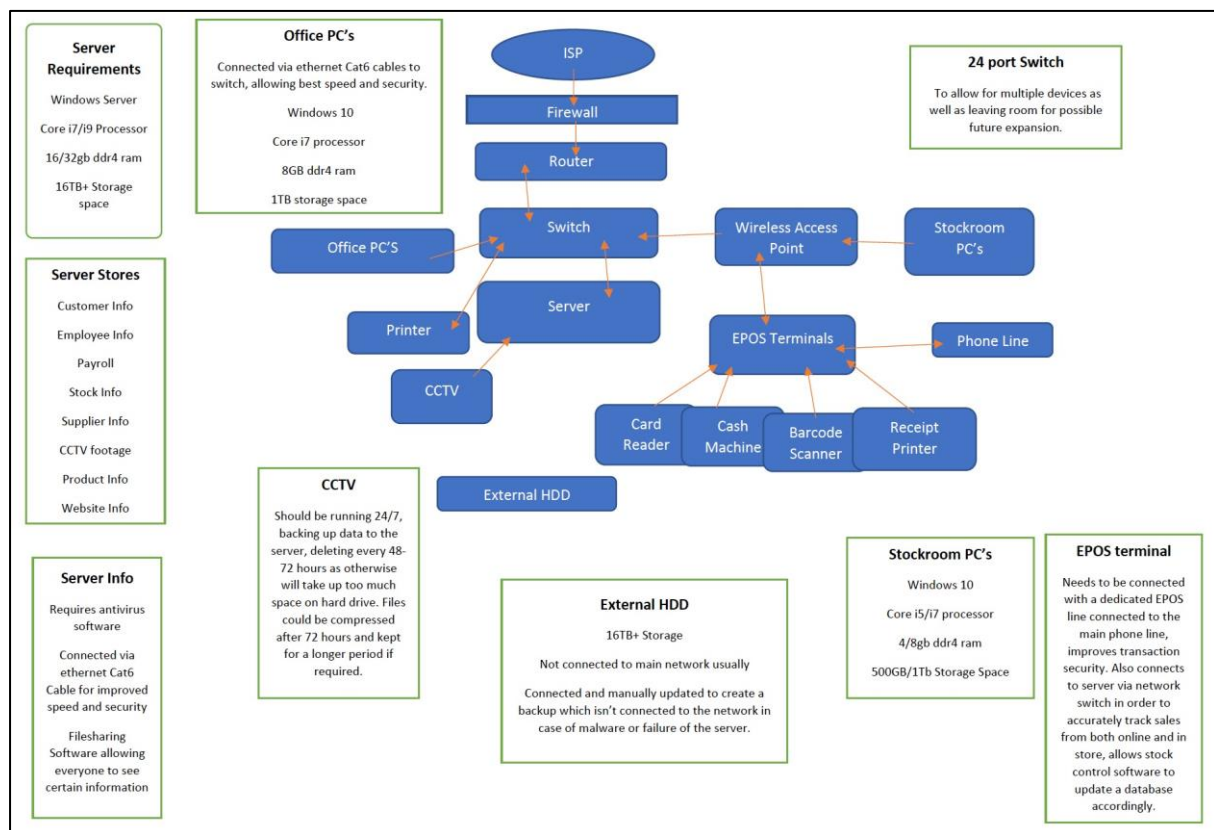# Activity 3

(Design an IT service delivery solution)

This question did not perform as well this series because a vast amount of learners

focused on hardware rather than software, but lost marks because of an inefficient hardware/software solution. Some learners did not include data and information in their responses, or any thought about including connections to a bank for the EPOS system.
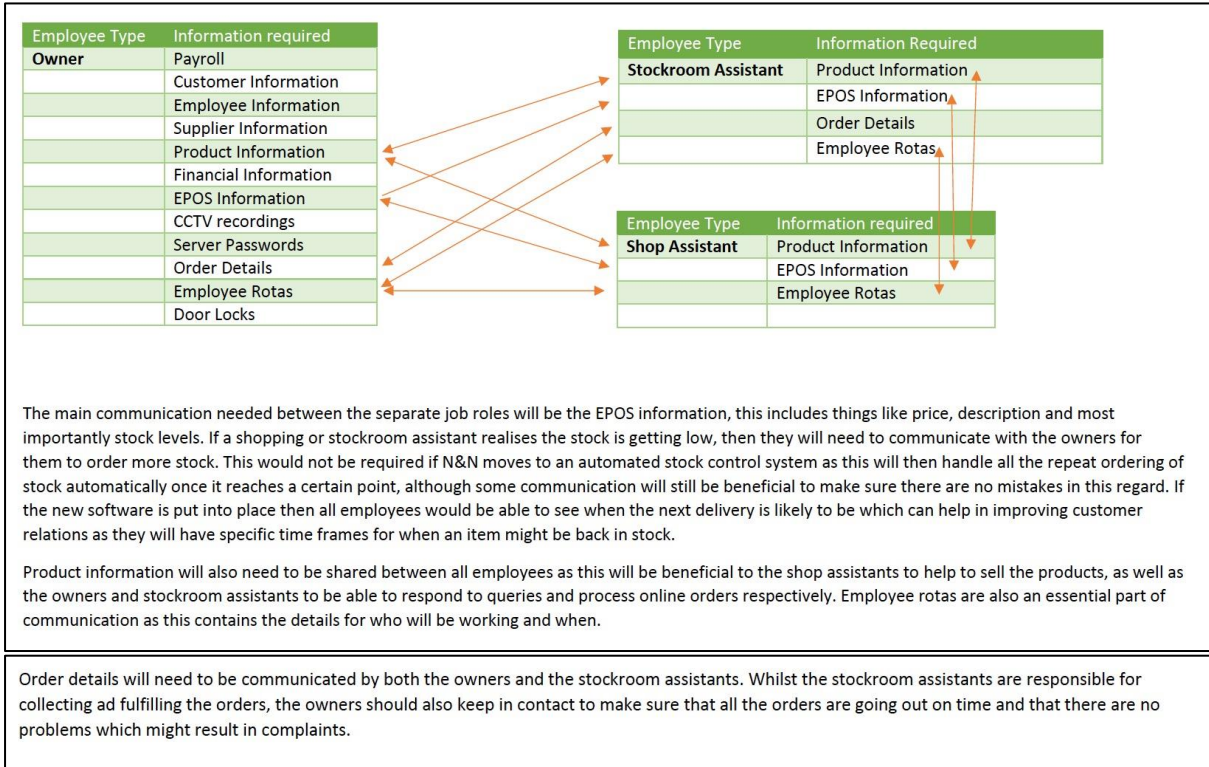
Response 1

The learner has included effective and comprehensive information and data requirements that meet the IT requirements for Neuton & Neuton. Learner has provided adequate coverage of how hardware and software can be used to implement the solution and support users.

Learner has shown a sound awareness of the scenario with minor inaccuracies. The learner work would fit into **Band Mark 4 (16 – 20)** in the mark scheme.

Employee Type	Required Hardware/Software	Information
Owner	PC	To manage the business, correspondence, payroll, invoicing etc.
	Printer	To print documents to send or backup.
	Microsoft Office	To allow them to create reports, databases, spreadsheets or other relevant documents in order to help manage the business. Word, Excel and Access will most likely be the most used software.
	Database Software	A relational database will need to be created to hold all company, customer, supplier and product data. This could be made in Microsoft Access or with specialist database software.
	Internet Access	Via ethernet using a cat6 cable, allowing a fast and secure connection. Internet access is required in order to manage the business, online banking, sending and receiving of emails amongst many other vital roles.
	Automated Stock Control Software	To help collate the stock data gathered from EPOS terminals and online sales, can be set up to automatically track stock levels, create alerts when stock is low or even place order from the cheapest or fastest supplier when necessary. Can also help create reports into best sellers and other relevant information.
	Anti-Virus Software	In addition to firewall and Anti-Virus on the main server, some software such as a combination of windows defender and Malwarebytes will help to provide an extra level of security against malware on the office PC's that they're using.
	Operating System	Windows 10 is the most appropriate OS to use, enables employee to interact with the PC.
Stockroom Assistants		
	PC	Required to help manage stock arriving at the shop, as well as logging and tracking online orders. So that they can be packaged and sent efficiently.
	Internet Access	Required in order to check website orders and update stock levels. Will be connected via Wi-Fi.
	Operating System	Windows 10 is the most appropriate OS to use, enables employees to interact with the PC.
	Automated Stock Control Software	Through the use of barcode scanning this will allow the stock data to be transferred to the main database on the server which will then be able to collate the stock data gathered from EPOS terminals and online sales, can be set up to automatically track stock levels, create alerts when stock is low or even place order from the cheapest or fastest supplier when necessary. Can also help create reports into best sellers and other relevant information.
	Anti-Virus	In addition to firewall and Anti-Virus on the main server, some software such as a combination of windows defender and Malwarebytes will help to provide an extra level of security against malware on the office PC's that they're using.
	Microsoft Office	Enables stockroom assistants to update databases/spreadsheets, create reports to send to the office etc.
	Barcode Scanner	Enables stock tracking through the use of RFID
Shop Assistants		
	EPOS Terminals	Needed to take payments and process orders.
	Card Reader	Allows taking of card as a valid payment type.
	Cash Machine	Allows taking of cash as a valid payment type.
	Barcode Scanner	Allows quicker checking out as well as enabling stock to be tracked more easily.
	Receipt Printer	Allows receipts to be printed instantly in store, improving record keeping.
	Automated Stock Control Software	Through the use of barcode scanning and the EPOS terminals this will allow the stock data to be transferred to the main database on the server which will then be able to collate the stock data gathered from EPOS terminals and online sales, can be set up to automatically track stock levels, create alerts when stock is low or even place order from the cheapest or fastest supplier when necessary. Can also help create reports into best sellers and other relevant information.

Employee Type	Information required
Owner	Payroll
	Customer Information
	Employee Information
	Supplier Information
	Product Information
	Financial Information
	EPOS Information
	CCTV recordings
	Server Passwords
	Order Details
	Employee Rotas
	Door Locks

Employee Type	Information Required
Stockroom Assistant	Product Information
	EPOS Information
	Order Details
	Employee Rotas

Employee Type	Information required
Shop Assistant	Product Information
	EPOS Information
	Employee Rotas

The main communication needed between the separate job roles will be the EPOS information, this includes things like price, description and most importantly stock levels. If a shopping or stockroom assistant realises the stock is getting low, then they will need to communicate with the owners for them to order more stock. This would not be required if N&N moves to an automated stock control system as this will then handle all the repeat ordering of stock automatically once it reaches a certain point, although some communication will still be beneficial to make sure there are no mistakes in this regard. If the new software is put into place then all employees would be able to see when the next delivery is likely to be which can help in improving customer relations as they will have specific time frames for when an item might be back in stock.

Product information will also need to be shared between all employees as this will be beneficial to the shop assistants to help to sell the products, as well as the owners and stockroom assistants to be able to respond to queries and process online orders respectively. Employee rotas are also an essential part of communication as this contains the details for who will be working and when.

Order details will need to be communicated by both the owners and the stockroom assistants. Whilst the stockroom assistants are responsible for collecting ad fulfilling the orders, the owners should also keep in contact to make sure that all the orders are going out on time and that there are no problems which might result in complaints.

Response 2

An attempt has been made to include information and data requirements, but the information covers basic requirements and demonstrates a limited technical understanding of how the solution works with omissions.

The diagram only partially covers the solution for Neuton & Neuton (office and storeroom), and there is no indication of any hardware or software.

Although the learner has included a description of data and information this is not enough to get into the next band. There are no information flows between staff members. The learner work would fit into **Band Mark 1 (1 – 5)** in the mark scheme.

Introduction

The shop needs to have a better network to function at its upmost best, to do this it will involve redoing most of the network from the routers and servers all the way to the little things like the hand held devices and the cameras. This will meet a number of requirements that the store needs met such as an automated stock control system, an external site to auction goods and surplus stock as well as an installation of an anti-theft system.

Information requirements & Data requirements

When updating the system to meet new requirements certain thing should be kept in mind, these things include; data storage, handling of data, points of sale data, data sources, data misuse act, market data, retail analytics.

To collect data from the customers there are many different ways, some of these ways are harder and more complex while others are much more simple and easier to do. The best way in my opinion to get data about the customer would be would be via a loyalty card, this card would allow for a company to see what they are using their card on which they can then collect data on (some companies then advertise products to these people that they have great interest in). The card would have a points system on which allows for a customer to earn and then redeem in store making them a loyal and constant customer which would be good for the company.

The second best way to do this would involve market data. Market data is an agreement that a company has with a 3rd party where they exchange data to a third party in exchange for data about the market that they are in. this would benefit the company hugely as it now allows them to see what are the current trends and what kind of stock is moving the quickest out of the store.

Relevant legislation

Legislation I basically the law and all legislations must be followed in order or a business to be working within the law. Some legislation acts that must be followed include; communication act 2003, computer misuse act 1990, data protection act 2018, general data protection regulation.

The communication act 2003, does a lot of things to better the way advertisements are presented. The main thing that it did was make a broadcast committee of advertisement practises to ensure that advertising on television or radio is not misleading, harmful or offensive. If the company ever wants to advertise on TV and or radio they best follow the regulations of this act because is not they could find that they are breaking the law.

The computer misuse act was put in place to help deal with crime that involved the process of accessing information that did not belong to that person and either modifying or destroying that data without being authorised to do so. The company must follow this through and through and must ensure that no one who isn't authorised to have that information gets a hold of it, customer or employee. Otherwise the company could be fined.

The data protection act 2018 and the General data protection regulation work hand in hand to resolve the same problem, they both basically help prevent companies from doing a number of different thing with the data that they collect about their customers. They also allow you to see what data is being kept about you which they can send to you, they can also withdraw information being

sent to you about another person. This means that when neutons & neutons retail collect data about a customer they best follow the act and regulation otherwise they will be breaking the law.

Hardware service options

To make this happen there needs to be a change in the choice of hardware that the company is using. The company was using a server with 2 PC's in the office, 2 PC's in the stock room and 3 EPO's terminals in the shop, this needs to be upgraded so that the company can expand and grow.

One hardware choice that should come first are the servers, servers are important as they are the foundation to stores that needs to keep a catalogue of information. This can include: staff details, stock information, customer details. Servers should also be first pick due to the fact that neuton & neuton retail want to branch their online business out, because of this they would need more servers to help handle the traffic that they will be getting on the site. There are many different servers that a company can pick from to upgrade and implement for example a mail server is used to send and receive emails. The server that would most likely help out the company the most would be a catalogue server which is used to held information and lists of data. The company could then keep track on all the information that they need to keep as well as upping the amount of server storage. (This would also help the automated stock control system).

To better the company's security system a number of hardware choices can be used, one of the simplest to implement would have to be cameras, cameras would act as a deterrent to thieves wanting to steal or damage property as well as being able to catch the individual in the act. There are many cameras that a company can pick from, one of the most common and best ones would be the 360 degrees camera as this one would have the choice of being able to look anywhere whilst being covered in a black tint so that people won't know which way it's looking. To set up these types of cameras would (depending on the brand and quality) would be costly due to having to buy them as well as having to install them but would help deter the issue of stealing. This will go towards one of the targets that the client wants improved "installation of an anti-theft system".

Another piece of hardware that helps stop the issue of stealing are RFIDs, these devices are essential in helping to stop people from simply picking up and item in store and walking out. RFID helps stop the issue by being place near an exit where people work in and out of the store, it then uses radio signals to find certain security tags (such as barcodes) that haven't been disable yet, it will then make a siren if someone walks out without disabling the tag. To set this up would be quite costly due to having to buy the item for each exit as well as having to pay for them to be installed. However installing this device in the company's shop will eventually save the company around the same price of the machine that they would've lost not having it installed. This helps improves one of the company's requirements; installation of anti-theft systems.

Software service options

There are a number of improvements to be done with the software side of Neutons & Neutons retail to better help it meet and improve the requirements of the business and the system overall.

One such piece of software that will improve the system overall is called a POS (retail point of sale software. These software is extremely useful when making a transaction through a till, this is because it uses a number of different features to better help the transaction happen. These include: tools for transactions, updating stock total, collection of customer data, etc. this piece of software will allow for the company to function easier.

Another piece of software that will improve the system and help solve the issue of automated system for stock control, are called: perpetual inventory system, periodic inventory system, barcode inventory management, these are all different types of inventory management. Each of these inventory management software's have different properties, however I think that that the company should go with perpetual inventory management as this is probably the better one, for this type of business. Perpetual inventory management allows for a great number of different things, one such thing that it offers is the ability to have constant updates on inventory records which account for subtractions and addition of products in the system (making it an automated stock control system).

Another piece of software that is important for the business to have is sales reporting. Sales reporting is a process where a company records and analyses sales to make informed business decisions. This would benefit this company hugely due to the company needing to sell items to make a profit and knowing which items are popular and which are not could make the company hugely successful.

Diagram
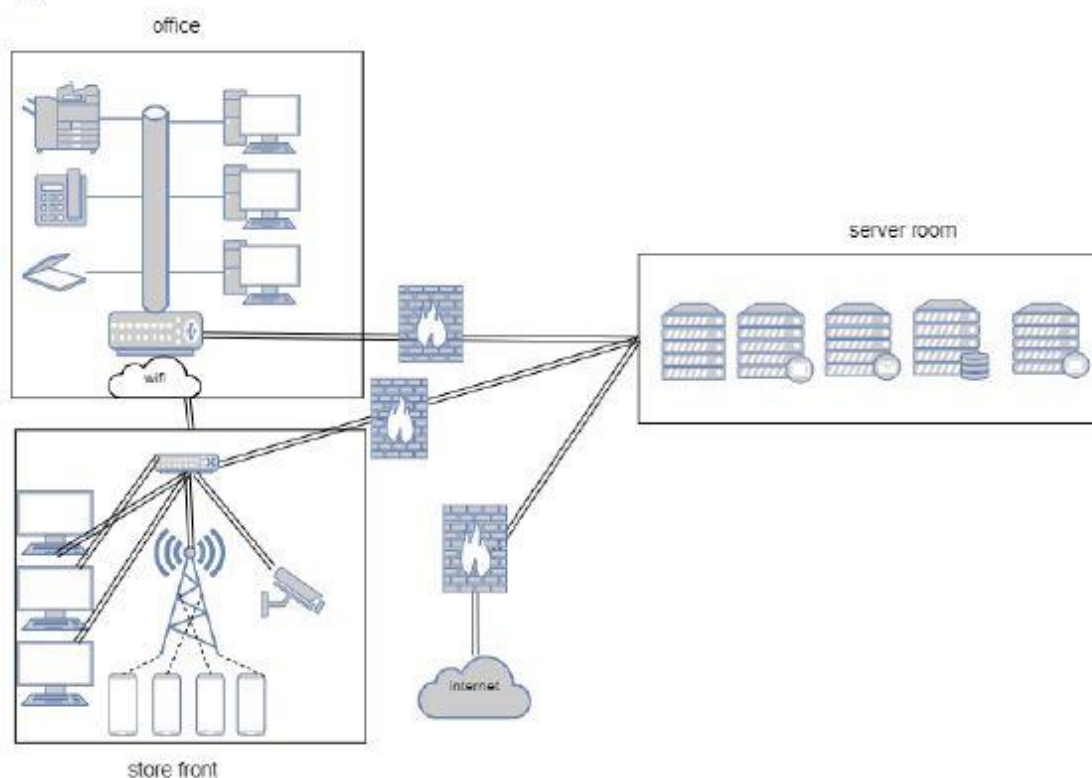
The improvements done to the system and to the network can be seen here.

The servers have been taken out of the office area and have been put in their own room, not only or extra space but to keep them safe so that they can't be tampered with or changed in anyway. The servers are connected to the internet however a firewall is put in place to help stop attacks via the internet to the system.

The store front now has cameras for added security which are connected to the switch board which are then connected to the system allowing someone in the main office to have the ability and option to see what is going on. There is also a wireless hub which allows for the company to use handheld devices that have the option to connect to the system, this then allows for the workers to be able to check stock availability without having to go into the back. An RFID scanner has also been set up to

Activity 4

(Management report evaluating the solution)

Learners are required to evaluate the appropriateness of their IT service delivery solution for the requirements of Neuton & Neuton, by reviewing requirements and making recommendations. They need to discuss if the system recommended is effective and appropriate for the needs of the organisation.

Although the learner responses for this activity were reasonably good, they still seem to focus mainly on future developments rather than evaluating the system as a whole. Alternatives were given but again only focussed on future developments

The learners should compare the recommended system to the initial organisation requirements, will it enable all staff to undertake their job roles, and are there any limitations. Learners should ensure they evaluate the **complete** solution and not just future developments.

The evaluation report should recommend solutions to any limitations and include alternatives with a rationale.

<u>Response 1</u>

Learner has provided a developed and convincing justification of the appropriateness of the solution and has outlined appropriate alternatives for a range of aspects. Valid and supported rationales have been provided for alternatives discussed, and the report demonstrates coherent and logical chains of reasoning, that show a full awareness of the scenario. The learner work would fit into **Band Mark 4 (10 – 12)** in the mark scheme.

January 2020

Management report

In this report, I will review each part of the catalogue and strategy I have made, discussing why I have chosen each device/ piece of software. I will explain any short comings of them, as well as including alternative solutions for some. I will then review my network diagram, explaining why I have chosen the solution I chose over alternatives, where I will then further discuss how the future improvements can be added into my solution.

Hardware and software

For hardware, I chose to give every member of the office and shop new PCs. I implemented this so that every PC is secure as possible and can in future it will be always be able to update to the latest version of the Operating System (OS)/ ANTI-Virus, which means all will be kept as secure as possible. This might be quite costly but is a worthwhile investment that means that the company will have computers that will last a long time. PC's can run more applications at once and have greater specs in general, which would prove to be more useful for productivity in the long term. An alternative solution that I could've chosen for this was to instead give every member of staff in the office, shop and stockroom a laptop. Laptops are portable and does not limit staff to working in their offices. However, laptops can crash/freeze randomly if the RAM is insufficient therefore, I have chosen PCs for my solution as PC's have larger storage and RAM therefore it would be unlikelier that a PC would crash or freeze.

Another solution I chose was to give the stockroom assistants a Personal Digital Assistant (PDA) each. This means that when they are in the stockroom doing their jobs, they can easily gain access to the network to gain information about any stock or products the shop may need, as well as to provide updates back to the office. This would be costly to do, and the company would need to ensure that every device is looked after and is returned to the shop or office every day, however it would make it much easier for the stockroom assistants to do their job and would therefore increase their workflow tremendously. An alternate solution I could have chosen instead of providing PDAs to the stockroom assistants, is to let the assistants bring and use their own devices such as a mobile phone. This would be a lot cheaper as the company wouldn't have to pay for the devices, however it does pose a security risk. Moreover, if the stockroom assistants don't have proper anti-virus/firewall software on their devices and accidentally downloads a virus, they can not only spread that virus to customer's networks when they connect to it, but also the company's network which can compromise all data on it. This will effectively shut down the company until they can clean the network and recover the data. I believe the most effective solution is to provide the devices. This way the company can make sure they have the proper amount of security on them.

For the shop assistants, I chose to give them tablet PCs as they are much more portable than desktop PCs which means they will be able to carry out their tasks whilst helping customers along the way if they were to have any questions or queries. A tablet PC will enable the shop assistants to access the network whilst on the move which be very beneficial for when helping the customers in the shop. An alternative to this could be a laptop however laptops are far more expensive for Neuton and Neuton to purchase for three shop assistants and they also require powerful processing speed and power which is financially unnecessary for the business, therefore tablet PCs are most suitable for the shop assistants.

For the OS on the new PCs, I chose to have Windows 10 Pro installed on each one. Having Windows 10 Pro as the operating system means there will be regular updates and has many different security features in place to prevent unauthorised access into the IT system. It is the latest OS from Microsoft

and the most intuitive to use due to its GUI platform. It has built in firewall and anti-virus to prevent any malware from being installed. Hence it would minimise the risks of malicious software from being present in the network. Windows 10 pro can be quite costly, especially for a business, as it is one of the most expensive Oss to date, however the amount of security and usability it provides is worthwhile and largely outweighs the cost. An alternate solution that could've been chosen would be to install the OS Windows 7 onto the new PCs, which is a very secure and usable OS, however due to its age, it has a few security risks and exploits. The software is also not supported by Microsoft anymore, meaning that It would probably have to be upgraded to Windows 10 anyway to get support from Microsoft therefore I have strongly chosen the OS of Windows 10 pro as it most secure with a built in firewall and anti-virus software and gets supported with regular updates.

For cabling, I chose to use Cat6 ethernet cables to connect the network together. These are the most cost-effective solution for the company because they are extremely fast when transferring data and is incredibly stable. They are not as fast and stable as Fibre Optic cables, however these cables are a lot more expensive and not worth the extra money for the amount of speed and stability the provide. Therefore, I decided to use Cat6 ethernet cables as my chosen solution as they are fast when transferring data and are not too expensive, especially since the company is a small business with limited budget.

An alternative to the PDA's could be tablets, as they have more functionality such as being able to run web browsers and email. However, PDA's were chosen as there is no need for the staff to have these functionalities when they already have PC's and a smartphone, the staff only need a hardware device to input patient data and keep notes before inputting the data into the PC's, and a PDA is the most appropriate device for this.

I also chose to create a VPN for the network, so the stockroom assistant and shop assistants can connect to the network securely from their PDAs, no matter where they are. A VPN is definitely the most secure way for them to access the data transmitted between the PDA and the network is transferred through what is called a 'virtual tunnel'. This means that the data being transmitted is almost impossible to intercept and even it is intercepted, the data would be encrypted and wouldn't able to get deciphered without the encryption key. An alternate solution would be to use remote access, where data transferred between the device and network is encrypted. This is cheaper than a VPN as VPN are generally subscription based, however the data can still be easily intercepted and is nowhere near as secure as it would be with a VPN therefore my chosen solution is a VPN as it reduces the risk of data being intercepted and decrypted by malicious users.

Moreover, I chose to install firewalls on the network as hardware, rather than software on every device. This means the firewall can intercept every transmission going in and out of the network, scanning each one for threats, performing it's job the most effective and efficient way possible. An alternative would have been to install the firewall as software on the router and other devices on the network. This wouldn't be as efficient as having it as hardware as it means all the other devices need to waste processing power checking each data packet that enters the device, rather than using a separate piece of hardware, freeing space to perform other tasks on the other devices. It is also better when it comes to updating the firewall, rather than trying to update it on every single device. It only has to be done once on piece of hardware, rather than all of them.

Most people are already aware of how to use MS Office which makes it easier when training staff and saves on time and cost. If there is any issue with the software, there is 24 hours' customer service from Microsoft to help with the issue which will ensure it gets fixed quickly to allow the staff to continue working. Having the whole package uploaded to the central servers at head office is cost

effective as the range of software would cater to the various job roles, e.g. receptionists can use MS Excel to book appointments. This is cheaper than installing the specific software onto the specific workstations.

I have chose to give every staff member in the office, shop and stockroom a telephone each, as well as one in the shop. This means that each member of staff can get in contact with each other.

The final alternative could be the use of Biometrics such as fingerprint readers and iris scanners instead of RFID Access Cards. They are much more secure than RFID as every individual's DNA is unique and cannot be copied, hence only those whose fingerprint is registered onto the system would be given access. With the RFID card system any individual can use the card to gain access. In spite of this, Biometrics was not included as it is very expensive and is not required in the company as it is not a large organisation therefore a RFID card system is most suitable.

Legislations

I have made sure to meet the relevant legislations when designing the solution. The General Data Protection Act 2018 & Data Protection Act can be met on the network side due to the presence of VPN, Cloud Storage, RFID Access and the Access levels. The VPN would use a secure tunnel to prevent hackers from intercepting the connection as it uses encryption. I included cloud storage as online backup in the event of there being a data breach or data loss. Online backup would be used to install all the employees' confidential information back onto the central servers to continue the operations of the company. The RFID Access system protects the information of employees as access to certain areas would be restricted such as the stockroom where products and stock are held. To comply with the DPA and computer misuse act, access rights would be set by the IT technicians to restrict access to confidential information such as employees personal details or staff's monthly invoices to only the staff whom require the information such as the administrator.

Future needs

Neuton and Neuton Retail have mentioned future improvements they wish to implement within the company. An anti-theft system, an auction site to get rid of surplus stock and a system to help stock control and management. For the anti- theft system, I have chosen to implement security alarms and Electronic Article Surveillance (EAS) technology. By attaching security tags to their products, retailers can trigger off an alarm if a shoplifter walks out with a product with the tag still on through the electronic sensors at the exit gates. This will help prevent theft as the sensor will detect if the product has been bought and if it hasn't, it will immediately set off an alarm and notify the staff members. For the auction site to help get rid of surplus stock, I have chosen the site of eBay. EBay is a site where users can upload their products onto the website to sell. Other users can view these products and wish to buy or bid for it. Neuton and Neuton Retail can do the same. They can upload their surplus stock online for others to view, and wait for users to buy or bid for it. This will therefore help the business get rid of stock, especially since it is worldwide which means the stock will be gone quicker than anticipated. For a system to help stock control and management, I have chosen to implement and invest in the software, 'unleashed'. This is a software which helps retailers, manufacturers and wholesalers achieve complete control over their products and ensures that the businesses inventory counts are always accurate. They offer a free 14 day trial so users are able to test out the software without losing any cost however, if users are happy with the software and wish to continue with it further, they can pay £15 a month which is a fair price for Neuton and Neuton Retail.

Response 2

Learner has partially justified the appropriateness of the solution, discussing what they

have included rather than why.
Report demonstrates limited reasoning and shows minimal awareness of the scenario.

The learner work would fit into **Band Mark 1 (1 – 3)** in the mark scheme.

About activity 4

I have been tasked with creating a solution for Neuton & Neuton retail for their current and future needs, activity 4 requires me to evaluate the appropriateness of my solution I designed previously for the current and future requirements of Neuton & Neuton retail.

Appropriateness of my solution

My solution dealt with many of the requirements that Neuton & Neuton retail needed to meet in order for their company to deal with current problems/ challenges and future improvements they may want to take as well. I have considered my role on improving their IT system and planning for future developments as well as their current IT system.

Solution for current time

My solution looked at designs the company could make now, especially all the information, and data requirements the retail company should need/ follow. I talked about what laws and legislation they will need to follow to make the workplace friendly and fair to all employees.

Solution for future developments

My solution for the future designs for Neuton & Neuton retail followed what they wanted in future developments as well as some others about new infrastructure work being put in place to support the IT system and all devices connected to it to run smoothly keep efficiency high and production of work high too.

With hardware and software being updated constantly it would be helping the retail business grow and become more advanced making it have an advantage over small ones without these improvements.

Comparison of other alternative solutions

My solutions compared to the alternative should work better when integrating the new system with the current one, as well as that it will integrate much better even when current changes are being made and will be ready for future improvements being integrated within the IT system.

The idea that instead of computers (PC's) there would be tablets given to those individuals, this may have improved on efficiency as they could work on the move, but this was outweighed by the chance of it being stolen, lost and that the battery could die when working causing work to be lost/ corrupt

Furthermore, the use of open source OS would be great to save some money on the PC's however the OS would have some flaws on dealing with bugs and application compatibility. Also the open source operating system could be updated much more regularly, however there is no guarantee, unlike proprietary software where there is a dedicated team for support and services available. Most applications would be compatible on proprietary like Microsoft Windows 10.

Reasoning for choosing my solution

In the Future Neuton & Neuton Retail want to improve their systems by providing:

- Automated systems for stock control
- An external auction site to sell any surplus stock

Activity 5

(IT service delivery implications report)

Learners are required to analyse the implications of managing IT service delivery for the requirements of Neuton & Neuton, by considering how the implications will affect the retail shop.

Although there has been an improvement in the responses, majority of learners still do not analyse implications of the system they are putting in place. Most focus on the future developments as opposed to the whole system. Very few analysed the solution's capacity to change.

The majority of the learners seen in this task produced generic reports and did not analyse the implications of managing IT service delivery to meet the Neuton & Neuton's requirements. The majority seen discussed the changes but were quite generic.

Response 1

The implications report demonstrates appropriate consideration of the implications of the solution, giving an understanding of the shop's capacity to respond to change. The report demonstrates logical chains of reasoning that shows an awareness of the implications for the shop. The learner work would fit into Band Mark 3 (9 – 12) in the mark scheme.

Implementing your solution and delivering the company's services and products

During implementation of the IT Service Delivery solution, the following constraints will be considered as they may arise:

Downtime
Due to the migration stages of implementing this solution. There could be some potential downtime on existing systems. E.g. The Existing Neuton & Neuton Retail website. This will have to be managed efficiently as to long downtime can lead to customers going elsewhere and a potential loss in revenue and profit for Neuton & Neuton Retail.

Existing Infrastructure
Not much information is given regarding the existing infrastructure for Neuton & Neuton Retail's new premises. This could be an issue as if the new premises are not suitable for the IT services that I have recommended. E.g. Cannot run CAT5e Cables for ethernet connection to devices. This would need to be assessed and if not possible then the IT service delivery would have to be changed to work within the premises.

CCTV
Due to the lack of information on the premises for Neuton & Neuton retail. I have simply provided 1 Camera for both the shop and the storeroom as requested within the client requirements. However, these have not been mapped on a plan view of the locations so this would have to be decided before it has been implemented. Also, CAT5e cables would have to be run to the server room within the office area of the building directly for the NVR to work correctly. This will have to be planned and run before the IT services and hardware can be installed. I have however suggested an 8 Channel NVR within the IT service delivery plan and therefore up to 6 more cameras can be installed without having to change the NVR. Therefore, it would be easier to install more cameras if they where required within the locations.

Financial Constraints
The IT services and Hardware that I have suggested within the IT Service Delivery plan is expensive. Therefore, a more comprehensive view will have to be taken when implementing the solution for Neuton & Neuton retail and the IT Service delivery plan may need to be altered to ensure that it is a viable solution for Neuton & Neuton Retail.

Legal Constraints
Once the solution has been implemented. Legal constraints should be considered. Since there is a password policy, encryption and security. A large amount of these constraints has been dealt with. However, the 3 main legal constrains for Neuton & Neuton Retail would be the Data Protection Act / GDPR (updated 2018), Health and Safety at work act etc. (1974).

An example of where the data protection act would be considered would be with recording phone calls. The business is able to record a phone call for the following reasons: To provide evidence of a business transaction, to ensure that a business complies with regulatory procedures, To see that quality standards or targets are being pet in the interests of national security, to prevent or detect crime to investigate the unauthorised use of a telecom system or to secure the effective operation of the telecom system. However, the consent of the other person on the phone must be gathered prior to the recording.

Managing and supporting staff

Once the IT Service Delivery plan has been implemented. The staff may require support and management for the new systems. I propose to implement this in the following ways:

Staff Training Days / Staff Induction
Once the IT Service Delivery plan has been implemented fully and the migration is starting. I propose that a staff training day be held to go over the new systems. This will give staff a chance to try out the new systems and be fully trained to aid them with their roles in the company. If there are any new hires after the staff training days have past. The new member of Neuton & Neuton retail will undertake a full staff induction for their job roles so they are familiar and efficient in using the software and hardware that has been implemented.

Remote Support
To help with supporting the staff. I have advised that all the IT Systems have the latest version of TeamViewer installed. TeamViewer is a remote management and support program that allows an external client to connect and remotely access a user's computer through the internet. This can be very useful for staff members if they need to have some troubleshooting or a demo or other remote support.

Password Policy
Due to the high amount of sensitive data that is held on the company systems. A password policy has been created to ensure that this data stays secure. This means that passwords are needed to be changed up to every 6 months and must contain upper & lower-case numbers, a special character and at least 8 characters long. This will lower the risk of a password being "brute forced" and the sensitive data leaked.

Managing and supporting the company's customers

Once the IT Service Delivery Plan is implemented. The customers will be supported in the following ways:

Website Live Chat
The website will have the open to initiate a live chat with a member of Neuton & Neuton Retail. This will be done using Zendesk. This is an instant message thread with a member of the team that will be able to aid the customer with their queries. This can improve the company image and potentially aid selling to the customer.

Email Support
Once the website is hosted and Office 365 emails have been created. A customer support email will be created. For Example: support@neuton&neutonretail.com This will then be able to be distributed to a member of the Neuton & Neuton team using either Zendesk or office 365 so that a member of the team can help the customer with their query

Telephone Support
Once the new VoIP solution is implemented with IP phones. Customers will be able to call Neuton & Neuton retail and get through to a member of the team. They will then be able to assist the customer with their query.

Managing the company's IT assets
TeamViewer To manage the IT assets of the company. I have recommended that Neuton & Neuton Retail use the latest version of TeamViewer. This will be used by both the support / management company and Neuton & Neuton retail to allow the support / management to connect to desktop workstations on the Neuton & Neuton retail network to allow them to preform maintenance and manage the company's IT assets.

Ability to respond to changes in the aims of the company, and the products and services it provides
The IT Service Delivery solution is able to respond to changes in the aims of the company, and the product / services that it provides using the following services: **Xero** Xero is a very versatile business management software that I have recommended be implemented by Neuton & Neuton retail. Due to the high number of implementations, it can be repurposed for a variety of situations for the business and therefore will be able to adapt and respond to changes both within the aims of Neuton & Neuton retail and the product / services that they provide.
Shopify Shopify is a online shop framework that is used by a variety of different businesses and is able to adapt to the aims of the company and the products / services it provides. This is due to the high amount of customisation that you can implement within Shopify and even change the full design / layout of the online shop using a simple & easy to use "drag and drop" editor. This will work well for Neuton & Neuton retail if they decide to change their aims or what products / services it provides for it's customers as they can re-design their website to match without a large amount of work required with programming etc.

<u>Response 2</u>

The report demonstrates limited reasoning that shows minimal awareness of the implications for the shop; the learner has discussed the changes rather than any implications. The learner work would fit into **Band Mark 1 (1 – 4)** in the mark scheme.

Implementing your solution and delivering the company's services and products
Cloud Storage: Neuton & Neuton Retail will handle client and staff sensitive data everyday so protecting data is important and backing it up vital to keeping data integrity, the cloud is reliable as the data is online so it cannot be physically damaged and the owners will be able to access it from anywhere. When the data is backed up a full back up will happen first which will happen overnight and then differential back-up while be carried out which can be done on the weekend to update any data that has been changed, deleted or added that week. Downtime: When the software and hardware is being implemented there will be a downtime so no data can be accessed by any users, to avoid any issues the implementation should happen when the business is not open which could be on the weekend. The downtime should also be announced to all staff members to ensure no data is lost during installation. CCTV: CCTV software will be installed so the owners will be able to access it from the office, the CCTV software should have a password to view the cameras to ensure no unauthorised users can gain access. The owners will be able to watch over the shop, stockroom and the server room to make sure no issues arise, the CCTV will record the whole day so the owners can look over it at the end of the day but the cameras are only accessible after logging to the software. Microsoft office: Microsoft office will improve the business is many aspects, for example Microsoft teams can improve the communication between the staff so they will not need to keep leaving their workplace to talk to other members of staff, Outlook will also enable them to Email any member of staff before or after work if needed. Microsoft office can also be used to manage the stock which uses Microsoft excel, Microsoft access will keep the data of the staff and clients and Microsoft word can be used to write important documents.

Managing and supporting staff
Training: The staff may need training to use the software that is being installed on to the PCs, the shop assistants will need to know how to use a tablet to manage sales, and various EPOS systems like PDQ, barcode scanner, receipt printer and a cash drawer. The stockroom assistants will need to be trained on using Microsoft excel for managing the stock and in future they will use google sheets with a barcode scanner to automatically update the stock and a google account will need to be used in order to use the google sheets. Communication: The staff will have access to Microsoft teams and outlook in order to communicate with other

members of staff, teams can be used daily for business purposes while Outlook can be used before and after work for important Emails for example if a staff member will not be attending work for a certain reason or if any issues have arisen in the business. Mobile Data: As the business has a website that should be monitored throughout the day a member of staff who is assigned to manage the website can be given an unlimited data plan so they can access the website from anywhere, this would costs the business money but will help in keeping up to date on online orders via the website. CCTV: The staff will not have access to the CCTV software but it will be used to watch over them so they are protected, the business will need consent from the staff that the CCTV can record them while they work in case of any issues that may happen.

Managing and supporting the company's customers

Website:

The website will be user friendly so the customers can navigate it easily, they should be able to make online purchases and talk to a member of staff if they have any issues, the business can dedicate a page to frequently asked questions so they wouldn't need to repeat themselves.

Service:

When the customers enter the shop they have access to EPOS terminals to buy stock that is available in the stockroom, these terminals should be easy to use and navigate and accessible at all times. The staff should be friendly when talking to the customer in the shop and on the website, they should also serve the customer and help the customer with any issues they have.

CCTV:

The customers can be notified as they enter the business that they are being watched by CCTV cameras this will help prevent any issues from happening in the shop, it can also keep them safe as if any issues happen where someone is injured then CCTV can be used as evidence. The customers can be notified by using a sign or poster that is in clear sight.

Social media:

The business can use social media platforms to promote their products and services, it can gain a wide audience and the business can link their website on their social media pages. These pages can be used to communicate with customers and gain a better understanding on what the customers think of the products they purchase from the business.

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member who will manage the website could also use a VPN when logging into their account on the website just to ensure his connection is not intercepted by a hacker.

EAS barriers:

These are future security improvements that would help prevent anyone stealing the stock, this is because if the customer leaves without purchasing the stock and they go through the barrier the barrier will sound an alarm to alert the staff and anyone in the area that the product is being stolen this would help the CCTV as the cameras cannot alert the staff.

Tablet cables:

The tablets in the shop will have a cable plugged into them that will charge them but also will be an alarm system, so if the cable is removed an alarm will sound, the tablet will only stay in that pacific area due to the cable.

Authorisation levels of access:

The staff will all have key cards that will let them access different areas of the business, the owners will be able to access all areas while the shop assistants can only access the shop floor, while the stockroom assistants will have access to the stockroom and the shop, they will need to use the key card on the key card scanner when entering a new room in the business, this will help prevent unauthorised users gaining access to the business.

Ability to respond to changes in the aims of the company, and the products and services it provides
Expansion: If the business wants to expand, so add another room or another building then the new place will need to be added to the network and have all the software and hardware installed which could result in a downtime, so it would probably happen on the weekend. If they wanted to move equipment then it could cause issues as the locks will need to be unlocked which may take a lot of time and if any of the keys are lost then the equipment may not be able to be moved. Remote access: If the owners wanted to go back to working from home they could use remote access, they could use a VPN to connect to their system securely and they would still be able to use google sheets as the stock is online so it can be accessed from home, they wouldn't lose any data either because the backup is on the cloud so it can also be accessed from home. Delivery: The business could expand further by delivering the products that customers order online, this can be done via the website another page can be set up where the customer can fill in their details for a delivery, if it costs the business money they could charge the customer for delivery and give them an estimated date for when the product will arrive. If not all products can be delivered then a separate page can be made for what products need to be picked up from the shop and what can be delivered.

Summary

Based on performance on this paper learners should:

- Ensure they cover all aspects of the scenario; including all software requirements as well as the hardware, to enable them achieve marks in the higher mark band ranges.
- Apply knowledge and understanding to a variety of sectors. The paper will always contain the same five activities with just a different sector.
- Learners should be encouraged to practice writing evaluative reports for other areas of study, and make sure they evaluate the whole proposed system rather than future developments.
- Learners should develop a better understanding of 'implications' of installing or upgrading a system, such as downtime, training, cost, etc. to ensure they do not produce an evaluation instead.

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