1. There may be many legal issues that the company will need to consider when creating this system. Firstly, the GDPR, this came into force on may 25th 2018 and it applies to this system as the company is processing and holding personal data of subjects residing within the EU(European union).The way you would comply with this law is to allow consent to be clear and distinguishable from other text. Also, the consent must be easy to withdraw as easy as it is to give. If this law isn’t complied with then the penalties could consist of 4% of the company annual turnover or 20 million euros depending whichever is greater. As this is a large-scale data processor and controller it will require a Data protection officer (DPO). This may be a current employee working in the company or another person however they must be appointed based on their professional qualities and knowledge. The DPO must report to the highest level of management and must not carry tasks that may result in a conflict of interest.

Secondly, the computer misuse act (1990), This act was created to deny hackers from malicious intent to any program or data held within a computer. This protects data from being hacked from outsiders as it is illegal, and the offender could face a conviction of a maximum sentence of 12 months.

The impact that covid-19 may have on this companies’ operations is that they must shut down their gift shops as its non-essential. This will affect the companies profit and will increase their losses. A way that they can overcome this pandemic is to expand to ecommerce as the online industry is growing at a rapid rate with more people at home and shopping online. The organisation can think of expanding and creating a website to sell their products alternatively to their gift shops. This may increase their work rate however they could hire people to handle the e-commerce section of their business depending on how much consumers they receive. If this is the path they choose to take the company will need to consider the PCI DSS (data security standard) This is the new payment security set in place which was introduced in 2004. This consists of 12 regulations which need to be followed. The company would need to build and maintain a secure network to protect cardholder data. The next step would be to maintain a vulnerability management program through using anti-virus software on all systems. Implementing a strong access control measure would be to restrict access cardholder data by business need-to-know. Assigning a unique id will be very good also as you are able to view who is accessing the system. You would then need to restrict the access to cardholder data as this causes security risks and doesn’t follow the computer misuse act and the data misuse act. After all these steps they would need to regularly monitor and test the networks and maintain an information security policy.

There are many provisions that need to be considered. Firstly, you need to decide whether you want staff/developers to access the XML data. Also, you would need to calculate how much data will be processed, this can be done by finding out your total processing threads. Also, the company will need to train people to use data and access the databases if you wish.

In conclusion, I believe that this company should follow all the laws listed and I’ve explained how covid-19 may affect this organisation if this pandemic continues the way it is.

B)

The benefits of XML are that it is the most easily readable format for humans to interpret. This is good because if you are reviewing XML data it can be read by most people and won’t need to have a lot of training. Secondly another advantage is that XML has been around for many years and many modern developers are already familiar with the language. Another advantage of XML is that it is possible to use XSLT to extract data from an XML document using XPath expressions. This may also become a disadvantage as you could run into browser specific issues and it may be slower and more memory intensive. Another disadvantage is that the JavaScript required to insert the XML data into a HTML webpage is very verbose.

The benefits of using JSON is that it is smaller in size and it can represent all Unicode characters however xml cannot in UTF8. Another benefit of using json is that it is that all the Json libraries are free and accessible to use and they do not require any other libraries for processing. Thirdly, json includes a fully automated way of deserializing/serializing JavaScript. A disadvantage of using json is that they have no namespace support this is the reason json has poor extensibility. Secondly, another disadvantage of using json is that you need to be aware of the threats which json have in that also be aware of the things that can protect it. Another drawback is that it can be quite dangerous if your using it with untrusted services or browsers, because the json service returns a json response in a function call, if this is used with an untrusted browser this opens the web application to threats and vulnerabilities to different attacks.