

Elective Group: (III) Information Systems

Knowledge Management Unit 3

Technology components of KM

3.1 Technology components of KM – IT & KM

3.2 Ecommerce and KM

3.1 Technology components of KM – IT & KM

Knowledge Management Technologies are information technologies that can be used to facilitate knowledge management. Knowledge Management Technologies are intrinsically no different from information technologies, but they can focus on knowledge management rather than information processing.

Knowledge Management Technologies also support knowledge management systems and benefit from the knowledge management infrastructure, especially the information technology infrastructure. KM technologies constitute a key component of KM systems.

Technologies that support KM include artificial intelligence (AI) technologies including those used for knowledge acquisition and case-based reasoning systems, electronic discussion groups, computer-based simulations, some modern databases systems, decision support systems (DSS), enterprise resource planning systems(ERP system), expert systems(ES systems), management information systems(MIS systems), expertise locator systems, video conferencing, and information repositories including best practices databases and lessons learned systems. KM technologies also include the emergent Web 2.0 technologies, such as wikis and blog.

The following technologies contribute in organization's knowledge management environment:

a) Intranets- Intranets have wide spread across organizations for sharing dynamic information. Intranet can be divided into two components namely the technology infrastructure and web server. Technology infrastructure includes universal web server, thin client, HTML format, IP networks and web server is the repository for content. The web server and web browser have enabled greater access to information for groups of knowledge workers and application developers.

b) Document management systems : Document management system are repositories for organization's document or explicit knowledge in an organization. These systems are mainly used for creating, processing and reviewing documents. Some of the organizations are approaching organization wide KM based on document management. Document management systems are vital knowledge repositories that must be integrated into knowledge infrastructure of an organization. However they are not used as the complete basis for the knowledge

management system as knowledge workers resist to use highly structured document management process for creating and processing complex documents.

- c) Information retrieval engines- Information retrieval from corporate text repositories or searching through intranet exist in many organizations as a knowledge silo. Vendors are continuously adding new features as relevancy ranking, natural language querying, summarization, preferential searching and others for satisfying the needs of information seekers and precision of finding the information.
- d) Groupware and Workflow systems - Groupware's are used in the organization for communicating and collaborating among workgroups and departments in formal or adhoc conversations when users cannot communicate in real time. So it can be rightly said that groupwares are important technology for exchanging and enhancing tacit knowledge. On the other hand the workflow systems are used for codification of knowledge transfer processes. As an example proposal generation system can be considered where workflow system facilitates preparation of structured and ordered information and its review.
- e) Brain storming applications- are used to convert tacit knowledge to explicit knowledge. For example – a problem is flashed at all the centers of the organization an answers are invited. This type can give solution for a query in a write way. These applications are useful knowledge creation tools that help in categorizing, organizing and identifying knowledge resources.
- f) Data warehousing and mining tools- Organizations create data warehouse and provide the managers with data mining tools to take decisions based on increasingly complex set of data. Only hoarding data or information is of no use but analysis and based on analysis certain inferences and decisions are needed to be taken. KMS provide access to data ware houses by open database connectivity and structured query language. Data mining tools also provide access to reports to the users based on subject area which they are investigating.

Organizations have used a wide variety of methods for the knowledge management, as there are no standard methods for its implementation. The best way to achieve Knowledge goals is to start with the existing structures and methods and then apply them effectively to achieve the knowledge goals. IT supports the categorization and collaboration of explicit forms of knowledge at low cost. Moreover, information technology is “an important enabler for KM initiatives in organizations with the usual caveat that the KM problem has other significant social and cultural dimensions” We can also conclude that IT is an important facilitator for improving the dynamic capabilities of an organization.

Knowledge Management requires technologies to support the new strategies, processes, methods and techniques to better create, disseminate, share and apply the best knowledge, anytime and anywhere, across the team, across teams, across the organisation and across several organisations, especially its clients, customers, partners, suppliers and other key stakeholders.

The key technologies are communication and collaboration technologies that are web based for internet and intranet usage, as well as mobile technologies such as PDA's, PC's, telephone and videoconferencing. New technologies are rapidly emerging that act as intelligent agents and assistants to search, summarise, conceptualise and recognise patterns of information and knowledge.

(For an effective KM initiative across the organisation, there needs to be in place, at least:

- Knowledge Portal

There is often confusion between the terms 'information portal' and 'knowledge portal'.

An information portal is often described as a gateway to information to enable the user to have one, more simplified way of navigating towards the desired information.

However a 'knowledge portal' is far more than an information portal because, as well as information navigation and access, it contains within it software technologies to, at least, support the processes of virtual team communication and collaboration and software technologies. It is important so that you get the whole information about the organisation. Furthermore, it contains intelligent agent software to identify and automatically distribute information and knowledge effectively to knowledge workers based on knowledge profiling.

- Knowledge Profiles

Within the knowledge portal, each knowledge worker can update and maintain a personal 'knowledge profile' which identifies his/her specific knowledge needs, areas of interest and frequency of distribution.

- Collaborative workspaces

Within the knowledge portal, shared work spaces can be set up for each new team or project. These will become knowledge repositories from which new knowledge will be distilled regularly and systematically and shared across other teams in the organisation. In an organisation all the employee are having a single goal that is profit of the organisation. Within the shared and collaborative workspace, at least, the following communication and collaboration functions could be performed:

- Shared vision and mission
- Specific team objectives so, that team can achieve the same goal
- Knowledge Plan – it is very important to do planning so that things may move in the proper direction
- Team members roles and responsibilities – Proper team members roles are to be specified to that the work is completed with time and in proper way
- Team contract
- Best Knowledge Bases or Banks
- Expert locator
- Task management – time duration should be

specified so that the work should be completed within the given time and period • Shared Calendar management • Meeting management – discussion and compliances should be completed to achieve the common goal • Document libraries- documentation is need if any problem arises organisational employees can refer to the previous documents • Discussion forums – if any problem is not solved brainstorming sessions are conducted, via internet • Centralised email – making use of advance technology • Capturing of new learning's and ideas • Peer reviews, learning reviews, after action reviews • New knowledge nominations

▪ Urgent requests

Within the knowledge portal, it is very useful to have a facility and underlying process to enter any 'Urgent Request' into the portal and receive back any responses from across the organisation. Rather than needing to know 'who might know' the request is entered blindly and responses will be made if it is known in the organisation and people are willing to support and respond to this activity. This is a very effective way of better leveraging the knowledge across the organisation.

▪ Document Libraries

The document library is typically the location where all documents are stored. The library should be context relative and allow the ease of control over any document type. Many organisations now employ an Electronic Document and Records Management System (EDRMS) for this requirements but the integration of the EDRMS with all other relevant information and knowledge sources is imperative. Document libraries are very important so that we can refer if the problem arises.

▪ Knowledge Server and services

In order to foster knowledge networking across the entire organisation and support knowledge processes for creating, retaining, leveraging, reusing, measuring and optimising the use of the organisational knowledge assets, a centralised knowledge server is required that will:

- manage the communications and collaboration between networks of people
- enable the access, creation and sharing of knowledge between them

The centralised knowledge server will manage the processes and knowledge services that generate and disseminate knowledge assets.

The key components of a generic knowledge server are:

- a knowledge portal interface designed around a knowledge asset schema (see KM consulting section) as a gateway to user access, security and applications

- Knowledge banks

- Advanced search capabilities
- collaboration services
- search and discovery services
- publishing services based on user knowledge needs and knowledge profiling
- a knowledge map (taxonomy)
- knowledge repository for information and process management
- Text summarising and conceptualising
- Intelligent agentware
- an Intranet infrastructure for integrated email, file servers, internet/intranet services

Knowledge Bases (Banks)

For each key knowledge area identified, there needs to be a Knowledge Base.

A Knowledge Base contains:

- both structured and unstructured discussion forums
- rich 'knowledge objects' that have been designed for the efficient and effective transfer of knowledge using multimedia, video, audio
- embedded communications theory (eg storytelling)

KM processes to:

- critically review knowledge nominations and turn them into improved knowledge
- automatically find and publish knowledge to users according to users knowledge profiles
- transfer knowledge effectively

~~3.2~~ E-commerce & KM

E-commerce businesses are increasingly dependent on quality knowledge management for e-commerce systems for spurring growth, better customer acquisition and retention, and for managing variable customer service expenses.

More than ever, an online business needs to embrace knowledge management for e-commerce for these three reasons.

1. Drive Revenue and Profit Growth

With high quality knowledge management tools, your e-commerce business can expand by using data to identify new market products, launch them successfully into the marketplace, and amplify those products to a larger audience. The data will identify product characteristics and features that drive sales, thus having a positive influence on marketing efforts, such as choosing which images to insert into email campaigns or banner ads. You have accurate analysis supporting those decisions.

You will have trend analysis for on-site merchandising, advertising and emails. This can lead to higher pins and repins on sites such as Pinterest and followers on Facebook. For a fast growing business, this information is priceless to stay ahead of the growth and deliver relevant marketing to consumers.

2. More Accurate Consumer Targeting

Controlling your customer acquisition and retention expenses is a top priority for e-commerce businesses. Analysis from knowledge management will help you align your advertising efforts to more effectively market to existing customers while attracting new ones. You can begin to hone your email campaigns by time and consumer base to garner more notice from your target audience. In addition, you can direct larger discount offers to consumers who are more likely to become repeat customers. Consumer profiling can develop tailored retention campaigns based on your specific customer base, especially those customers with a high propensity to purchase. Larger discounts may be offered to customers less likely to try a new product, while more moderate discounts may be offered to consumers with a moderate propensity to purchase.

3. Managing Your Variable Customer Service Expenses

Reducing your cost per call is a top priority, but you want to maintain your high level of customer service quality. Knowledge management for e-commerce will enable you to optimize hiring and training agents, utilize call monitoring, and utilize integrated call centre software. In addition, you can optimize your business tools for interacting with customers, and enable call back from the queue.

These are just some of the top reasons why knowledge management for e-commerce is so beneficial to improving efficiency. With the benefits, a business can expand profits more easily, better target customers, and control customer service variable expenses.

Knowledge Management and E-Commerce Organization

Introduction:

Knowledge management is the systematic business process with the help of which the business managers can create, share, use and manage the necessary knowledge and information regarding the business process within an organization. Knowledge management is the particular procedure based on which both the managers from various departments tend to evaluate the rate of knowledge among the new employees as well as the existing employees. The primary purpose of knowledge management is to enhance the employee performance, to maintain a psychological balance among the employees, to increase the rate of competitive advantages and so many. In order to run a business organization successfully, the role of employee performance is highly important. Employees would be able to perform well only when the business managers would be able to maintain an equal balance among the employees. Therefore, the knowledge managers intend to share the business information among each other for providing an effective service process to the customers.

Electronic commerce is the systematic networking process with the help of which business organizations are able to sell their products and services through online transaction. People from various cultures and backgrounds from different geographical boundaries can purchase products and services. Therefore, the organization would be able to enhance their range of customers. Apple has been chosen as the selected company for this particular study. The business managers of Apple tend to select knowledge management strategy within their business process in order to increase the performance of employees, to maintain an effective communication among the employees and the customers.

Knowledge management is constituted with two primary types that imply tacit knowledge and explicit knowledge. Apple primary tends to use tacit knowledge due to several reasons. Tacit knowledge is the systematic process with the help of which the business experts can transmit knowledge and information by providing an effective training. On the other hand, tacit knowledge enables the employees for gaining knowledge by experience as well.

On the other hand, explicit knowledge management is the process with the help of which the employees get the opportunities to gather knowledge and understanding with the gradual progress of their service process. While providing services to the customers, employees have to face innumerable challenges at the workplace. From those feedbacks gathered from the customers, the employees gain innovative knowledge and experience that helps to enhance the performance level of organizational employees.

The business experts of Apple have decided to use tacit knowledge due to several reasons in their e-commerce business process. In order to operate the e-commerce business, the employees should have proper training and efficiency towards business. That is one of the most effective reasons of using tacit knowledge for Apple. Before involving an individual employee within the

e-commerce business process, Apple tends to provide an effective training to the employees in order to enhance their knowledge, skills so that the employees can be made more professional towards the entire business process. Therefore, the communication between the customers and employees become stronger and effective. Customers on the other hand, do not have to wait for a long time in order to use the products as well as service process of Apple.

Impact of knowledge management and e-commerce on business organizations:

The emergence of e-commerce business process is successfully able to drag the customers from different geographical boundaries. The realm of electronic business process is vast and wide. People from different corners get the opportunity to use the products and services sitting at their drawing room. After launching the e-commerce business Apple has occupied a predominant place in the domain of international market. People from different areas can easily use the products and services of Apple within the help of online transaction. As a result, people do not have to visit the organization directly for purchasing products and services.

The entire service procedure can be maintained systematically with the help of knowledge management process:

Knowledge management helps to maintain an equal balance among organizational employees. By implementing tacit knowledge management within the business organization, the business experts of Apple tend to provide effective training process to the employees for enhancing their skills and knowledge. As a result, employees do not have to face organizational barriers such as communication barriers, cultural barriers and psychological barriers at the workplace. Every employee within the organization is treated with equal respect and dignity. Employees tend to find motivational spirit for performing well for the organization. After receiving a professional training, the employees tend to maintain organizational culture and discipline at the workplace. Apple has achieved immense recognition in the international market due to their systematic organizational cultures. This culture has a major effect on customers as well.

Service providers do not get the opportunity to collect direct feedback from the customers:

The primary advantage of e-commerce business process is that the Service providers do not get the opportunity to collect direct feedback from the customers. The service providers have to be dependent on the telecommunication or communication with the help of new media. As a result, the business experts fail to collect a direct feedback from the customers. Therefore, business managers of Apple have to face immense difficulties while forming new business strategies and policies. Therefore, people from different geographical boundaries have to communicate with the service providers of Apple through digital media instead of personal selling process to provide necessary feedback about their products and services.

High level of efficiency is needed in order to implement knowledge management process at the workplace:

The implementation of knowledge management within a particular business organization is a matter of serious concern for any business experts. Before implementing any specific knowledge

management theory, the business experts have to gain in-depth knowledge and idea. Otherwise, the business managers would like to take wrong decision regarding the business process. As a result, business organizations have to go through innumerable risk factors to maintain image and reputation. After the implementation of tacit knowledge management,

Contextual factors of knowledge management and e-commerce that affects business strategy:

Lack of operating skill of e-commerce business process:

In most of the cases, it has been observed that employees do not have proper skill and competency for operating the business process of e-commerce. E-commerce business process is out and out based on technology. Employees should have proper skills and competencies regarding the changing process of technology. Most of the recognized business organizations like Apple tend to provide effective training process to their employees so that the employees can be accustomed with the advanced technology. At the same time, it is undeniable that professional training process makes the existing employees more confident and efficient for operating the technology. On the other hand, if any kind of technological error takes place suddenly, employees can handle the issue efficiently after receiving the training program.

Choosing wrong theory of knowledge management within business organization:

Knowledge management process is possessed with several types along with various theories. In order to implement knowledge management a particular business organization has to analyze several factors. The business experts of Apple have decided to use tacit knowledge management inside the process of business. The business managers of Apple had to face innumerable difficulties for maintaining organizational culture after the implementation of tacit management process at the workplace. Employees showed their intense dissatisfaction for receiving an on job training. They lost their motivational spirit for performing well at the workplace. In this kind of situation, the rhythmic process of business was hampered highly.

Instable economic strength:

Instable economic strength is one of the most important factors that highly affects on maintaining e-commerce business process. A business organization has to invest a large amount of money in order to run an e-commerce business process effectively. Apple being one of the largest brands occupying recognition in international market does not have to face immense difficulties for maintaining their e-commerce business process in global market. At the same time, the business experts of Apple are flexible enough to provide an effective training process to the organizational employees. However, it is undeniable that organizations have to face difficulties if the business experts fail to bear the cost of advanced technology.

Questions

1. Write down Technology components of KM
2. Explain with examples E-commerce and KM
3. Explain impact of knowledge management and e-commerce on business organizations.