25 (a)(i) The advantages of 'grandfather, father, son' backup is that there are several copies of the master file in case of disaster. There are several copies that can be used to recover lost data. Also, the backups would be placed at different locations, so the loss of a 'son' backup may not effect the 'father and grandfather' backups

(ii) These procedures should be tested periodically so in case of a real disaster, the efficiencies of the alternative procedures would be maintained and the organisation can continue with their normal business operations. Also, these procedures should be tested frequently so all staff would know the roles they are required to take in case of the computer is not available and can continue with normal business operations

(b)(i) The website should be directly linked to the database that controls the inventory (the types of pies available) so that customers can find out whether the pie is available before ordering it. The website should provide an online form so that customers can
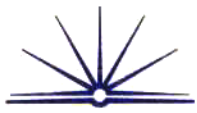
enter details, verify data transactions themselves, these orders can then be sent to the sales system which would ultimately process them in realtime and give direct confirmation of the transaction.

The website should provide ways to purchase and make orders online using credit cards so orders with credit cards do not have to be processed manually by staff. The credit card details are lodged and to Country Bakers where those credit card transactions can be sent electronically to the bank without errors.

(ii) Issues concerning these modifications include:

Data security - encryption is needed to successfully transfer customer details to the company safely. Customers need a peace of mind whilst transferring data.

A Network - a network system (extranet) needs to be developed to satisfy the customers needs and queries. This should be catered towards the customer so there is 'ease of use whilst ordering.

Online forms - the form must be user-friendly towards the customer. This means non-technical, guided processes where the requirements of the form are clearly stated and the customer

can order efficiently and easily.

Automation of jobs - staff may be concerned about the use of a website to do jobs that were previously completed by them. Staff needs to know that this system will benefit their work and would be trained to be multi-skilled in areas concerning the Internet.

~~Fast Retrieval - Transactions~~

Reliability - a backup plan which is efficient is needed if the website does break down at some stage. An alternative solution is needed to replace operations done by the website as it is does provide the majority of business to country users. A reliable backup system is needed to recover from unexpected errors.

(b)

(c) With the introduction of this new system data accuracy, security and integrity may be severely affected.

In data accuracy, data needs to be correct to be transferred from one bank account to another. This means there should be atomicity where all steps in the transfer of data needs to be completed or the transaction is abandoned.

This means that data are made permanent changes to the database

In data security, customers should be at peace when transferring data - encryption is a method in which data can be transferred safely. Data should not be entered by unauthorised personnel of both banks. It st The transaction should be concurrent where only one user can change a record at one time (the use of record locking) before another user can change it. The money transfer should be secure, and both banks need to maintain high security with transfer procedures.

Data integrity is the current, relevent and accurate nature of data. Money transfers between bank accounts should be real time and the changes to records should be up-to-date. Errors should be verified by customers with data validation techniques eg Range, Type, List Check or Check Digit. The data should be accurate for the customer and their immediate changes to boths records at both banks are needed. Customers want to be assured that their transactions are successful and complete before proceeding. Banks need to ensure that their services are secure, and safe for the customer.