SPM [lecture highlights by sudhanshu kumar / MIM II yr]

Lecture 1: 17 Feb 16

(Some portions of the following script were covered in the 2nd lecture; however for sake of completeness they are being integrated in the Lecture 1 write up)

1. The Prof indicated the topic that we would cover today in the class. The topic was " Role & Functions of IT Dept" / Responsibilities of IT Dept

2. Comments by the prof:

In contemporary times, *a Company or an organisation has two major components of the business:*

(a) Runners of Business
(b) Enablers of Business

While sales, mktg, production and operations were seen as Runners of Business, (HR + IT) dovetail together as Enablers of Business

3. Classification of IT Dept/ Services could be based upon:-

(a) Infrastructure

- Hardware (servers/ clients/ mainframes/ desktops/ PCs/ Virtual Machines/ Hand Held Devices

(b) Software

- OS/ Apps/ Products (eg SAP; could be 3rd Party provided, written or bought. Gave e.g of *Amadeus/ Galileo* – the airline industry reservation booking apps)

(c) Network

- Routers/ Switches/Firewall/LAN/Modems/ Cables/DLP/Networks line (point to point link, close link, cloud)

- Mentioned that now technology is giving way to quasi IT components: Telephone with video!!!???

4. Discussion of role of IT in banks. What is the problems with banks? Although the IT enabled services in the banking system have undergone/ undergoing a

metamorphosis – the banks as institutions do not know the technology well, rather do not know in depth!!!

5. Future of tomorrow is:-

- Telecom

- Computing on the Go/ in the memory

- Servers/ Remote locations are becoming obsolete

6. In the contemporary times the % expenditure of organisations on IT is in the range of 5% - 14 %

7. Business level Apps – enable Business Productivity;

Desktop Level Apps – enable Personal Productivity

8. Then the Prof called upon different students, with IT background and asked them to write down their roles/ responsibilities in their respective charters at their respective organisations. I guess this was done to bring forth the different profiles of IT professionals. We had the professionals such as a Network Administrator, Development Team Manager, DBA – who gave a glimpse of their respective daily tasks. **Frankly, it all sounded too mundane!!!!**

9. It was apparent that most IT tasks reported by our professionals were Enablers of Business.

10. Discussion on IT Security. Most Apps written earlier were not written with serious Security in mind. Compared to the cost of doing/ acquiring business/ costs on account of compromised security are minimal!!!! { *did I interpret that correctly!!].*

11. IT Security has got its due focus in matters of National Security/ Power Grid Management.

12. Depending upon the environment of the company/ organisation / domain area of work- the structure of IT department changes.

13. IT security is not a part of IT Department but a part of Audit Function.

14. **Sure Shot Question (that's what the Prof Said!!)**: What is the Role of IT Dept?

Statement: IT department drives

(a) IT Infrastructure
- IT Hardware

- IT Software

15. Then the Prof asked the class to list out all IT functions in an organisation and organise them under suitable logical subheads. Following is the list that emerged:-

Sl	***Functions***	***Components***	***Remarks***
1.	IT Infrastructure mgmt	(a) Hardware	This Role will become obsolete
		(b) Software	This Role will become obsolete
		(c) Cloud (WebApps / External Cloud)	This will gain prominence
2.	Security	(a) of Data	This Role will become obsolete
		(b) of Network	This Role will become obsolete
		(c) of Applications	This Role will become obsolete
3.	Networks	(a) Inventory / Components	These Roles will become obsolete (*as organisations will progress towards Mobile Virtual Network Organisations - MVN*)
		(b) Firewalls	
		(c) Firmware (Hardware + Software)	
4.	Data Magmt	(a) Warehousing	These are strategic activities and not operational activities. These will gain prominence
		(b) Mining	
		(c) Database	
		(d) Master Data Mgmt (Vendor/ Articles)	
		(e) Backup / Disaster Recovery	
		(f) Metadata	
5.	Automation	(a) of Processes	These will gain prominence
		(b) Artificial Intelligence(AI)	
		(c) Virtual Reality	
		(d) IOT	
		(e) Robotics	
		(f) Telecom	
6.	Compliance	(a) Policies	

		(b) Standards	Big change will come here. These will gain prominence and create ***BRANDS!***
7.	Communication	(a) Video Conferencing	Will gain prominence and ***RUN THE BUSINESS!!***
		(b) Mailing	
		(c) Device Management	
		(d) Telecom	
8.	Analytics	(a) OLTP	Fast gaining Prominence and will merge with the role of Data Management
		(b) OLAP	
9.	Support and Maintenance		Will have to and WILL BECOME VERY POWERFUL
10.	R & D	Will gain greater importance	But will be performed at / will be the function of Universities/ Academic Centres (innovate/ progress/ invent)
11.	Access & Identity Management		???????
12.	Software Development	(a) Design	Will stay for some time. ***∂ of 15 yrs.*** Will get replaced by WebApps
		(b) Development	
		(c) Testing	
		(d) Analysis	
13.	Reporting	Business Intelligence	Will merge with Data Management

16. Next Delta (***∂***) Organisations:

- *Office less Organisations*
- *Organisations will become Outsourced Organisations*
- *What is Inconsequential Today, will become Dominant Tomorrow!!*

Lecture 2: 25 Feb 16

ROLE OF IT IN ORGANISATIONS…(Contd..)

1. Thought by Professor:

   Economics: *What goes up, comes down!! It is just a question of Delta!*

2. *IT is the destroyer of GDP!*

3. ***.COM*** *is a killer of livelihoods!*

4. Difference between IPV4 & IPV6? How did this discussion come about? While discussing IOT.

   - has a geographical Lock
   - individual lock
   - higher bandwidth
   - NFC (Near Field Communication)
   - MRC (Medium Reach Communication)
   - FRC (Far Reach Communication)

7. H*ad to do a readup to know its relevance (*IPV4 & IPV6) *in the discussion. Following may be useful:*

" The ***Internet Protocol version 4 (IPv4)*** *is a protocol for use on packet-switched* ***Link Layer networks*** *(e.g.* ***Ethernet****). IPv4 provides an addressing capability of approximately 4.3 billion addresses.*

The ***Internet Protocol version 6 (IPv6)*** *is more advanced and has better features compared to IPv4. It has the capability to provide an infinite number of addresses. It is replacing IPv4 to accommodate the growing number of networks worldwide and help solve the IP address exhaustion problem.*

One of the differences between IPv4 and IPv6 is the appearance of the IP addresses. IPv4 uses four 1 byte decimal numbers, separated by a dot (i.e. ***192.168.1.1****), while IPv6 uses hexadecimal numbers that are separated by colons (i.e.* ***fe80::d4a8:6435:d2d8:d9f3b11****)"*

Below is the summary of the differences between the IPv4 and IPv6:

No. of bits on IP Address	32	128
Format	decimal	hexadecimal
Capable of Addresses	4.3 billion	infinite number
How to ping	ping XXX.XXX.XXX	ping6

Advantages of IPv6 over IPv4:

- IPv6 simplified the router's task compared to IPv4.

- IPv6 is more compatible to mobile networks than IPv4.

- IPv6 allows for bigger payloads than what is allowed in IPv4.

- IPv6 is used by less than 1% of the networks, while IPv4 is still in use by the remaining 99%.

8. With the Prof re-iterating regarding growing importance of IOT in near future, the number of IP addresses required for the internet enabled devices will grow multi fold and hence IPV6 will gain importance. The preferences of the decision makers of the businesses will determine the network configurations/ requirements and the role that IT will play in these organisations.

9. **Delta (∂)** of *Infrastructure/ Security/ Conventional Networks in an Organisation* was predicted by the Prof to about 8-10 years.

10. His thoughts:

- Guy who runs the Telecom/ Data Management

- Will Run the IT

- And will also run the Business!!

Lecture 3: 03 Mar 16

1. **The New Normal:**

(a) DB Management/ Analytics/ BI/ WH/ Mining/ Reporting/SAS

(b) Network Administration

(c) IOT/ Automation/ Communication/Telecom / AI

(d) Maintenance & Support

- Sl (a) will be dominant for Financial Services

- Sl (b) will be dominant for STP (Stay Tuned Processes – Primarily for a manufacturing set up)

2. Re-iteration:

What is inconsequential today, will be dominat tomorrow!!

3. Outsourcing will gain momentum. Give tasks as listed at Para 11 above to ***Somebody who does it Cheaper, Faster & Better***

4. Nature of firms tremendously morphing each day.

- Cost Pressure are Rising

- Sales Decreasing

- Topline Decreasing

- Cost (bottomline) more or less stagnating

- Advertising and Labour Cost Increasing

5. Discussed something called **Mark to Market**. This was in relation to reduction in salaries (targeted govt. employees!!) as against the generally accepted norm of progressive increase in salaries depending on the conditions of the market. The prof was of the view that this will stabilise rising costs. Following may be useful:-

"What is 'Mark To Market - MTM'

Mark to market (MTM) is a measure of the fair value of accounts that can change over time, such as assets and liabilities. Mark to market aims to provide a realistic appraisal of an institution's or company's current financial situation.

6. The prof stated that the **Delta (∂)** for firms will depend upon the nature of businesses that they dealt in. They will continuously undergo change to stay relevant for e.g.

- Oil vanishing – giving way to Shale & Gas fuels – iving way to Hydro/ Solar

- Textile vanishing for Reliance – foray into other sectors

7. Something about Child internalised into the mother; Umblical conductivity! I am lost! This is getting philosophical. Unable to connect! Poor NETWORK!!

8. ***Technology will be the driver of business***. In contemporary times, one sees CFOs and CMOs making it to the top job of CEO. In very near future it will be the CIOs who will be the CEOs

9. Where is the **Delta (∂)** coming from , which is changing the IT world?

- Market Forces

- Technology Forces

10. Digital Re-imagination – Virtual: *ULTIMATIX*

Much talked about in the class. TCS guys were paraded. They provided some clues (only some!)

Following may be useful:-

Every company has its ERP portal for automating employee related services like salary, timesheet, HR related services and so on. Small companies can buy such services from other organization as employee count is very less for them. TCS is huge organization having 3,00,000 employees and still growing. To handle all employee related services and functions, they need to put up huge and scalable system. Ultimatix.net in TCS serves the same purpose. Ultimatix is official TCS portal for fulfilling employee related services.

Basically it's a virtual HR dept – created by the IT Guys!! Just an example how an organisation can be turn around by deployment of scalable models technology intensive modules.

11. Similarly, marketing will be Technology intensive career. All modes and means of marketing will go digital. We are already seeing the advent of it. Online Ads/ Social media/ Google ADwords etc

12. IT will force PHYSICAL infrastructure into oblivion. Work from Home, Physical Bank transactions/ offices will be things of the past soon.

Lecture 4: 09 Mar 16

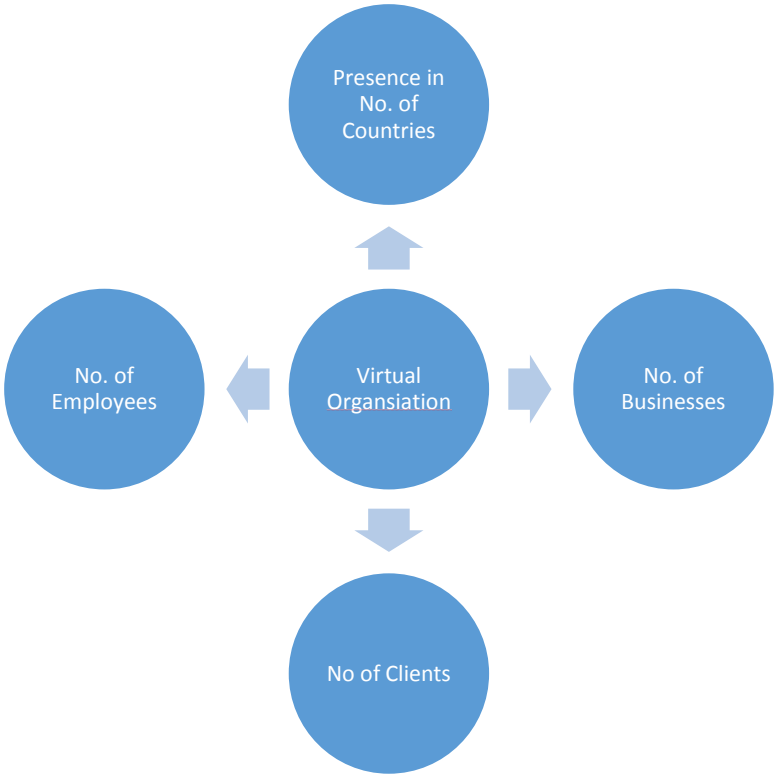
Neo ITD Virtual Organisations (IT Driven)

1. Will function as a Business Driver

2. Will be capable of being more Analytical/ Proactive & Future Oriented

3. And to lead towards being a lean NEO ITD Virtual Organisations, there is a unmistakable growing scope of Software Project Management.

4. Virtual Organisations:- Today , an organisation cannot be said to be located in a particular area. Successful business enterprises have transnational/ transcontinental presence (in multiple countries) with diverse clients to their diverse businesses. Employees catering to clients all over the globe. Such businesses can be successfully driven only by IT



5. Tomorrow's Organisations will have minimal work. Take any industry:-

- Its core competency

- Accounts

- Transportation

- HR functions

- Marketing

All these will be managed by Apps.

Minimum functions will reside within the organisation

Today IT is a support. As more and more Organisations get to be Virtual Organisations ,

IT will get to be its driver!!

6. Work on in the field of DNA/Gene/ Plasma based computing.

7. Systems will be designed with self-healing capability

8. Payment Banks – Lean, Mean, Low End banks will replace conventional banks

9. What is a Bank? It is an entity which is a warehouse storing money for getting better use

10. Most Software Management Tools , do not have built in Analytics.

11. We need Virtual Project Management?? Following may be useful:-

Virtual project management is the system by which virtual teams collaborate for a finite period of time towards a specific goal. There are several appealing definitions in the literature.

Peterson & Stohr identify virtual teams (a.k.a. Geographically Dispersed Team) as a "group of individuals who work across time, space and organizational boundaries with links strengthened by webs of communication technology. They have complementary skills and are committed to a common purpose, have interdependent performance goals, and share an approach to work for which they hold themselves mutually accountable."

A brief, but similar definition is proposed by Krill & Juell: "A virtual project is a collaborative effort towards a specific goal or accomplishment which is based on 'collective yet remote' performance."

Perhaps an appropriate approach is to view virtual projects and teams as simply projects and teams with a virtual overlay. This is a perspective taken by Cantu who proposes teams become virtual when any of three components are added to the mix:-

(a) *Different geography or locations of team members,*
(b) *Team members from different organizations or parts of the organization, or*
(c) *Different durations or lengths of time that member work together as a team.*

12. Example of freelancers.com/ market place for moonlighters

13. Skills of future for IT Professionals:-

- Software Development

14. Job of IT Professionals in future:-

- R & D

15. Managing ITOT (IT Operations and Telecom)

(a) Task of IT today : Managing IT, Telecom and IT Resources

(b) Including mainframes and servers. Main frames- where a huge populace is using the resource/ Enterprise Wide Application. While servers used where a high degree of specialisation is required. E.g of split CRM – prevents 360 deg view of customer

(c) Network is the backbone of any organisation – will grow more and more prominent

(d) Recognise a trend, before it becomes a wave

(e) Airtel/ Vodafone – on the path to being a bank. Conventional banks will become obsolete.

(f) Move from a physical culture to a virtual culture

(g) Ownership of IT assets is something which is on its way out????

16. Software Project Management is still evolving. Some of the biggest challenges are:-

(a) Keeping it bug free and running

(b) Effort in running a software is more than in making it

(c) Availability of quality firmware (Hardware + Software)

(d) Reliability of software

(e) Having a six sigma in process and having a six sigma product is different!!???

(f) Customer service is a problem because software process maturity is low??? Following may be useful:-

Software Development Processes

An important initial step in addressing software problems is to treat the entire development task as a process which can be controlled, measured, and improved. For this purpose, we define a process as that sequence of tasks which, when properly performed, will produce the desired result. Clearly, a fully effective software process must consider the interrelationships of all the required tasks, the tools and methods used, and the skill, training, and motivation of the people involved.

The basic principle of software process management is that if the development process is under statistical control, a consistently better result can only be produced by improving the process. If the process is not under statistical control, no progress is possible until it is. Statistical control means that if the work is repeated in roughly the same way, it will produce approximately the same result.

To improve their software capabilities, organizations need to take five basic steps:

1. Understand the current status of their development process

2. Develop a vision of the desired process

3. Establish a list of required process improvement actions in order of priority

4. Produce a plan to accomplish these actions

5. Commit the resources to execute the plan

This process maturity structure is intended for use in conjunction with an assessment methodology and a management system. . Assessment provides a way to identify the organization's specific maturity status and the management system establishes a structure for actually implementing the priority actions needed to improve the organization.

Lecture 5

1. Re-iterated the conventional Role of IT and the future Roles as discussed in previous classes

2. Some islands will remain i.e. the traditional IT roles. We will have to figure out how to do them differently

3. Some other envisaged role of IT/ SPM:-

   (a) Change Management

      - What is it that you want?

      - How do you make it happen?

   (b) Configuration management (MDB) (load balancing/ structuring / partitioning of memory/ handling databases)

   (c) Hybrid Performance Management

   (d) Traffic Monitoring (TOC)

   (e) Network Monitoring (NOC)

   (f) Network Design

   (g) Risk Assessment

   (h) Patch Management

   (i) Process Improvement

   (j) Compliance

   (k) Knowledge Management

   (l) Bug Tracking/ Quality Control

   (m) Vendor Management

   (n) Identity/ Access management

4. Some other discussions:-

   (a) Information warfare

   (b) CERT – Computer Emerging Response Time

   (c) Weather manufacturing/ cloud seeding

(d) Merging of conglomerates