Student ID: 730091091
ECM1418DA Exam

1.

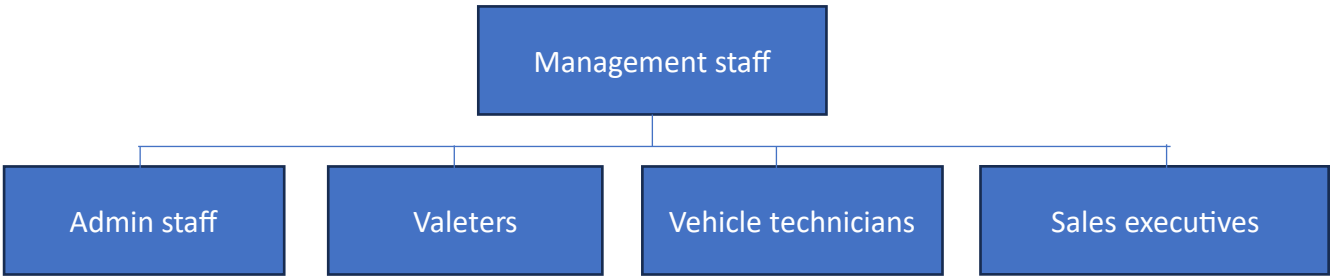
a.

i. As an admin sale executive I want to have a graphical interface to add sales information to the database so that I can input the data easily for tracking
As an admin staff member I want to be able to view the readiness of cars to be collected so that I can make sure they are ready for collection day
As a valeter I want a list of cars to be valeted with a deadline for each so that I can organise and prioritise my work
As a vehicle technician I want a list of card to be services with a deadline for each so that I can organise and prioritise my work
As a management staff member I want a dashboard that lets me view cumulative sales data so that I can monitor and set new sales targets

ii. A use case diagram could be used. This type of diagram summarises which system features are available to each type of user. It consists of stick figures which represent users and ovals which represent use cases, which are a major system feature. This diagram would show the uses of the database, such as sales executives inputting data and management staff doing data analysis. Each of these use cases can be seen as a requirement for the system. Another method that could be used is creating a requirements document. This is a document that sets out to define functional and non-functional requirements. A functional requirement may be validating data that is entered into the database, and a non-functional requirement may be a legal GDPR requirement.

iii. Cars: Make, model, price
Customer: Name, Address, Date of Birth
Payment: Deposit, balance, date processed
Card: Type (debit/credit), card number, cvv

iv.



v. Since the business is relatively small, it does not need a complex hierarchy with many levels, so a flat hierarchy is suitable in this scenario since it has fewer levels. This also gives the business the advantage of allowing for more delegation as well as more autonomy for staff on the lower end of the hierarchy. Another benefit is that this type of organisation allows for rapid change, which can be implemented on a daily basis or even multiple times within a day.

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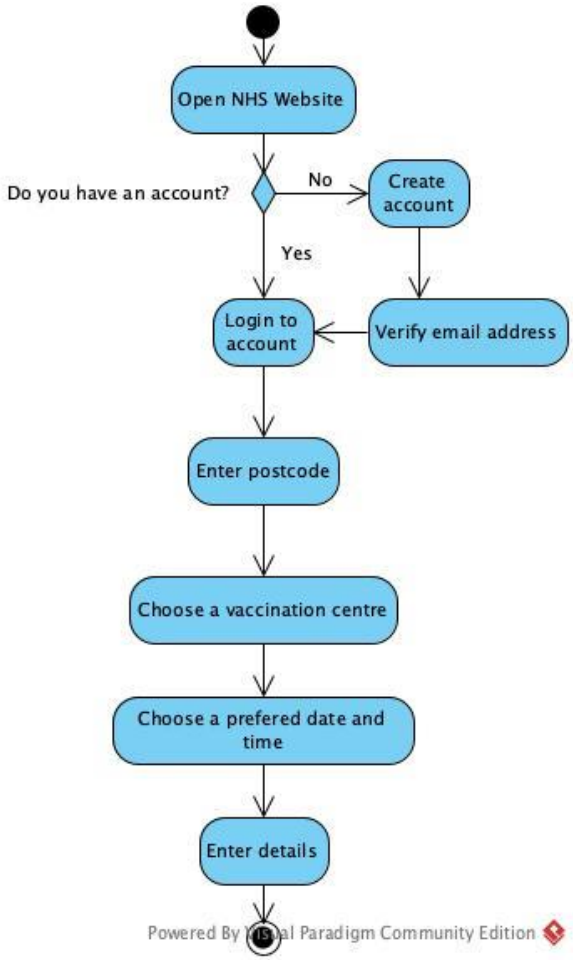
2.

a.



b. The first methodology is agile. One pro is that there is flexibility to respond to the market and new intelligence. For example, if there is a change to data protection laws or if a new database technology is released, ExCert can adapt to that change. Another pro is that there can be frequent updates, leading to increased customer value. As the project goes on, the client can look at the current product and suggest improvements or changes to be made. Another benefit is that teams are self-organising and resources can be appropriately allocated. This is especially important for a project as large as this. On the other hand, one con of agile is that loose planning may lead to an unpredictable finished product and date slippage, which may be fine for an internal project but is unacceptable for a client project. Additionally, loose testing requirements may let bugs through, which would need to be fixed, leading to a longer development time and higher client cost, both monetary and reputational.

The other methodology is waterfall. This has the benefit that there is minimal scope creep, a phenomenon in which a team's initial plan slowly grows to include more goals, tasks, and requirements. This is especially important for a large client project where deadlines needs to be met. A pro on the client's side is that they will receive a predictable and well-specified final product, which is exactly to it's requirements. Finally, using this methodology will mean there will only be infrequent releases to roll out. This is important since database releases can take a lot of time due to the sheer amount of data that

there is to deal with. On the cons side, there is a lack of flexibility after the specification, which is more of a problem for projects that are due to take a longer period of time or where the client is not sure of all of its requirements right from the start. It also takes too long for bugs to be discovered since testing does not commence until the large project is complete.

3.

a. ITIL is a library of books outlining "good practice" for managing IT infrastructure. It covers 4 key areas: people, processes, products, and partners; and how to utilise these areas in the best way possible for maximum efficiency. Some of the services highlighted are IT-related assets, accessibility, and resources that deliver value and benefits to customers. ITIL was created to bridge the gap between the IT department and the business itself. There are numerous reasons why a business may decide to adopt ITIL. ITIL is now on its 4th iteration since 1989 when ITIL v1 was released, meaning it is well established and has had time to change and adapt its principles which were not working or where improvements were found. ITIL is created by CCTA, who are a UK government agency, and ITIL is used internationally, so the framework is sophisticated enough to be picked up by a local council. Finally, ITIL will allow the local authority to reduce IT operations cost, improve productivity and employee satisfaction, and manage risk effectively.
b. Inputs include a ticket that is inserted into the machine or the press of a button. Outputs include a display that shows the amount to be paid and the opening of the barrier at the exit.
c. Operate a website on the cloud that allows customers to browse meals and place orders. Website should be fully scalable to allow for periods of increased traffic. Create a cloud-based data warehouse that stores all the information on available meals, orders placed, customers, stock levels, etc. The website should be a seamless back-end that allows it to communicate with the database(s). The database should also be seamless with a data analysis product to allow management and marketing teams to make informed decisions on how the business strategy should be shaped to attract and retain the desired demographic of customers.
d. IT impacts all aspects of the business, and this has caused shifts in the wider workplace culture. IT has numerous benefits to businesses, but competition is fierce, and so organisations are looking to keep up or get an edge on rivals. This causes a somewhat toxic culture of always being 1 step ahead of the rest, and this permeates down right to lower level staff. Employees need to be constantly adapting to change and tech teams need to be keeping up to date and will always be working on getting the newest innovation implemented as quickly as possible. Technology has led to minor culture shifts too. These include automation of routine work and, as mentioned, fast evolutionary pace. Technology has an indirect effect on the type of work that is done now compared to what was doing a number of years ago. Teams now use more teamwork and require less supervision, and outsourcing is becoming more popular, leading to potential layoffs and a smaller in-house workforce. Even on an operational scale, IT has caused changes. One particular trend that has

become mainstream was the rise of remote working. The uptake of Microsoft Teams and ZOOM has led to an increase in hybrid and remote workers, causing many companies such as Barclays and HSBC to leave their current office buildings to downsize. Most meetings in the workplace are now done online and can be attended from anywhere with an internet connection. This has it's pros and cons, but the conclusion to this is that IT has led to numerous shifts to the way work is done.