UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (EXTERNAL)

Academic Year 2011/2012 – 3rd Year Examination – Semester 6

IT6304: e-Business Application
Structured Question Paper

4th August, 2012
(TWO HOUR)

To be completed by the candidate

BIT Examination Index No: _____

<u>Important Instructions:</u>

- The duration of the paper is **2 (two) hours**.
- The medium of instruction and questions is English.
- This paper has **4 questions** and **24 pages**.
- **Answer all questions.** All questions carry equal marks.
- **Write your answers** in English using the space provided **in this question paper**.
- Do not tear off any part of this answer book.
- Under no circumstances may this book, used or unused, be removed from the examination hall by a candidate.
- Note that questions appear on both sides of the paper.
  If a page is not printed, please inform the supervisor immediately.

Questions Answered

Indicate by a cross (×), (e.g ☒) the numbers of the questions answered.

To be completed by the candidate by marking a cross (×).	Question numbers				
	1	**2**	**3**	**4**	
To be completed by the examiners:					

Case Study

A supermarket chain in the business for the last 30 years 'FoodChain' is in the process of expanding it in to many other areas including their main business, the supermarket. FoodChain is owned by a group of businessmen who formed it 30 years ago. They are financially very stable and have a strong brand name. Their prices have been very competitive and are aimed at the middle-income group of society. They have a set of semi-loyal customers, however, the customers are aware of prices offered by other supermarkets and are sensitive to changes in quality and price.

FoodChain has 50 supermarkets island-wide and they are thinking of expanding in to 80 supermarkets altogether within the next 2 years. The cost-cutting venture that they started last year has no positive results. In fact, it has created dissatisfaction and demotivation among the operational level staff due to all the careful monitoring of all their activities by the senior staff. There is a danger of these skilled and experienced workers leaving the company as many supermarkets are opening up and the industry is quite lucrative. FoodChain has a great reputation for their efficient staff and services offered at their supermarkets and they would not want their well-experienced and in-house trained staff to leave in the middle of a company expansion.

Due to the very heavy competition among the supermarkets and shops, the top management wants to create a positive difference in the area of customer experience at FoodChain. They want to adopt new store formats, online shopping and collaborations with other businesses to enhance the service they provide. At the moment, FoodChain has a website which gives prices of all the products they offer at their supermarkets. No online ordering is possible. At present, FoodChain has a network that links all their branches through the Internet to handle their internal financial matters. They want to upgrade it to link all their supermarkets island-wide to allow online shopping and delivery of goods.

Foodchain has an idea to collaborate with Sri Lankan shops in other countries to be their supplier of goods. This will allow a global approach and will ensure a steady supply of goods to other countries. Also, FoodChain wants to link up with vegetable wholesalers in Dambulla as well as farmers scattered in all parts of the country to have a direct supply of vegetables and fruits Sri Lanka produces to help in the economic development of the country. They want to collaboratively work with possible corporate customers as well. Furthermore FoodChain wants to have a system where they can monitor the trends of the offline and online shoppers to provide them a better service according to their buying trends.

The management of FoodChain feels that they need to carry out a more aggressive marketing campaign to win over new customers. They are looking at a more nationalistic approach to make people buy Sri Lankan made products to make a national contribution as well.

1. a) In order to understand the present business situation of 'FoodChain', carry out an analysis identifying the Strengths and Weaknesses as well as Opportunities and Threats of the Supermarket chain.

(40 Marks)

ANSWER IN THIS BOX

Strengths	Weaknesses
- History of 30 years - Financially very stable group of owners - Strong brand name - Competitive prices - 50 supermarkets island-wide - Great reputation for their efficient staff and services offered at their supermarkets - well-experienced and in-house trained staff - Network to handle island-wide internal financial matters - *Semi-loyal customers*	- Cost-cutting venture - Dissatisfaction and demotivation among the operational staff - Skilled and experienced workers leaving the company - No online ordering facility - *Semi-loyal customers*

Opportunities	Threats
- Expanding into many other areas - Expanding into 80 supermarkets - Industry is quite lucrative - Create a positive difference in the area of customer experience - Adopt new store formats - Online shopping - Collaborations with the other businesses to enhance the service they provide - Link all of their supermarkets island-wide to allow online shopping and delivery of goods - Collaborate with Sri Lankan shops in other countries to be their supplier of goods - Linkup with vegetable wholesalers in Dambulla as well as farmers scattered in all parts of the country to have a direct supply of vegetables and fruits - CSR – help in the economic development in the country - Collaboratively work with possible corporate customers - Have a system where they can monitor the trends of the offline and online shoppers, identifying buying trends - Marketing campaigns - Look at a more nationalistic approach	- Customer awareness of prices offered by other supermarkets - Customers are sensitive to changes in quality and price - Many supermarkets are opening up - Skilled and experienced staff joining to other supermarkets - Very heavy competition among the supermarkets and shops

b) Carry out Michael Porter's Five Forces analysis on 'FoodChain' and the industry it is in and propose two e-business strategies to deal with the situation to minimise the forces.

(30 Marks)

ANSWER IN THIS BOX

Porter's Five Forces

1. Bargaining Power of Customers

   High
   - o Semi-loyal customers
   - o Customers are sensitive to changes in price and quantity

   To minimize – Strategies to create a loyal customer base
      Product development strategies
      Develop product quality

2. Bargaining Power of Suppliers (not given in the case, students should elaborate)

   Low
   - o Many suppliers to supply the goods

3. Threat of Substitutes (not given in the case, students should elaborate)

   Moderated to High
   - o The goods that is offered by the supermarkets can be bought at any retail shop

   To minimize – Offering a wider range of goods and services
                  Facilitate online shopping and delivery of goods

4. Threat of New Entrants

   Moderate

   - o New supermarkets are opening up – says in the case
   - o Entering cost is high hence its a barrier

5. Rivalry Among Competitors

   Very High
   - o Many Supermarkets are opening
   - o Industry is lucrative

   To minimize – Develop a well-trained and experienced stuff
   Product bundling, differentiation or any other customer attraction & value adding strategies
   Implement Customer Relationship Management Strategies
   Online shopping and collaborations with other businesses to enhance the service

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c) The management decided that since they are going online, a Supply Chain e-Business Model will be suitable for their company. Do you agree? Justify your answer. Propose another suitable e-Business Model for this company and give an illustration and a proper justification for your answer.
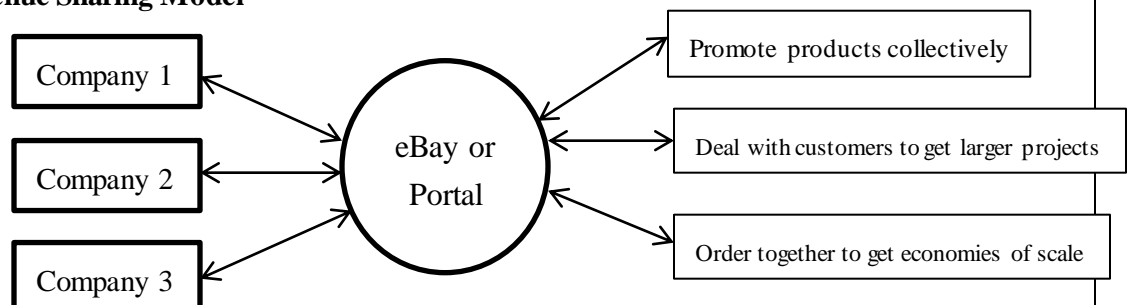
(30 Marks)

ANSWER IN THIS BOX

Supplier 1

Supplier 2 → Manufacturer — Dealers — Retailers — Customers

Supplier 3
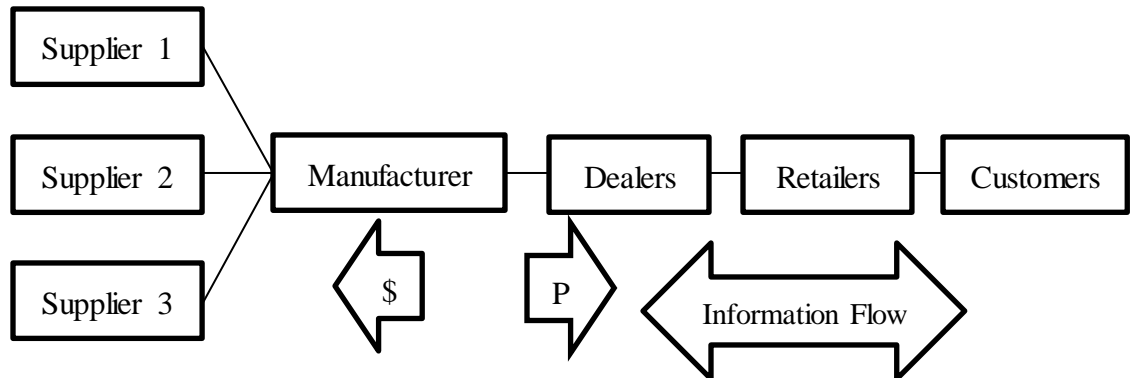
$ P Information Flow

Virtual Value Chain
• Information flow across the supply chain
• All parties have a strong electronic bond and backend systems
• Some companies do/don't own any part of the value chain
• They have access to information about all from suppler/manufacturer to the customer

Other Models that can be used
Full Service Provider Model

Supplier 1

Supplier 2 → Full Service Provider (FoodChain) → Customers / Buyers / Retailers

Supplier 3

Information Flow
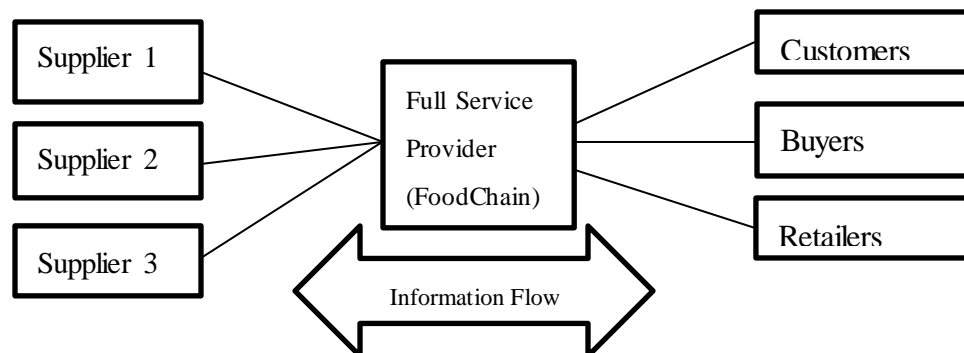
- Has to know about the customers
- Offers a wide range of products
- Offers different channels (Internet, face-to-face etc.)
>> Students need to elaborate with relate to FoodChain

Revenue Sharing Model

Company 1

Company 2 → eBay or Portal → Promote products collectively / Deal with customers to get larger projects / Order together to get economies of scale

Company 3

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- The sellers get together through the portal
- They market/promote products collectively to a larger market segment
- Sellers can work on larger projects/orders as they work collectively
- Collective bulk orders give bargaining power over suppliers
- Resources/profit is shared

>> Students need to elaborate with relate to FoodChain

Digital Value Hub – eRegion
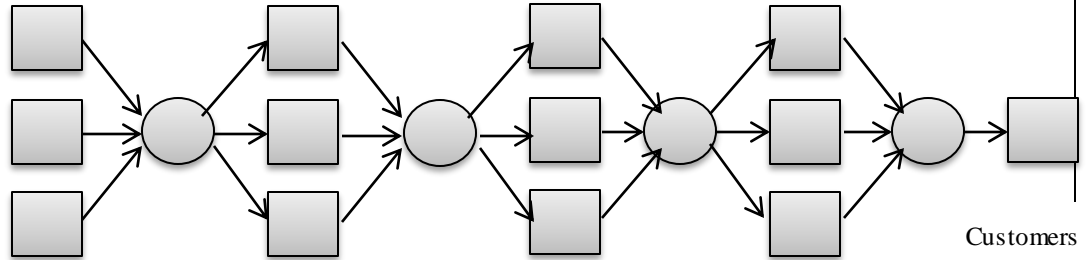
Suppliers T2   Suppliers T1   Manufactures   Distributors   Customers

- Strong B2B partnerships and collaborations between nodes in the supply chain
- The industry competitors willingness to work together
- Trust relationships among the competitors in an industry
- A strong force against foreign competition

>> Students need to elaborate with relate to FoodChain

2. a) Briefly describe 5 IT driven forces and 5 business driven forces for any business organisation to change into e-Business.

(30 Marks)

ANSWER IN THIS BOX

IT driven forces:
- Internet & WWW
- Communication Explosion
- Technological advancement
- Information Revolution
- Virtual Connectivity
- No Geographical boundaries , etc.

Business driven forces:
- Bargaining power of buyers
- Bargaining power of suppliers
- Market Changes
- Strong Competition
- Adopting New Strategies
- Diversifying in to new products , etc.

Index No …………………………..

b) The organisation mentioned in case study in Q1, 'FoodChain' has to change many things when e-Transforming into e-Business. Illustrate and discuss the important aspects of change management and how the company should resolve them.

(40 Marks)

ANSWER IN THIS BOX
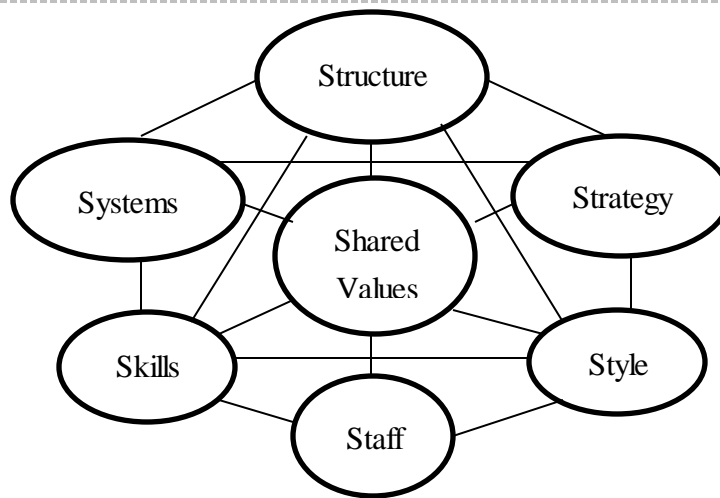
Strategy - Business strategy, strategic alliances, marketing, product and service development, sales and channel distribution, business systems and processes.

This defines key actions and capabilities along the major dimensions of marketing, product and service development, sales and channel distribution, business systems and processes, and management of alliances and partnerships in order to achieve organisational goals.

Structure - Formal/informal communication channels, organisational structure Hierarchical? Network?

The way the organisation's units relate to each other and the chain of command and formal/informal communication channels.

Systems – Business processes, methods, procedures and controls

The information flow which requires capabilities in both information technology and in organisational processes, methods, procedures and controls.

Style - The behaviour of the key managers and the way they relate to employees in order to achieve the organizational goal.

Staff - People employed, their positions, levels, numbers and adequacy

The types of people employed in the organization, their positions, levels and numbers.

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Skills - Skills, aptitude, educating, training needs of the staff

The skills and aptitude for developing customer relationships, service and sales For staff to develop appropriate new skills requires a learning environment.

Shared Values – The guiding concepts, values and aspirations, often unwritten, which directs all the personnel in the organization in the same direction

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c) Discuss the advantages and disadvantages of using a Customer Relationship Management (CRM) system for an organisation.

(30 Marks)

ANSWER IN THIS BOX

Advantages

Advantages to sales people

Proponents claim that sales force automation systems can improve the productivity of sales personnel. Here are some examples:

Rather than write-out sales orders, reports, activity reports, and/or call sheets, sales people can fill-in prepared e-forms. This saves time.

Rather than printing out reports and taking them to the sales manager, sales people can use the company intranet to transmit the information. This saves time.

Rather than waiting for paper based product inventory data, sales prospect lists, and sales support information, they will have access to the information when they need it. This could be useful in the field when answering prospects' questions and objections.

The additional tools could help improve sales staff morale if they reduce the amount of record keeping and/or increase the rate of closing. This could contribute to a virtuous spiral of beneficial and cumulative effects.

These sales force systems can be used as an effective and efficient training device. They provide sales staff with product information and sales technique training without them having to waste time at seminars.

Better communication and co-operation between sales personnel facilitates successful team selling.

More and better qualified sales leads could be automatically generated by the software.

This technology increases the sales person's ratio of selling time to non-selling time. Non-selling time includes activities like report writing, travel time, internal meetings, training, and seminars.

Advantages to the sales manager

Sales force automation systems can also affect sales management. Here are some examples:

The sales manager, rather than gathering all the call sheets from various sales people and tabulating the results, will have the results automatically presented in easy to understand tables, charts, or graphs. This saves time for the manager.

Activity reports, information requests, orders booked, and other sales information will be sent to the sales manager more frequently, allowing him/her to respond more directly with advice, product in-stock verifications, and price discount authorizations. This gives management more hands-on control of the sales process if they wish to use it.

The sales manager can configure the system so as to automatically analyze the information using sophisticated statistical techniques, and present the results in a user-friendly way. This gives the sales manager information that is more useful in :

Providing current and useful sales support materials to their sales staff

Providing marketing research data : demographic, psychographic, behavioral, product acceptance, product problems, detecting trends

Providing market research data : industry dynamics, new competitors, new products from

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competitors, new promotional campaigns from competitors, macro-environmental scanning, detecting trends
Co-ordinate with other parts of the firm, particularly marketing, production, and finance
Identifying your most profitable customers, and your problem customers
Tracking the productivity of their sales force by combining a number of performance measures such as : revenue per sales person, revenue per territory, margin by , margin by customer segment, margin by customer, number of calls per day, time spent per contact, revenue per call, cost per call, entertainment cost per call, ratio of orders to calls, revenue as a percentage of sales quota, number of new customers per period, number of lost customers per period, cost of customer acquisition as a percentage of expected lifetime value of customer, percentage of goods returned, number of customer complaints, and number of overdue accounts

Advantages to the marketing manager

It is also claimed to be useful for the marketing manager. It gives the marketing manager information that is useful in:
Understanding the economic structure of your industry
Identifying segments within your market
Identifying your target market
Identifying your best customers
Doing marketing research to develop profiles (demographic, psychographic, and behavioral) of your core customers
Understanding your competitors and their products
Developing new products
Establishing environmental scanning mechanisms to detect opportunities and threats
Understanding your company's strengths and weaknesses
Auditing your customers' experience of your brand in full
Developing marketing strategies for each of your products using the marketing mix variables of price, product, distribution, and promotion
Coordinating the sales function with other parts of the promotional mix (such as advertising, sales promotion, public relations, and publicity)
Creating a sustainable competitive advantage
Understanding where you want your brands to be in the future, and providing an empirical basis for writing marketing plans on a regular basis to help you get there
Providing input into feedback systems to help you monitor and adjust the process

Strategic advantages

Sales force automation systems can also create competitive advantage. Here are some examples:
As mentioned above, productivity will increase. Sales staff will use their time more efficiently and more effectively. The sales manager will also become more efficient and more effective.(see above) This increased productivity can create a competitive advantage in three ways: it can reduce costs, it can increase sales revenue, and it can increase market share.
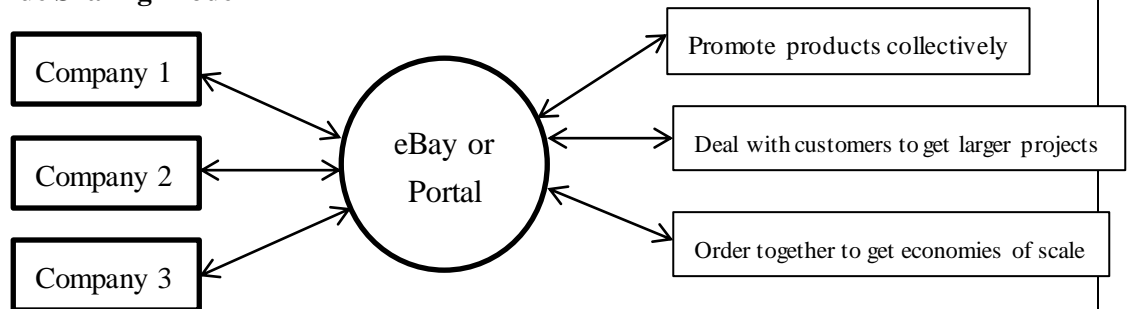Field sales staff will send their information more frequently. Typically information will be sent to management after every sales call (rather than once a week). This provides management with current information, information that they will be able to use while it is still valuable. Management response time will be greatly reduced. The company will become more alert and more agile.
These systems could increase customer satisfaction if they are used with wisdom. If the information obtained and analyzed with the system is used to create a product that matches or exceeds customer expectations, and the sales staff use the system to service customers more expertly and diligently, then customers should be satisfied with the company. This will provide a competitive advantage because customer satisfaction leads to increased customer loyalty, reduced customer acquisition costs, reduced price elasticity of demand, and increased profit margins.

Disadvantages

- difficult to work with

- require additional work inputting data

- dehumanize a process that should be personal

- require continuous maintenance, information updating, and system upgrading

- costly

- difficult to integrate with other management information systems

3. a) Illustrate and briefly describe the following e-Business models and their advantages to the business organisations and their customers.
     i. Revenue Sharing e-Business Model
     ii. Digital value Hub e-Business Model

(30 Marks)

ANSWER IN THIS BOX

Revenue Sharing Model

- The sellers get together through the portal
- They market/promote products collectively to a larger market segment
- Sellers can work on larger projects/orders as they work collectively
- Collective bulk orders give bargaining power over suppliers
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>> Students need to elaborate with relate to FoodChain

Digital Value Hub – eRegion
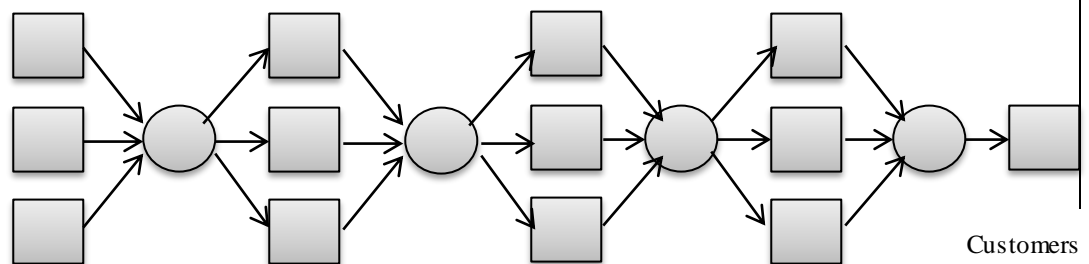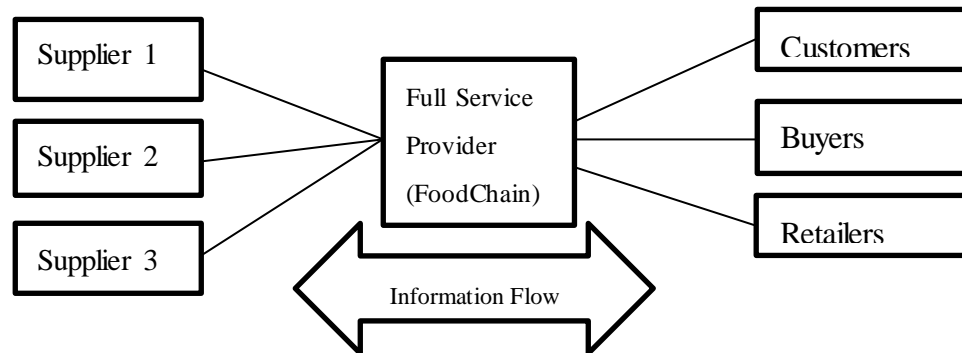

Suppliers T2   Suppliers T1   Manufactures   Distributors

- Strong B2B partnerships and collaborations between nodes in the supply chain

- The industry competitors willingness to work together
- Trust relationships among the competitors in an industry
- A strong force against foreign competition

>> Students need to elaborate with relate to FoodChain

b) Are the following statements true or false? Justify your answer using an example each.

    i. "When the 'bargaining power of customers' is high, a company can use the 'full service provider model' to lower the power of customers."

    ii. "When the 'rivalry among existing companies' is high in an industry, companies could use the 'digital value hub model' to deal with the situation and lower the competition."

(40 Marks)

ANSWER IN THIS BOX

Full Service Provider Model

- Has to know a lot about the customer
- Provides own or third party products
- Offers a wide range of products
- Offers different channels: Internet, face-to-face, phone, etc.
- Sells its own products+ Commission for third party products
- Some charge customers a service fee

>> Students need to elaborate with relate to FoodChain
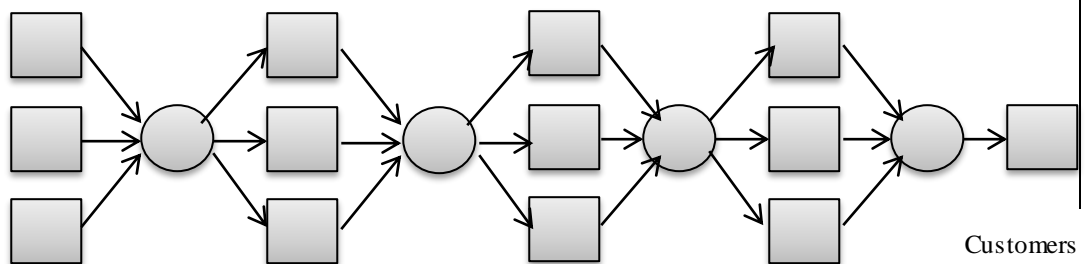
Digital Value Hub – eRegion

Suppliers T2   Suppliers T1   Manufactures   Distributors

- Strong B2B partnerships and collaborations between nodes in the supply chain
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>> Students need to elaborate with relate to FoodChain

c) The supermarket chain mentioned in the case study in Q1 is ready to go forward in e-Business. They need to carry out online and offline marketing campaigns to create awareness and inform customers about their new online facilities. Discuss 3 online and offline strategies that 'FoodChain' can use for marketing.

(30 Marks)

ANSWER IN THIS BOX

Offline Promotion
Business Cards
Industry Magazines,
Media Advertisements
Newspapers,
Newsletters, brochures,
Banners, sponsorships,
Etc., etc., etc.

Online Promotion
Strategic Alliances,
Email, Newsletters,
Search engines,
Banner Adverts,
Viral Marketing,
Analyse site traffic
Database Marketing

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4. a) Briefly explain the validity of the e-Business Models in today's context and the differences in old and new Business strategies.

(20 Marks)

ANSWER IN THIS BOX

Today's context:
- Enabling Technologies: Computing Power
- Storage Capacity and Bandwidth
- The Internet and the World Wide Web
- Human Computer Interface
- Intelligent Processing
- Global access
- Information can be enriched and customised
- Within the last few decades we have seen a massive change to the way we can communicate and share information.
- Most tasks we do today, whether it is manufacturing, education, healthcare, entertainment or business involves processing information in some form or another.
- Thus we are about to see significant changes to the way we do things.
- Internet Banking

Validity of the Traditional Business Models in today's Context

	Traditional Business Models	New Business Models
Production	Mass	Personalised (DELL)
Distribution	Middleman	Direct (DELL)
Communication	Chained / Closed	Networked / Open
Finance	Slow / Difficult	Faster / Easier (24/7)
Markets	Local / Geographical	Global / No boundaries
Assets	Tangible / Physical	Intangible / Virtual

Example: DELL Computers
• Built on a vision of customer responsive order fulfillment.
• Payment is received at the time of the order.
• Uses a direct Sales approach with no middleman.
• Organization practices a proactive not reactive approach
• Dell finds and hire the right professionals.
• Retained all efficient processes & operations and outsourced the rest to suppliers and distributors

Dell Web Site
• Gives customers the ability to custom order & price various sizes & configurations of PCs online
• Receives money before product is shipped
• All customer service is done via the web helping to cut costs
• Customers can track shipments

b) What are the types of B2B collaborations 'FoodChain' should establish? Identify at least 6 different business collaborations and industries 'FoodChain' should link up with and explain briefly why they are considered profitable.

(30 Marks)

ANSWER IN THIS BOX

- Collaborate with Sri Lankan shops in other countries to be their supplier of goods
- Linkup with vegetable wholesalers in Dambulla as well as farmers scattered in all parts of the country to have a direct supply of vegetables and fruits
- Collaboratively work with possible corporate customers
Etc. etc. etc.

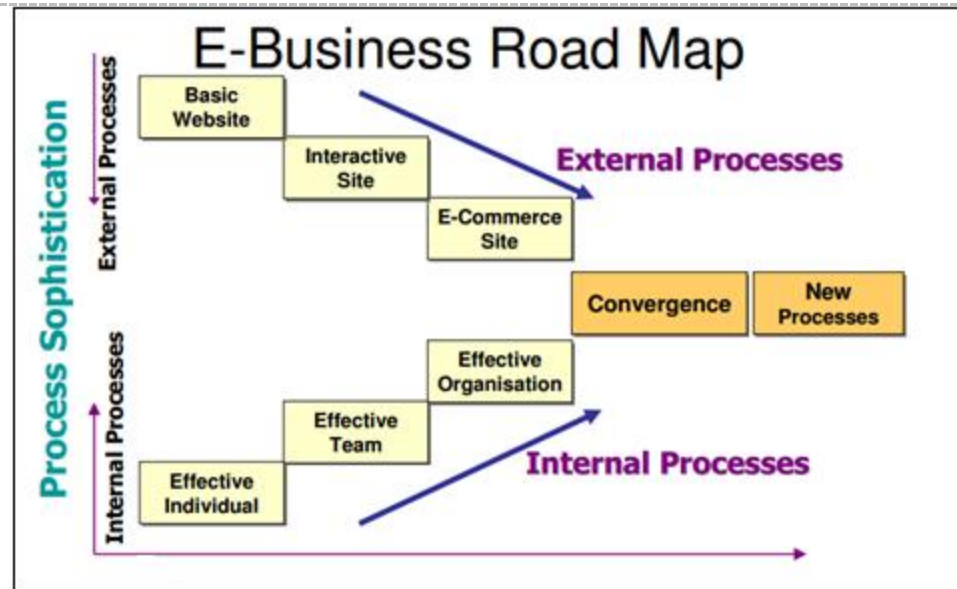Why they are considered profitable???
increase worker productivity,

improve customer service,
and create a competitive business advantage for customer

>> Students need to elaborate with relate to FoodChain

c) Illustrate and explain the e-Business Roadmap. Identify in which step 'FoodChain' is in the roadmap and where they should go next.

(50 Marks)

ANSWER IN THIS BOX

Basic Web Site:
The organization has it's own domain name and 'brochure ware' type of website hosted with an ISP.
The website contains company information, static e-catalogue, e-mailing lists, Answers to FAQs, e-messages to masses.

Interactive Site:
Dynamic web site providing two-way flow of information. Answers structured queries. Existence of a news forum, chat area, feedback forms. Uses own domain name, database, scripting languages.
Requires a web server and a high speed dedicated connection to the Internet. Strong back-end systems and security measures.

eCommerce Site:
The organization should have a secure web server to facilitate financial transactions or a link to a payment gateway to process online payments.
Supporting back-end Systems, International Security standards, Business Contingency Planning, needs to be in place.
Trust Relationships and Security are major issues.

Effective Individual:
Individuals using computers and standalone productivity software such as accounting packages, Payroll s/w, Inventory Control software, spreadsheets, word-processors, etc. May be connected to the Internet and using e-mail, too.

Effective Team:
Computer network being used in functional units such as Accounting, Production. People work in teams using networked applications, e-mail, intranet capabilities to enhance team productivity.
Existence of LAN, shared I/O devices, drive space, databases, etc.

Effective Organisation:
All computers in the organization are networked, and the databases and information systems are interlinked. Enterprise wide applications are used for purchasing, manufacturing, sales, accounting, etc. Information integration and sharing across the enterprise.
Existence of an ERP, VPN, Intranet. Strict Security and password protection.

Convergence:
The organization has achieved integration of all information it needs to support all business processes and to interact with it's business partners.

New Processes:
Such organization can handle new processes such as SCM (Supply Chain Management), CRM (Customer Relationship Management), KM (Knowledge Management), etc.

FoodChain position:
Current – Basic website/ Effective Team
Next - Interactive Site/ Effective Organisation

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