



**INFORMATION TECHNOLOGY IN A GLOBAL SOCIETY
CASE STUDY: LA VIANDA SUPERMARKET**

For use in May and November 2008.

INSTRUCTIONS TO CANDIDATES

- Case study booklet required for higher level paper 3 information technology in a global society examinations.

Foreword

The ITGS Case Study, *La Vianda* Supermarket, provides a basis for further investigation and is the stimulus material for the questions on the May and November 2008 Higher Level Paper 3.

5 Students are expected to research, analyse, evaluate, synthesize and reflect on ideas from their investigation. Work done on the Case Study should reflect the integrated approach explained on page 8 of the ITGS guide. At the end of this Case Study, there is a list of terms, relating to the Case Study, that should be understood by candidates.

Through their investigation of supermarkets, students should research:

- technical details of the relevant IT systems
- local, regional and global areas of impact
- 10 • social and ethical impacts of retail IT systems on individuals and societies
- current challenges and solutions
- future developments.

15 Students are expected to research local and global real-life situations where retail IT systems are used. The perspectives of the various stakeholders need to be considered. Further information to support their analysis of the case study can be collected through primary and secondary research, field trips, guest speakers, personal interviews and e-mail correspondence.

Responses to examination questions should reflect the synthesis of knowledge and experiences that students have gained from their investigations. In some instances, additional information may be provided in examination questions to allow students to generate new ideas.

Overview

20 *La Vianda* is a supermarket in Lima, Peru. It began as a small family owned corner store attracting local customers. Recently it has developed into a medium sized supermarket with twenty checkout lanes relocating to an accessible location close to a major road. At this time *La Vianda* had intended to purchase an adjacent plot of land to facilitate further expansion when they had sufficient funds, but when the land was unexpectedly auctioned another developer
25 outbid them.

Customers may now purchase fresh produce, frozen items, packaged food and a range of other household items, but *La Vianda* is constantly looking to increase its range of product lines. *La Vianda* employs local staff and prides itself on its customer service. One recent innovation was a loyalty programme where customers gain points that can be exchanged for goods.

30 Some of the changes that have taken place in the development from the corner store to supermarket have been the use of the Universal Product Code (barcode), which enables faster checkout, more accurate billing, efficient price updating and detailed information about purchases, a range of different payment options for customers and the use of EDI for the ordering of stock.

35 However, there are issues related to the development that need to be addressed. Managers are aware that there may be considerable costs involved with purchase of the new hardware and software that they believe will provide part of the solution. Many of the current staff have low levels of IT literacy and there will be additional costs in training them to use the new technologies. This may be partly reduced by taking into account the range of IT skills potential staff have when future recruitment takes place. The current location is causing concern as the
40 warehouse cannot cope with the volume of goods being delivered at peak times and customers are frequently finding parking difficult. Consequently any plans to develop the store further have been postponed until these issues have been resolved.

IT systems: The way technology is currently used at the supermarket

The supermarket has a LAN consisting of separate servers for stock control, personnel administration and shared applications, several workstations and the Point of Sale terminals.
45 The LAN is used in the following areas:

Human resources

- To store employee and payroll details.
- Employees use a simple clocking-in system where they key in their employee number. This is linked to the IT network to calculate their hours worked.

Stock control

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- The information system includes levels of stock. This information is collected manually from the warehouse on a weekly basis and keyed in allowing the production of stock inventories.
 - When the stock inventory is checked, orders are placed where necessary, with suppliers using EDI.

Sales

- Barcodes – these are printed on all products. The barcode on each item is scanned and the code is matched to a central database in order to retrieve the product name and price. The prices are changed centrally. This ensures accurate pricing and allows easy adjustment of prices at sale times.
- EPOS / POS – the bill is automatically totalled at the checkout.
- At the checkout, sales are recorded.

Customers

- A customer loyalty programme provides reward points. Customers complete a form with personal details and receive a card. This card is scanned after each visit and points are added to the customer’s account. These points can be used for future purchases at *La Vianda*.

Marketing

- Flyers are produced using DTP software for marketing purposes. All customers who have a loyalty card automatically receive information from the store three times a year.

Challenges faced

La Vianda would like to improve its stock management. It is considering introducing RFID tags, although concerns have been raised about their suitability. Stock levels are checked manually on a weekly basis. Sometimes sudden surges in demand have not been anticipated. There have been other occasions when stock has remained on the shelves taking up valuable space. Problems also arise in the supermarket when shelves are low on stock and need refilling. *La Vianda’s* management team is considering investigating the possibility of introducing smart shelves.

La Vianda’s Human Resources Department would like to have an accurate method of recording workers’ hours, as they believe that some workers are currently abusing the clocking-in system.

La Vianda’s management team is conscious that the proposed growth cannot take place with the current IT systems in place. The warehouse is not functioning effectively, staff are spending hours manually checking information that could be done electronically. There is still an excessive use of paper documents.

La Vianda’s management team believes that with no room to expand on the current site and with ever increasing numbers of customers, the lengthening waiting times at the checkouts are an obstacle to further increases in sales. They believe that customer satisfaction and consequently profit levels would benefit from resolving this problem. At peak times, the checkout process can be extremely slow and customers have enquired about the possibility of an express service using self-scanning handheld devices.

There are many potential customers who are housebound or have restricted mobility finding it difficult to travel to or move around the store. *La Vianda’s* Manager believes there is now sufficient demand to provide alternative methods of shopping.

85 Parents would also like to have the facility, linked to the loyalty card scheme, to allow their children to purchase goods without the need for them to carry cash. This scheme means that those customer details are now stored on *La Vianda's* server and many of them are concerned about who has access to this information.

90 The Sales and Marketing Manager would like to find out more about trends in customer purchasing behaviour. This would allow the effectiveness of their advertising to be increased. Currently they advertise with flyers but feel this could be improved with the further use of technology. The store would also like to expand its customer base and attract customers from outside the local region. Many local customers have relatives overseas who would like to be able to choose gifts from the store and have them delivered by *La Vianda* saving the need for
95 them to be shipped in from abroad. *La Vianda* is proud of its company history and would like to make this information as well as new promotions readily available.

One member of staff has heard that consumers spend more when supermarkets introduce smart technology. Currently *La Vianda* has no way of proving or disproving this assertion.

100 *La Vianda's* IT Manager is concerned that data is not lost or altered either by accident or by criminal acts.

Expansion

Due to the success of *La Vianda*, the management is considering opening a second store in another city. They would like to create a brand that will be eventually known in Latin America for providing the prices and range of goods of a multinational, yet having the feel of a local store. However they have no desire to leave the current site. To move forward, the owners intend to
105 make maximum use of the advances in IT. It is also considering investigating future sources of revenue that would use IT, suggestions have included the introduction of a *La Vianda* credit card.

Additional terminology linked to the case study

- Biometrics
 - Data mining
 - 110 • Dynamic pricing
 - EDI – electronic data interchange
 - Electronic article surveillance
 - POS / EPOS
 - RFID tags
 - 115 • Smart cards
 - Smart shelves
 - UPC / Bar codes
 - Wireless communications
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