**FACULTY OF MANAGEMENT**
**JANUARY 2015 EXAMINATION**

**DEPARTMENT OF APPLIED INFORMATION SYSTEMS**

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| **MODULE** | : | MANAGEMENT INFORMATION SYSTEMS 11 (MOD B) |
| **CODE** | : | BIS41-2 |
| **DATE** | : | 15 January 2015 |
| **DURATION** | : | 3 HOURS |
| **TOTAL MARKS** | : | 100 |

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| **EXAMINER** | : | Dr R Brink |
| **External MODERATOR** | : | Mr. BP Haskins |
| **NUMBER OF PAGES** | : | 7 |

**INSTRUCTIONS TO CANDIDATES:**

- Read the questions carefully
- Answer all questions
- Number your answers clearly
- Write neatly and legibly
- Structure your answers by using appropriate headings and sub-headings
- The general University of Johannesburg policies, procedures and rules pertaining to written assessments apply to this exam.

**Please answer all questions.**

**QUESTION 1: Kimball's Restaurant: Business Systems and Information**

The restaurant has been operating successfully for three years. Although they experienced challenges. Liz and Michael believe that they developed a great dining establishment. Sales forecasts have steadily increased over the last three years. Thankfully, the growth was not so fast as to cause any "growing pains" or problems with their business. Michael found that during most weeks, they had reservations for 50 to 100 percent of their dining capacity.

**Processing Orders and Payments**

Michael believed his analysis was fairly accurate, but it look a lot of effort to compile his information. The servers wrote the customer orders on multipart paper checks. One copy of these checks went to the kitchen for preparation. The server tabulated totals on the original copy and gave it to the customer when the meal was complete. At the point, the customer paid the cashier directly with cash or a credit card and the hardcopy of the check was saved. Several times a week, Michael used the paper checks to enter the sales and table information in an Excel spreadsheet for analysis. Because he was so busy with other operational priorities, the spreadsheet data entry and subsequent analysis was often delayed.

The restaurant processed its payroll through a local services. Employees maintained their timecards manually. Each week, the timecard data was validated by Michael and sent to the payroll service for processing and check printing. Michael was not comfortable with the manual entry of employee time punches, but he did not have a simple, cost effective alternative.

Michael used a small business accounting package to track the restaurant's expenses, process payable checks so suppliers, and record deposits. The software was easy to use and provided the balance sheet and income statement needed for the business. It also generated the required tax information for his accountant to file the appropriate tax forms. However, it did not track a level of information needed for analysing the business operations and forecasting sales. From his experience in human resources. Michael understood the need for quality data and business information. At his former employer, the information technology department provided that expertise and assistance. Unfortunately, these skills were not available at the restaurant.

Michael knew that his time was limited and that he needed to focus more on the operations rather than data entry, but he also wanted to collect and analyse data about his business to manage it and plan effectively.

Their son, Tyler, finished his education to complete a business degree, specializing in marketing and management. He had worked in the restaurant during the summers and semester breaks as a busboy and server so he had some familiarity with the business. He has also anxious to gain more experience to try out some of the skills he had learned in Business School. Liz and Michael decided it was a good time for Tyler to join the business.

## Defining the Problems

Michael told Tyler that he would like to streamline the front and back house operations and gather more information for analysis without relying on manual data entry. Tyler understood the challenges because some of the problems in these areas were directly related to issues that Tyler encountered while he was a server at the restaurant. The issues could be categorized into two areas: completeness and accuracy of guest check information and check payment.

Because the guests' orders were handwritten, sometimes parts of the orders were not legible. In addition, especially with new servers, some of the information needed to complete a meal was either inaccurate or incomplete for that meal choice (cooking preferences, toppings, special preparation). This issue added time for the server and cooking staff as well as reduced customer satisfaction. Check payment was another problem. Often, it was not clear to the customers whether they should pay the serer or the cashier. Michael wanted to control the cash and credit-card processing at a central location, but was willing to review this policy.

Tyler talked to the servers and kitchen personnel to gain perspective on the guest check and payment problems. The staff was pleased to be asked for input. They confirmed that guest check accuracy and payment were issues, but additional issues were uncovered. As in many restaurants, at Kimball's the servers were responsible for any checks not paid by the customer. However, it was impossible for the server to know if the customer paid the cashier or left without paying. The servers would prefer that customers settle their payment directly with the server so that they could know if a customer has paid. Servers also conveyed that even when they wrote out the order legibly and completely, meals sometimes were not prepared properly. The kitchen staff said that changes to guest orders are often "rushed" and disrupted the completion of other meals in progress. On many occasions, servers submitted changes after the order was ready to deliver to the table. Kitchen staff

said a new process was needed to communicate order changes before the table's meals were cooked. Unfortunately, it was impossible to tell from the current checks which orders required changes. Therefore, no data was available to objectively assess the magnitude of the problem.

## Collecting Data to Address Problems and Make Decisions

Tyler then focused his attention on the data analysis. He asked his parents to define two lists of questions: (1) What do you know from the information you currently maintain? And (2) What answers would you like to know that would help you operate the business more efficiently and profitably? They responded that they knew how many tables were seated by day as well as the total check amounts. The checks separated the liquor and food totals for tax purposes, but the daily totals for these categories did not provide any details about the individual customers' orders. Michael would also like to know more details, such as … What meals did they order? Did they order appetizers? How many patrons were at the table (adults and children)? Did the customer take advantage of any of the specials? Liz wanted to know, how much food do I need to order based on past sales?

Tyler said that these questions were a great start. He categorized their questions into two areas: marketing/promotion and operational. He knew that additional marketing information was needed to determine menu planning, promotions, and customer satisfaction. He wondered how many people were returning or new customers. How did they learn about the restaurant? For operational issues, was there any monitoring of the operations as issues occurred?

Michael is spending significant time entering the restaurant's sales data. He does not have the time to manage the business during its operating hours as well as maintaining the financial records. He is responsible for rent payments, sales tax reports, and paying suppliers for operating expenses and paying suppliers for operating expenses and materials. He needs a better system to maintain the guest check and meal information for forecasting.

1.1     What would you suggest to Tyler to improve the restaurant's operational efficiency? Examine the business's inputs, processing, and outputs. Formulate recommendations to streamline the business transactions. What type of reports do Liz and Michael need? How would you alter the back-office work to better suit their needs?                                              (10)

**[10]**

**QUESTION 2: Finish Line Finishes First**

Finish Line is a clothes and shoe retailer with over 640 locations in malls across the United States. In late 2012, Finish Line was about to unleash it's new in store POS technology to engage more shoppers. Although Finish Line was initially criticized for the timing of the roll-out, director of store applications and delivery, Rob Baugh, knew from the start it was going to be a home-run. From previous research conducted by the National Retail Federation, Finish Line knew an astounding 95 percent of purchases were still occurring in physical stores. Thus, an opportunity awaited retailers that could engage more customers to make more in-store purchases. Baugh knew the goal of the POS system was to provide service to the customer, when the customer needed it.

Before Finish Line could make any technological improvements, it required network upgrades and additional wireless access points. Mobile receipt printers were placed throughout stores to aid sales associates performing mobile POS transactions. To leverage the opportunity at hand, Finish Line implemented a mobile POS system to aid and engage shoppers through their entire in store shopping experience. To enable mobile payments, it upgraded its POS system to a platform from MICROS systems and implemented a customer engagement solution from VeriFone. Their new electronic payment options included magnetic stripe and PIN-based debit/credit cards, chip-enabled smart cards, and mobile payments. The multimedia processors were high-speed, color, and supported full-motion video for additional shopper appeal. iPod touch devices used Micros' MyStore application and VerFone's PAYware Mobile Enterprise software, which supported all device transaction functionality.

High confidence in the success of the new system led to a 36-store, 3-month pilot program from May to August. Each store feature five mobile devices that could process a variety of business activities. Customers appreciated using the mobile POS units to interact with sales associates. The overall results of the pilot were very positive and one month later, the positive results led to a companywide roll-out, right before the crucial holiday season. Finish Line issued five devices per store and added barcode scanners to allow users to conduct price checking and inventory management processes. Transactions completed on the mobile units are sent through the retailer's centralised system to consolidate its sales and inventory data.

Finish Line's new POS system and mobile payments acceptance has changed its in-store shopping experience. Finish Line did its research and pursued an opportunity to change in-store consumers' shopping experience and put the customer first.

**Source**: Amato-McCoy, D.M. (2012). Perfect Timing. Chain Store Age, 88(7), 28-28.

2.1    How does Finish Line put the customer first?                                                    (8)

2.2    Why is it important to monitor the results of newly implemented technology, even when it is previously deemed successful?                                                    (2)

**[10]**

## QUESTION 3

3.1 What difficulties do organizations face for implementing an enterprise resource planning (ERP) system? (10)

[**10**]

## QUESTION 4

4.1 Which are the main types of communications media? (4)

4.2 Explain the factors that should be considered when choosing a networking medium? (6)

**[10]**

## QUESTION 5

5.1 Distinguish between traditional file organization and the database approach to managing digital data, substantiate your answer with examples. (10)

**[10]**

## QUESTION 6

6.1 Explain the importance of blogs to commercial organizations. (7)

6.2 Explain the purpose of a virtual private server. (3)

**[10]**

## QUESTION 7

7.1 Discuss the differences in regulations and tariffs companies must face when establishing international information systems. (10)

**[10]**

## QUESTION 8

8.1 Discuss the steps included in IT planning. (10)

**[10]**

## QUESTION 9

9.1   Often, an organization has a need that no existing software can satisfy. For example, if the cost-accounting procedures of a particular company are so specific that no commercially available software can perform them, the company must develop custom-designed, or tailored, software. **Discuss the advantages and disadvantages of custom-designed applications** (10)

**[10]**

## QUESTION 10

10.1   To prepare for mishaps, whether natural or malicious, many organizations have well-planned programs in place, called **business recovery plans**. **As a Chief Information Officer discuss the steps to develop a business recovery plan for your organization support.** (10)

**[10]**

**TOTAL: 100**