UNIVERSITY OF COLOMBO, SRI LANKA

UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (EXTERNAL)

Academic Year 2016 – 3rd Year Examination – Semester 6

IT6305 – eBusiness Applications

Structured Question Paper

8th October 2016
(TWO HOUR)

To be completed by the candidate

BIT Examination Index No: .....

Important Instructions:

- The duration of the paper is **2 (two) hours**.
- The medium of instruction and questions is English.
- This paper has **4 questions** and **15 pages**.
- **Answer all questions.** All questions carry similar 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. [X]) the numbers of the questions answered.

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

1) Use the following case study to answer the questions given in Q1 and any other questions referred to the case study.

"BabyLove" is a Child Care Centre for babies within the age of 1 year to 5 years till they go to school. It has been in operation for the last five (5) years and has the capacity to look after 25 children in their child-care-centre located in Rajagiriya. It has a spacious garden and a wall around the entire premises. They have 8 female assistants to look after the children, 1 nurse to attend to sick babies, 1 labourer to clean the premises and a security person working at BabyLove at any given moment. The assistants have diplomas in childcare or have followed Montessori courses. Therefore, they are highly skilled and are capable of nurturing the babies and toddlers. The owner Mrs. Joy Perera had been working in a Montessori in Australia for the last 15 years before she commenced the childcare centre at Rajagiriya.

The classrooms are tidy, has a lot of educational toys, activities and has utmost care on security of the children. There are many outdoor activities as well such as a sand pit, play area, climbers, swings, see-saw, gardening space and a play area as well. Baby sitters and carers are all trained in first aid as well. Although the childcare centre is open from 7.30am to 1.30pm, there are many requests to keep it open till 6pm till the parents finish their work and pick up the children. This needs additional facilities and will incur additional fees. Furthermore, there are other requests coming from parents for after school care for 5 – 8 year olds and that request is also being considered. Parents are also very demanding wanting more and more facilities and learning activities for their children comparing with other childcare centres.

Mrs Joy wants to expand the childcare centre to include parents' requests and wishes to carry out marketing electronically using web based solutions and social media marketing. She also wants to open another centre in Dehiwala to care for another 20 children. She wishes to include the children's progress, messages to parents, monthly payments, reminders to parents and many more activities through their web-based system. Furthermore, BabyLove wants to market to the higher income group of the society as well as, to people living not only in and around the centre, but, people who travel along that route to work. Since there are many Monitories and Day Care centres in these areas, there is heavy competition to get new admissions from affluent parents. There are also strict government guidelines to be followed by Child Care providers to ensure safety of the children.

The IT company that you work in as a software engineer has been hired to eTransform the company. You are asked to identify the business opportunities for this venture and develop a plan to eTransform the company to do most of their business, marketing and administrative tasks online.

(a) Carryout a Situational Analysis for "BabyLove". Identify the Strengths, Weaknesses, Opportunities and Threats for this company.

(40 Marks)

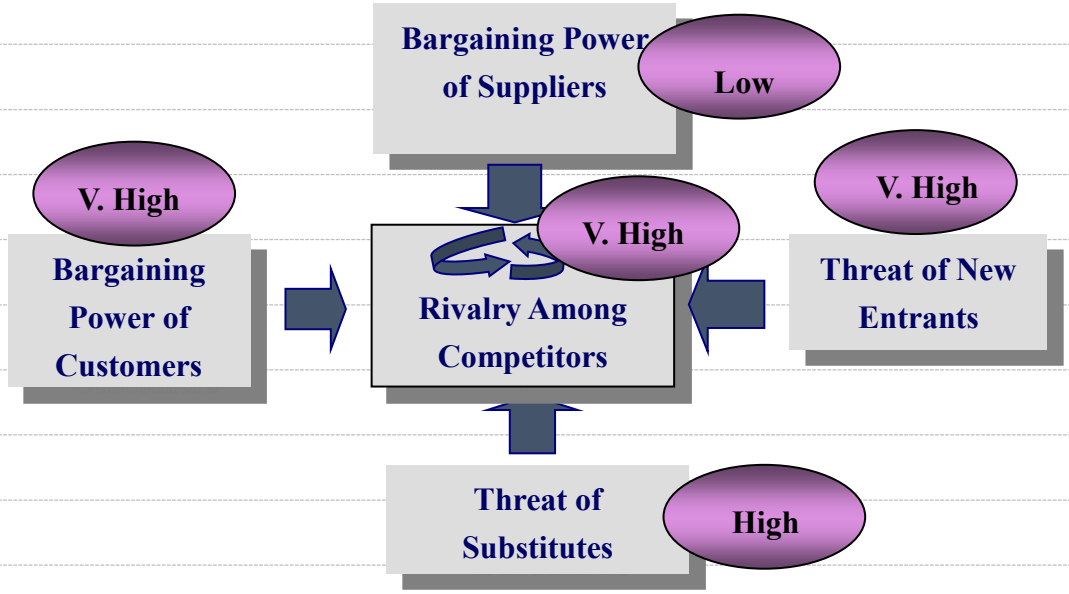
ANSWER IN THIS BOX

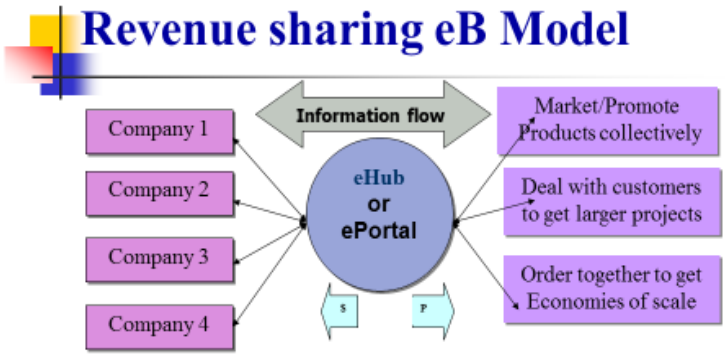
Strengths	Weaknesses
• In Operation for 5 yrs • Niche Market and Much needed by society • Good area to have the childcare centre • Safe and spacious environment for children • Skilled staff including a nurse to attend to babies • Qualified staff • Experienced (15 yrs) and qualified owner • Classrooms tidy and well equipped • A lot of outdoor activities including sandpit, swings, play area,etc	• The Childcare centre is only open from 7.30am-1.30pm though there is a need for it to be open way longer. • Additional resources are needed to keep Childcare centre opened for longer hours. • More facilities reuested by parents • More learning activities requested by parents • No electronic Marketing yet • No IT based child management system and Admin system to handle payments and reminders • Social media marketing not used
Opportunities	**Threats**
• To keep the cildcare centre open for longer hours of 7.30am – 6pm and charge higher fees • After school care for 5-8 year olds is also an opportunity • More childcare centres (branches) in more populated areas • Web based Information system to manage the progress of children for parents • Social Media Marketing for affluent parents • Links with Montessori' for after school care	• Heavy competition coming from other childcare centres • Strict government guidelines to be followed to ensure safety of children • Not many qualified carers

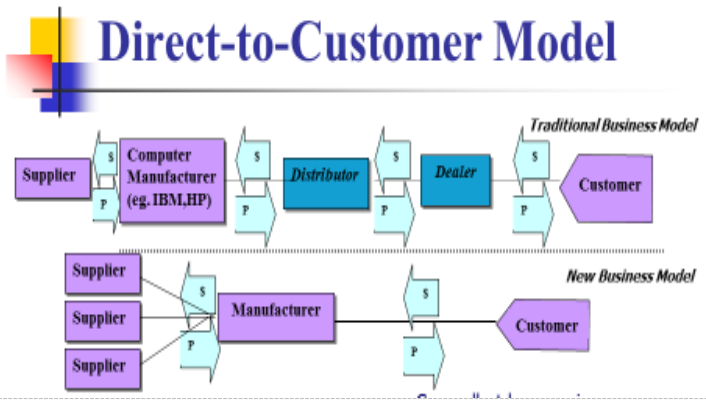
(b) Carryout Michael Porter's Five Forces analysis on 'BabyLove' and the industry it is in and propose two (2) eBusiness strategies to deal with the situation to minimise the forces.

(30 Marks)

ANSWER IN THIS BOX



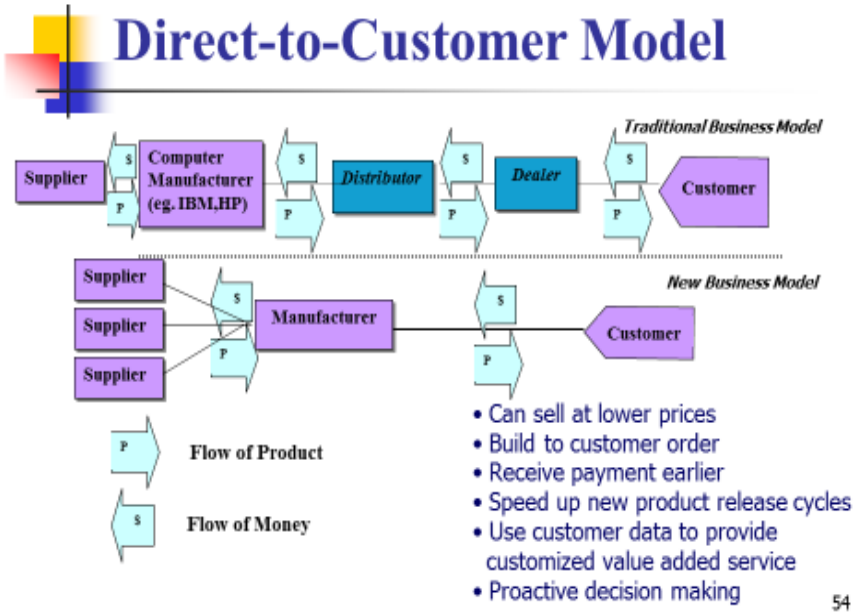




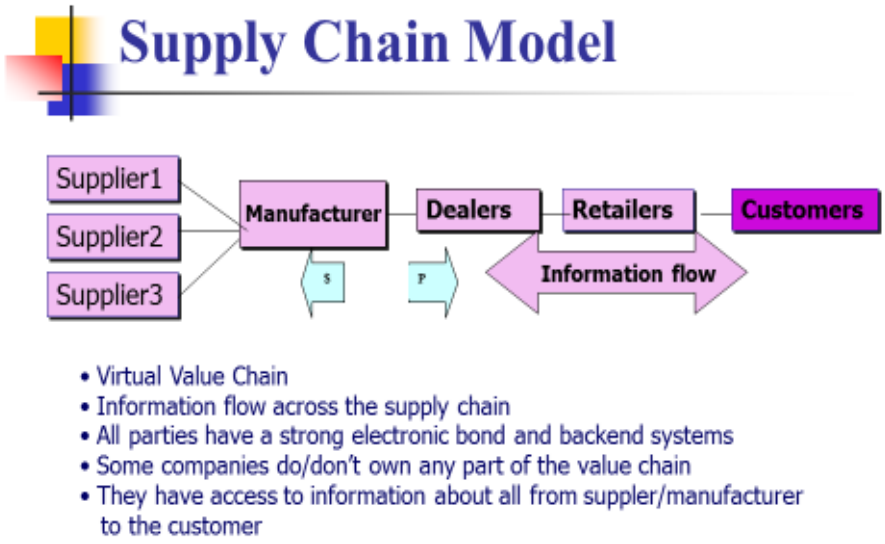
(c) Your IT company is hoping to propose a "Direct-to-Customer Model" and a "Supply Chain Model" for the Company BabyLove. Illustrate and discuss these models separately and state whether they are beneficial or not to the company. Justify your answer.

(30 Marks)

ANSWER IN THIS BOX



Direct to Customer model is beneficial for the company as they hope to introduce a web based system for eMarketing, Management of resources, Provide information to parents on child's progress and administrative matters such as payments, reminders, etc.



The Supply Chain model is not beneficial for the company as it does not give any advantage to the company as they do not have a huge supplier base and any issues with any suppliers like in the manufacturing sector.
It would be a waste to go in this path as the problems are mainly not with the suppliers but, with competitors, new comers and customers

2. (a) Describe the meaning of the following statement discussing the benefits and problems associated with it. "eBusiness moves businesses from place to space!"

(20 Marks)

ANSWER IN THIS BOX

The meaning of eBusiness is your business becomes from a Brick-&-Motar physical organisation to a Virtual Organisation. Your assets become from tangible to intangible. Your documents are changed from **From Atoms to Bits, From place to space, From, Brick to click, From Real to Virtual.**

With eBusiness ➔ Cash, cheques, paper documents, store fronts, face-to-face meetings are changed in to ➔ Digital/Electronic/Virtual interconnections !!

The organisations become **Borderless !! Faceless !! & Paperless !!**

With these changes, TRUST and SECURITY become more important than ever..

TRUST in the people who are handling the operation and SECURITY in the eBusiness systems (web based solutions) customers/partners are using.

(b) Briefly discuss the benefits and challenges faced by a company trying to establish a Customer Relationship Management (CRM).

i. Will BabyLove benefit from a CRM? Justify your answer.

ii. Briefly explain five (5) features BabyLove could implement in the CRM? Justify how they are beneficial for the company.

(30 Marks)

ANSWER IN THIS BOX

A CRM is a much needed solution for this childcare centre as they want to expand to cater to more needs of the parents and children. They can include features such as:

i. Looking for childcare details

ii. Monitoring the progress of your child facility

iii. Progress updates of the child

iv. Payment reminders and receipts

v. Payment mechanisms

vi. Family handbook

vii. Parents corner – picture updates of activities that parents can share on FB

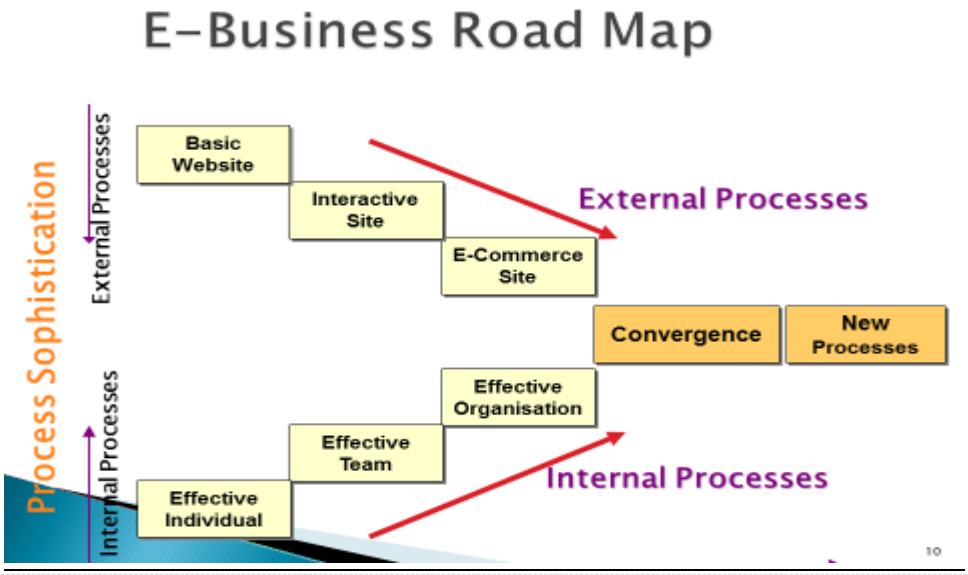
viii. Parents forum – where they can discuss common issues and suggest solutions

This will ensure that parents get to know more about the progress of the child and parents can also have say in the development of their child and the facilities and services offered by the childcare centre.

(c) Illustrate and briefly describe the stages of the eBusiness Roadmap. In the roadmap, point out where the company BabyLove (mentioned in case study in Q1) is currently in, as well as the next step it hopes to take. Justify your answer.

(50 Marks)

ANSWER IN THIS BOX



Basic Web Site

Process Sophistication

External Processes

Internal Processes

Basic Website

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

Process Sophistication

External Processes

Internal Processes

Basic Website

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

Process Sophistication

External Processes

Internal Processes

Basic Website

Interactive Site

E-Commerce 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

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Effective Individual

Process Sophistication

External Processes

Internal Processes

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 Individual

Getting users to own the processes

14

Effective Team

Process Sophistication

External Processes

Internal Processes

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 Team

Effective Individual

Internal Processes

15

Effective Organisation

Process Sophistication

External Processes

Internal Processes

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 a VPN, Intranet. Strict Security and password protection.

Effective Organisation

Effective Team

Effective Individual

Internal Processes

16

Convergence

Process Sophistication

External Processes

Internal Processes

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

External Processes

Convergence

Internal Processes

17

New Processes

Process Sophistication

External Processes

Internal Processes

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

External Processes

Convergence

New Processes

Internal Processes

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BabyLove is currently in the Effective Organisation/Team level internally and Not even in the Roadmap externally as they don't even have a website. They will go to the Convergence level next with eMarketing web based monitoring of children and admin system to handle payments.

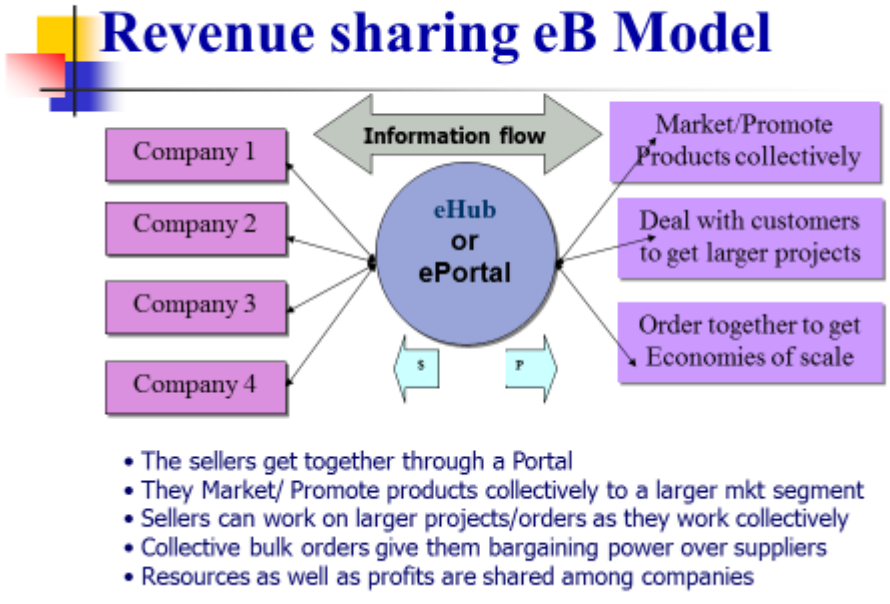
3.

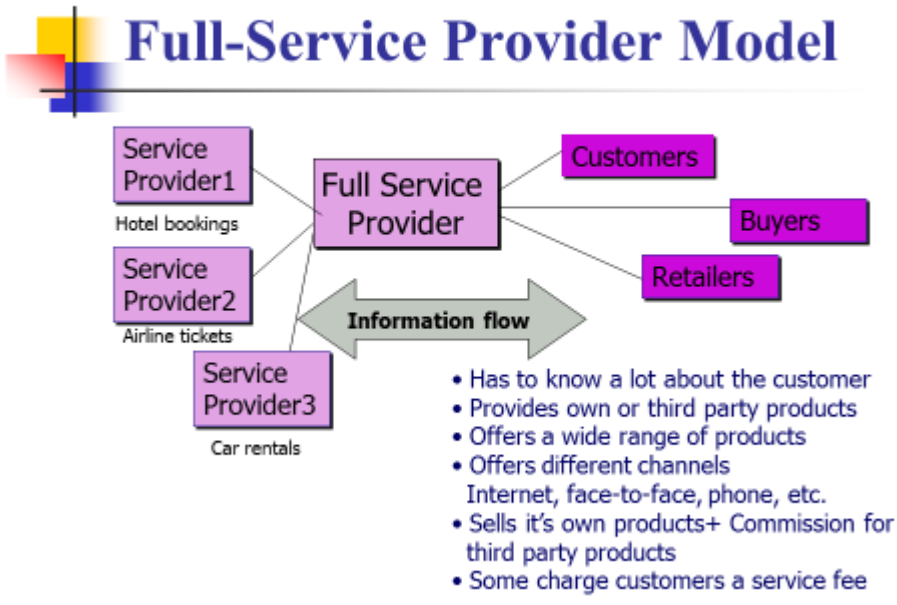
(a) Illustrate and briefly describe the following eBusiness models and its advantages to the business organisations and its customers.

i. Revenue Sharing eBusiness Model
ii. Full Service Provider eBusiness Model

(30 Marks)

ANSWER IN THIS BOX





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

i. "When the 'bargaining power of customers' are high, an airline ticketing company can use the 'full service provider model' to lower the power of customers."

ii. "When the 'rivalry among existing companies' are 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

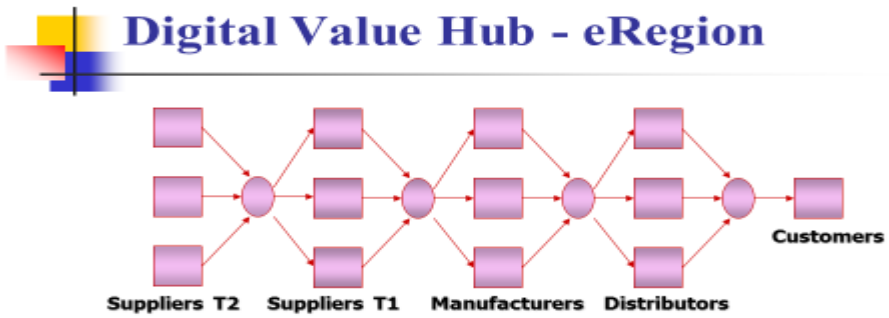
i. "When the 'bargaining power of customers' are high, an airline ticketing company can use the 'full service provider model' to lower the power of customers."

TRUE !!

When customers bargain a lot with the company, the company can provide additional services related to the main service which is airline ticketing providing. They can provide travel insurance through an insurance company, hotel bookings through hotel chains in the destinations, car rentals through rental companies, courier service, etc. Then they have more competitive advantage over other competitors and new comers to the ticketing industry and therefore, the customers do not bargain much as the service offered is a more wholistic service which they cannot get from other service providers.

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

FALSE !!



The Digital value hub requires a lot of TRUST among the companies working together. If the rivalry is very high, trust is usually low as the companies are competing aggressively with each other. Strong B2B partnerships with competing companies cannot be established as they will not be willing to work together.

(c) The Childcare centre mentioned in the case study in Q1 is ready to go forward in eBusiness and expand their company. They need to carryout online and offline marketing campaigns to create awareness and inform wealthy customers about their new online facilities and their expansions of new after school care facilities. Discuss 3 online and offline strategies each that 'BabyLove' can use for marketing.

(30 Marks)

ANSWER IN THIS BOX

Online Strategies

1. Web based Marketing to targeted customer groups
2. Email campaigns to thousands of customers
3. Social Media Marketing using FaceBook, Youtube Videos, Twitter, etc.

Offline Strategies

1. Local advertisements and nicely printed handbills distributed with local papers and papers in the other suburbs in that route
2. Paper advertisements
3. Advertisements in posh magazines read by affluent people

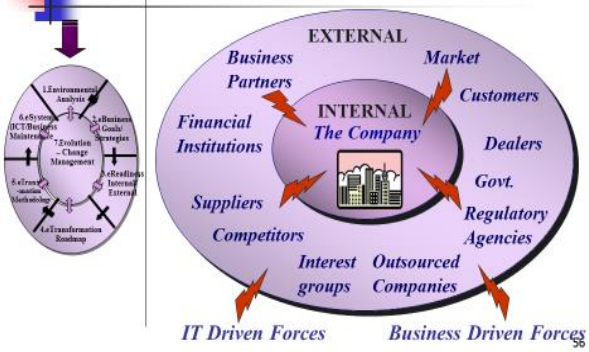
4.

(a) There are many aspects that an organisation should look in to when eTransforming from a traditional business to an eBusiness. Illustrate and briefly discuss the 7Es in eTransformation methodology and its stages.

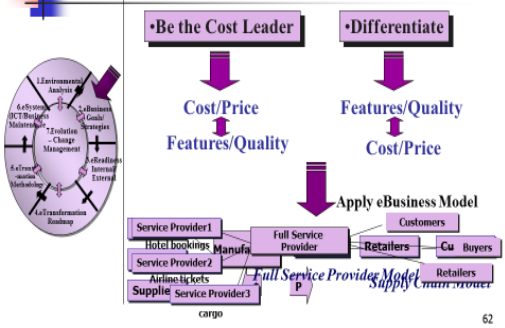
(70 Marks)

ANSWER IN THIS BOX

The Business Environment



Goals, Directions, Strategies and Competitive Advantage



eReadiness (Internal/External)

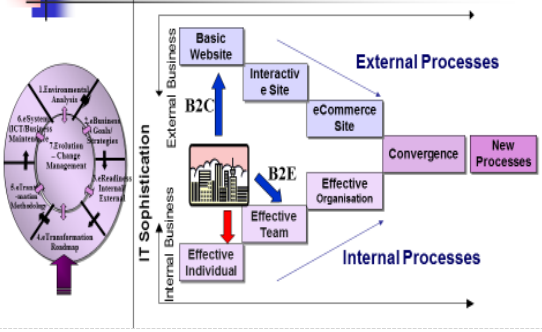
Internal:

- Business processes – Well defined processes
- Applications & Infrastructure
- Web presence – Existence/ usage
- Skills –Level of IT skills of the employees
- Executive mgt – Commitment/Support
- External connectivity – Channels
- Future directions – Plans for expansions

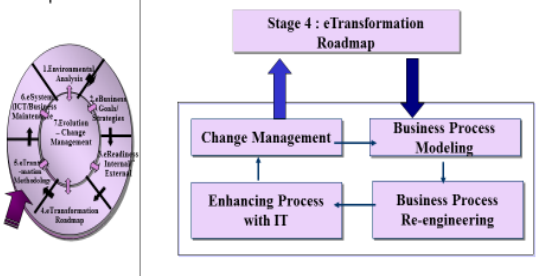
External:

- Customers, Suppliers, Potential users

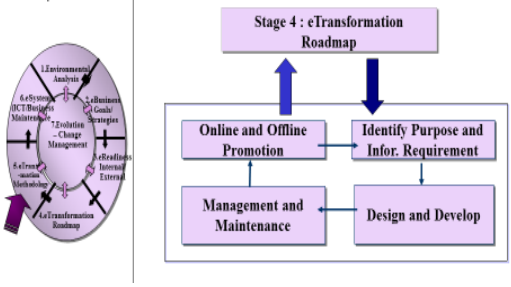
The Company's Position and Path in the eTransformation Roadmap



Internal eTransformation Methodology



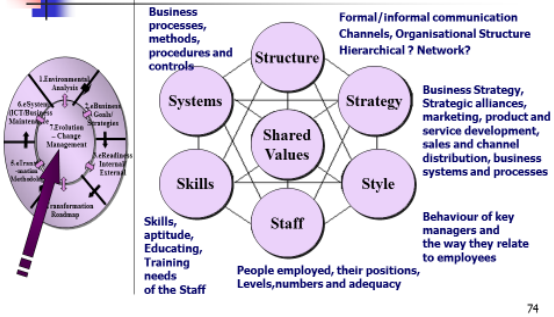
External eTransformation Methodology



eSystems (Policies, Support, Maintenance)

- **Management Controls** : Standards, guidelines to users, Procedures, Manuals
- **Security Measures** : To deal with common threats (sabotage, hacking, privacy, etc.) and contingency planning and disaster recovery
- **IT Maintenance and Support**: (Support for ICT infrastructure, upgrading, backing up, maintenance, troubleshooting, Support by the ISP and Vendors)

7S Model for Change Management



(b) Discuss how a children's orphanage can use eBusiness effectively to find sponsorships, establish grants, find sponsors for meal plans and find foster parents for babies to be adopted, create awareness among the donors and for administrative/marketing purposes. Discuss at least 10 features/activities to be included in the eBusiness solution.

(30 Marks)

ANSWER IN THIS BOX

A Children's orphanage can use a web based solution very effectively to deal with donors, childcare workers, government, grants, meal sponsors, people who are interested in adopting babies, legal matters etc. They can use eBusiness for administrative matters, marketing purposes, collaborations with partners and development of the orphanage.

The following features can be incorporated:

i. Vision and Mission of the Orphanage
ii. The children in the orphanage and their details
iii. Babies available for adoption
iv. Progress monitoring and communication of babies who have been adopted
v. The projects that are available for funding and donations
vi. Photo gallery
vii. Meal Plan and how to book meals (Menus, available dates, etc)
viii. Donation details and a gateway to donate money
ix. Contact details
x. Share with Social Media sites – FB, etc.
xi. Videos of events and fund raising done by donors
xii. Permanent partnerships with Funding institutions and doners
xiii. Registration of Volunteers

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