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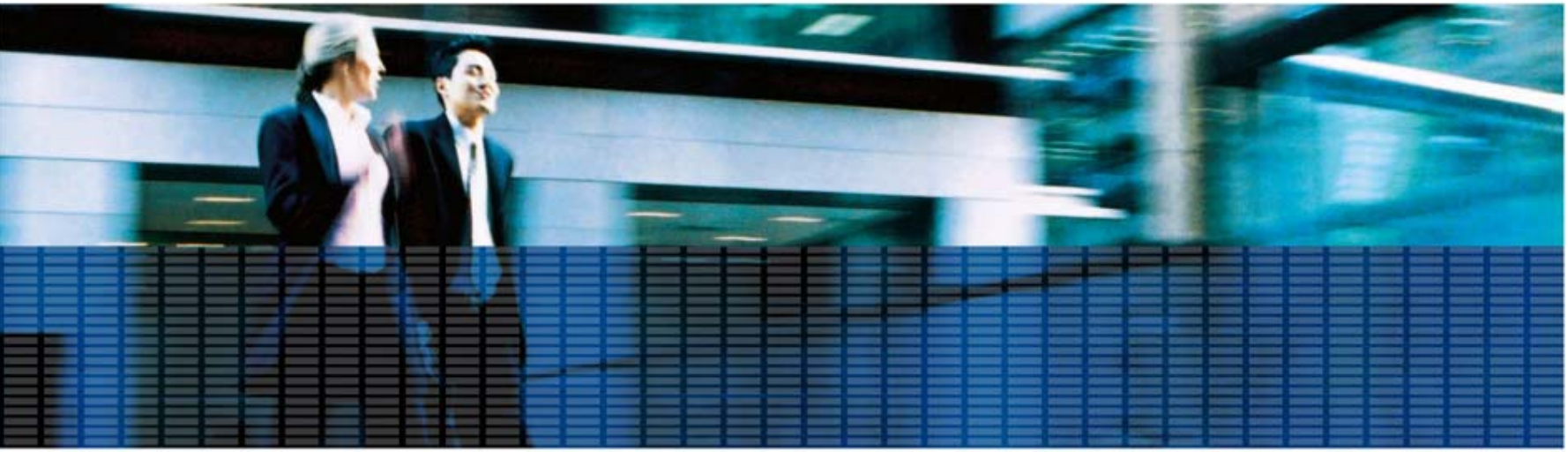

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The Impact of Technovation and Collaboration on Strategic Service Classification in the Digital Economy

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&

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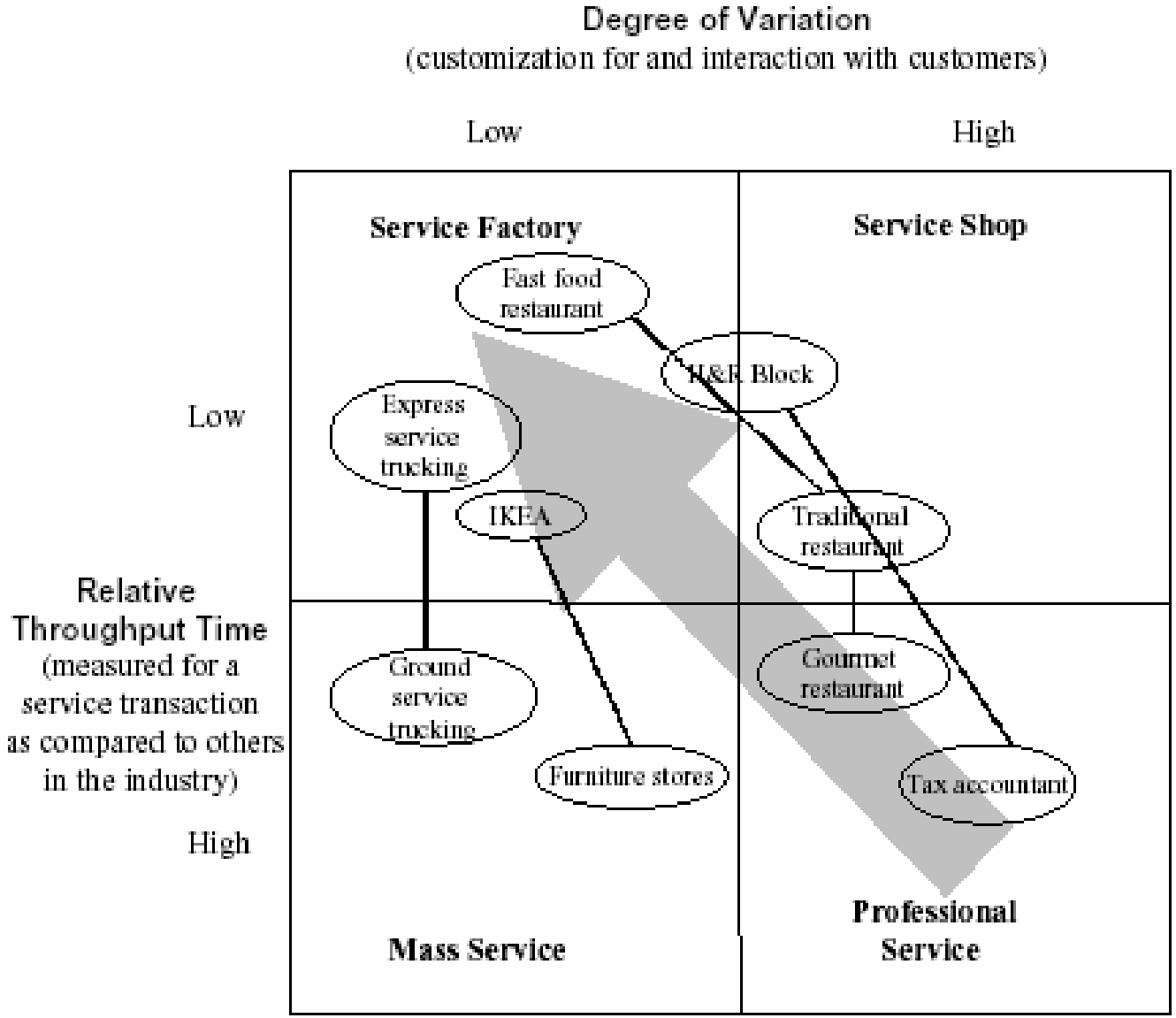
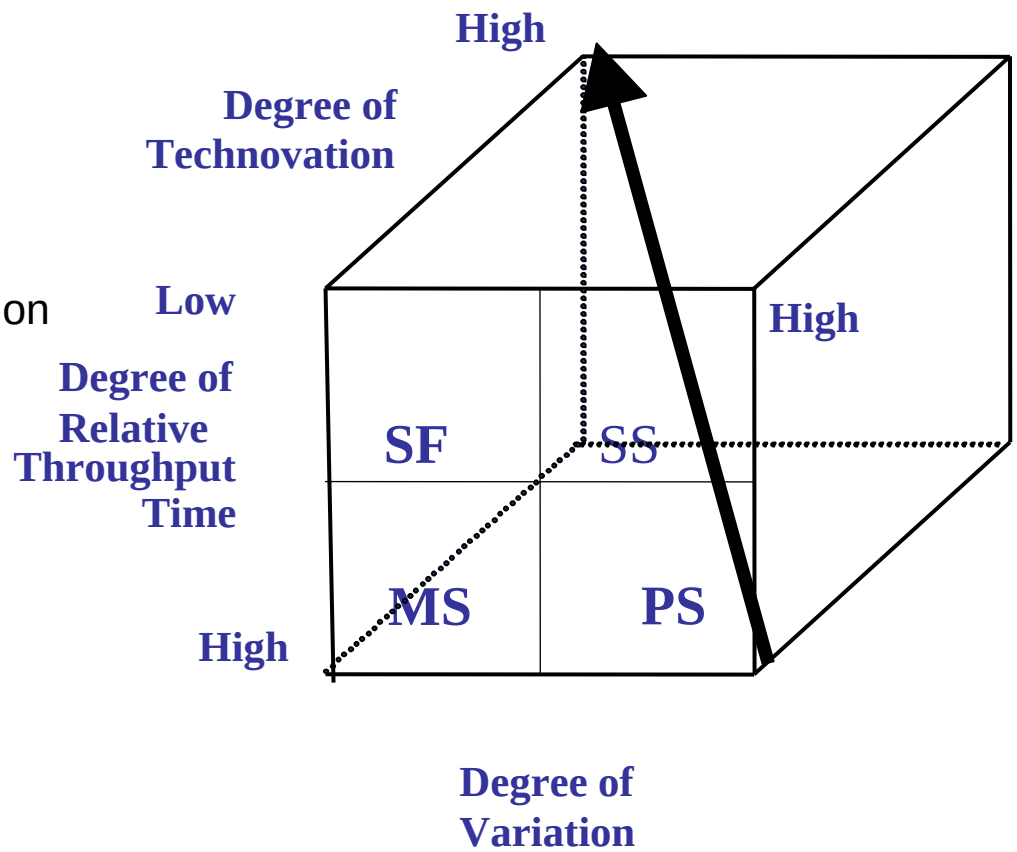
Figure 3: Classifying services.



Source: R. Schmenner, Service Businesses and Productivity, Decision Sciences, 35/3, summer 2004, p342

The Services Cubicle Framework

- Degree of Variation
  (customisation for and interaction with customers)
- Degree of relative throughput
  (measured for a service transaction as compared to others in the industry)
- Degree of Technovation
  (*Technovation defined as application of IT, e-commerce, telecommunications and IT in conjunction with processes, knowledge, technology and relationship management)



Example 1: Telecommunications and Film/Television/Video-CD Industry

- Telecommunications industry faces a threat to its traditional voice services, with cable companies like Cox in the U.S. offering phone call and high-speed internet access over its cable in competition with local phone companies.
- With the advent of broadband and internet, there is major competition amongst various industry players – Television, telephone service providers and internet, popularly known as the Triple Play.
- In response to competition generated by different value chain services, cable providers and power companies providing broadband services at TV channel speeds are lately positioning themselves with new generation service packages, including services such as video-on-demand.
- Video-on-demand services affect the service value chains of several industries, grouped as telecommunications (telephony, internet broadband access and Television), and multimedia (Television/film industry, sports and entertainment, and retail purchase/rental of DVD)
- Whilst these developments are purely based on technological developments, the different players in the industry must strategically position themselves whilst working collaboratively, and must redesign service offerings to meet different market segments.

Positioning in the Cubicle

- Schmenner positioned back-of the house operations of telephone services (network connection design and operations etc.) under Mass Services (point A), with front-end activities (ordering etc.) classified as a Service Shop (point B)

- Due to technology advancements in the telephone infrastructure and operational management systems, telephone services and features (calling line display, call waiting etc.) Schmenner has re-classified telephony services as a Service Factory (point C shown as (x1, y1, 0))

- Based on the new proposed framework, and the advent in technology, the new service-offering proposition is placed at the high end of the degree of technovation, relatively reduced degree of relative throughput and degree of variation represented by point D (x2, y2, z2) where x2<x1, y2<y1 and z2>0

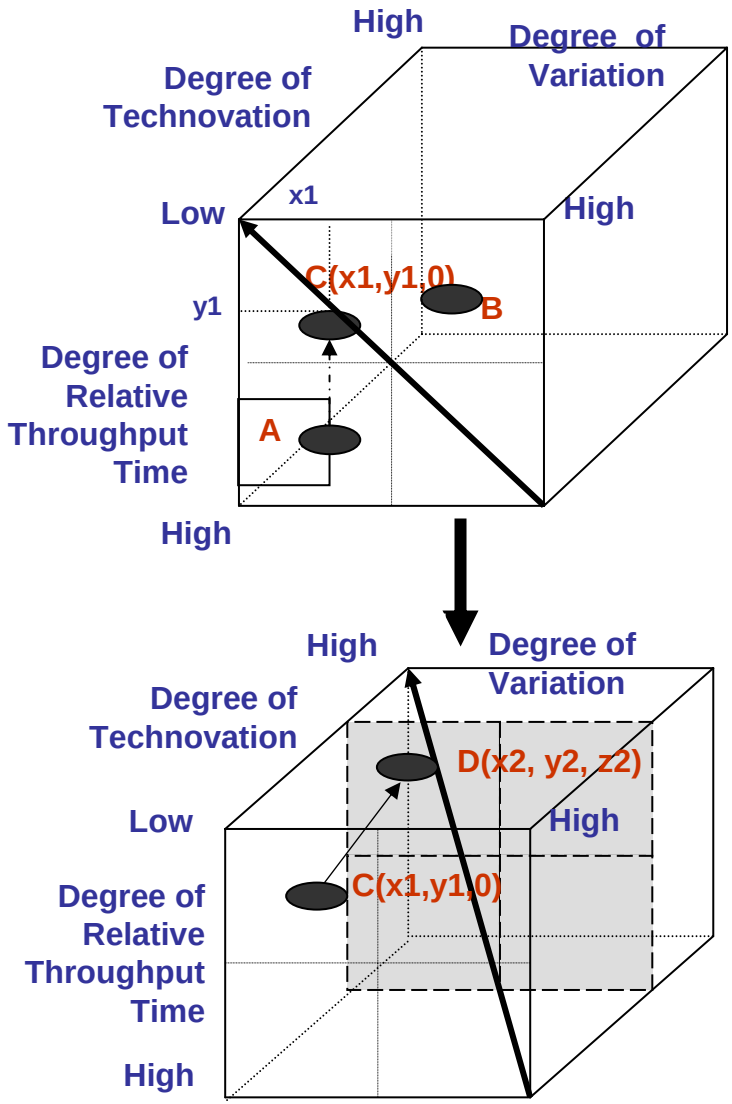
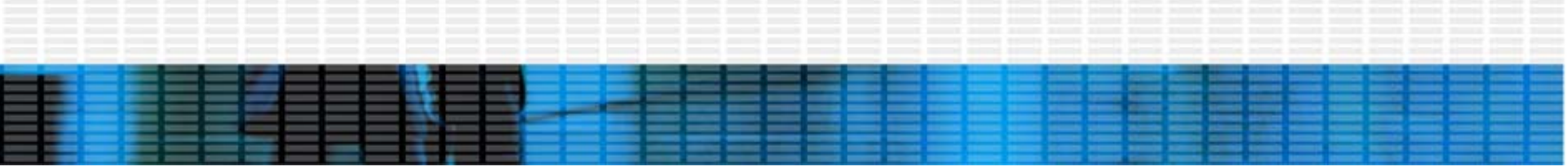


Figure 2 : The Service Cubicle Framework as applied to Telecommunications services



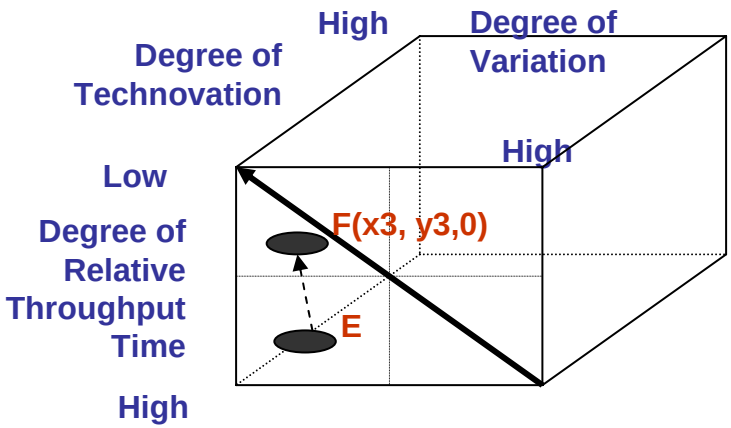
Managerial Implications for the Telecommunication Services

- Advancements in technology are imposing competition amongst various industry players by transforming industries, almost necessitating the need for convergence
- Country specific regulatory threats and pressures are imposing challenges on organisations and industries
- Customers experiences, knowledge and dependency on internet and e-business are increasing expectations from the industry
- To sustain a competitive edge, organisations need to be agile, responsive and be conscious of the spatial needs of the customer, manage the market and regulatory threats, and thus re-position and align themselves with new generation service offerings - through collaborations,
- Challenges for managing change are multi-fold and dynamic - inter and intra organisational aspects from a strategic, structural, cultural, operational and human resource perspective

Example 2: Banking Retail Industry

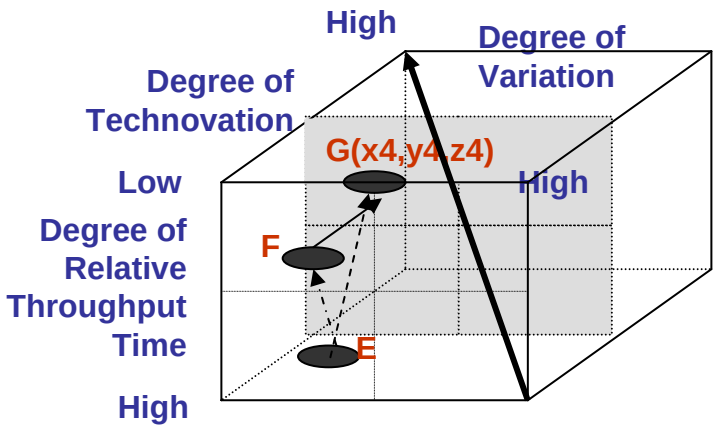
- Banking is a service industry that continues to be changed by trends such as deregulation and advances in technology
- With the introduction of ATM's in the late 1960's, bank customers were able to draw cash twenty four hours a day and now ATM's are a mature technology and its wider application as a proven example of technovation and partnering, as well as a proven delivery channel for banks
- The advent of internet and e-commerce applications have further changed the way people do their banking eg. customers can now manage and access account information and transfers, online bill payment, and financial investment services via e-banking and bpay
- The use of voice recognition technology (VRT) in the area of retail banking, recognises individual signature traits in the voice (rather than the words themselves), and has now advanced to such a stage as to be a reliable way of identifying a person.
- This VRT associated banking technique could be used to improve the banking service value chain by making it unnecessary to carry bankcards, banks not required issuing them, and the like.
- The same VRT banking technique could be used to legally identify ones self while engaged in internet banking from anywhere in the world, thereby abolishing time and spatial differences.
- Banks are now partnering with telecommunications service providers to trial out these banking service delivery channels, which will lead to further partnering across industries and will affect the banking value chain industry.

Positioning in the Cubicle



- Schmenner classifies retail banking with ATM banking included at F (x3, y3,0) as a “Service Factory”, as opposed to “Mass Services” as shown at E

- It appears that under the frame z=0, lower throughput times and/or less variation was achieved as a result of ATM banking operations, resulting in greater productivity.



- ATM is a result of technology development and is a completely different delivery channel for retail banking, the authors believe that this service should have been deployed in a frame other than z=0, ie. Z3>0 say as positioned at G(x4,y4,z4).

- The transition should have been from Mass Service to Service Factory ie. E to G, with improvements in productivity and further complemented with technology initiated value-add benefits by the use of ATM, Credit Cards, and internet banking.

Figure 3 : The Service Cubicle Framework as applied to the Banking Retail Industry

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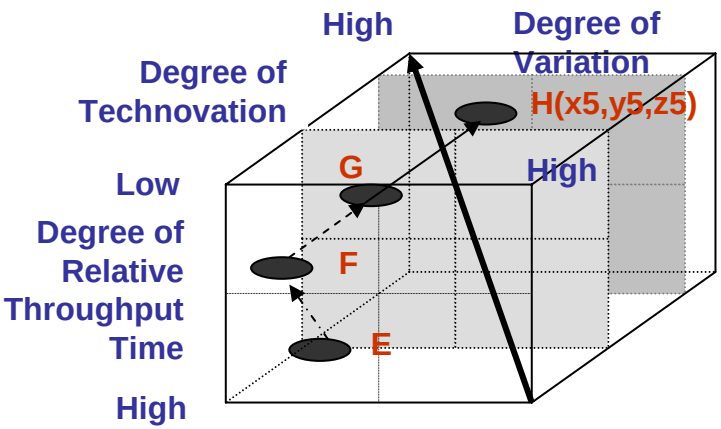

Figure 3 : The Service Cubicle Framework as applied to the Banking Retail Industry

Positioning in the Cubicle

- Under this new schema, it would be appropriate to position retail banking within the Service Factory cubicle, with z>0, such that it has a low to medium technovation, resulting in placing this service offerings at H (z5>0, x5<=x4, y5<=y4).

- This development highlights global reach and access (for frames z>0) only because of:
  - the role of technology in transforming the design of the service itself,
  - collaborative inter and intra working of banks and other organisations,
  - changed operations that deliver this retail banking service to its customers via different delivery channels
  - the management of these options that pose challenges to the owners of this industry
  - the transition resulting in improved productivity and efficiency of organisations
  - bank customers gaining full management control of their finances

Managerial Implications for the Banking Retail Industry

- Retail banking industry is fairly advanced in its use of ATM, internet banking and bpay, however pose some limitations and risks (a lost card destroys ability for spatial access),
- On the other hand developments in technology - in future VRT will recognise individual signature traits in the voice (rather than the words themselves) and will become a legal and reliable way of identifying a person
- This imposes managerial challenges for retail banking organisations in terms of design of service offerings, process, technology, relationship, security, spatial parameters – abolishing time and spatial differences and increasing dependency on e-business
- Whilst need for physical ATM cards, bank cards etc will diminish, need for testing the complexities of security aspects are imposing partnering with telecommunication service providers to test new delivery channels for consumers

Example 3: Medical/Health Value Chain

- In the health sector, growing user/customer dissatisfaction with mass production to individual problems, and the growing power of users to find their information on the web, leads to user/patient having greater control and ability to query their treatment
- In an effort to improve healthcare delivery, globalisation and advancements in technology enable a delivery shift from highly concentrated performance locations (eg. Hospitals) to virtual delivery environments such as telecare/telemedicine which allow for delivery of healthcare to remote patients and facilitates information exchange between generalists and specialists.
- Schmenner highlights that nations where groups of companies routinely pursued “swift, even flow”, should industrialise more quickly, and to a greater extent, than those nations whose companies did not pursue swift, even flow in their processes. If this is true, then medical facilities in developing countries need to move within an alliance structure where researchers, doctors, and institutions are all collaborating. The resulting value add is the provision of such services as mentioned above, made possible by new technology applications and the creation of new service delivery channels through collaborating consortia of industry partners.

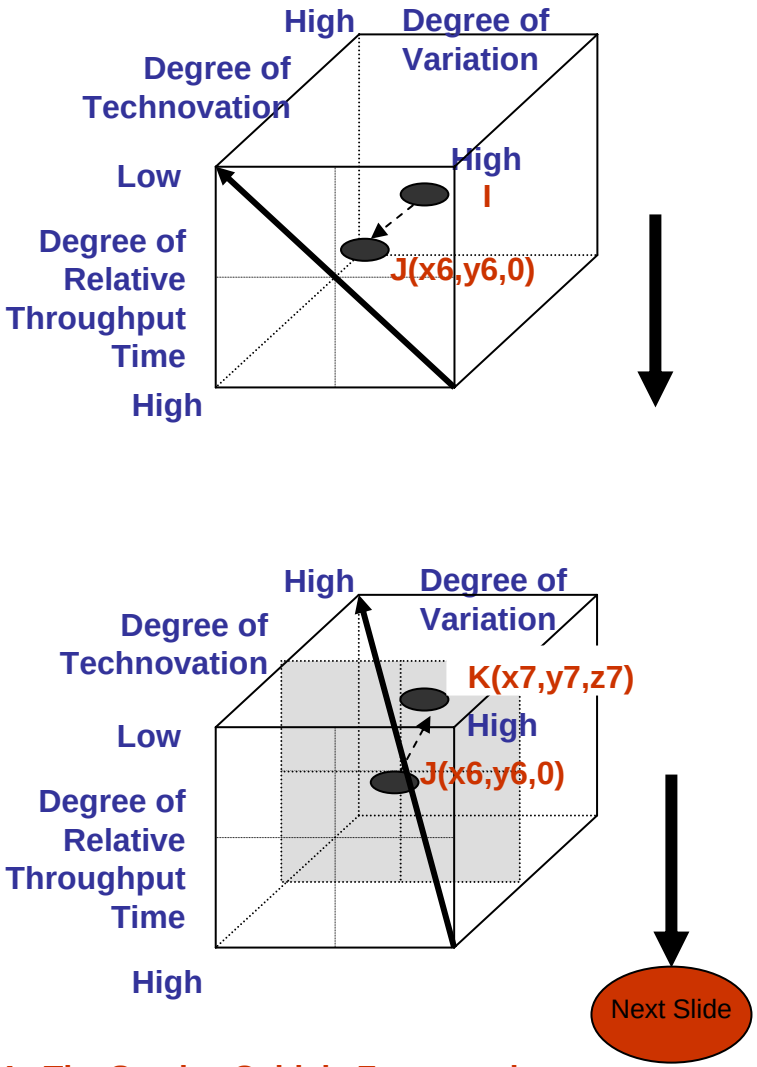

Figure 4 : The Service Cubicle Framework as applied to the Medical/Health Value Chain

Positioning in the Cubicle

- Schmenner argued that hospitals originally were a Service Shop placed at I which over time, due to innovations, had a trend to convert to for-profit hospitals as shown at J (x6, y6, 0), with reduced number of customer interactions, customization, and relatively reduced labour intensity

- it would still be appropriate to position traditional medical/hospital industry still within the Service Shop quadrant at K(x7,y7,z7) where z7>0 but positioned with a z7 degree of technovation involvement and engagement into the operating model (with traditional use of technology and some limited delivery of medical health services to distant places)

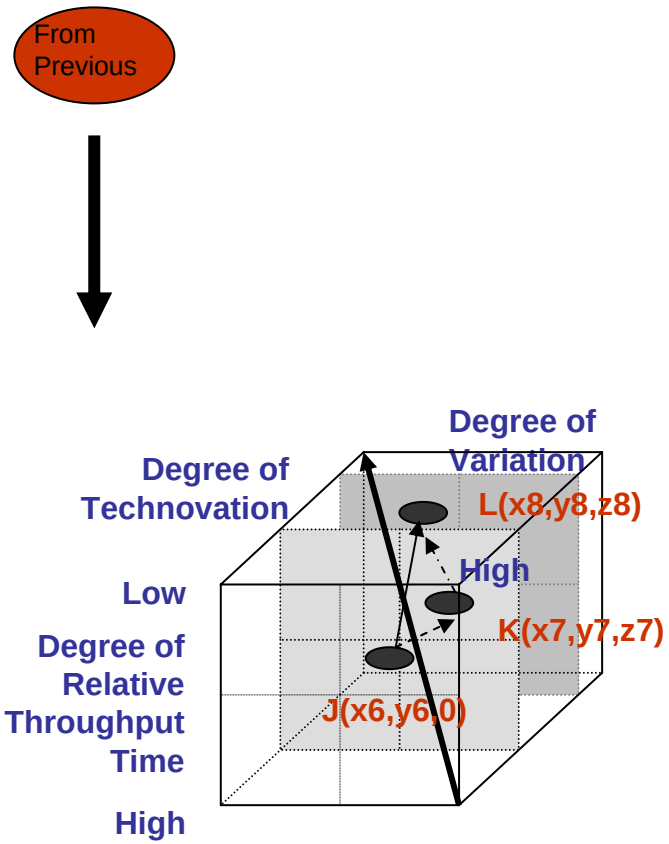

Figure 4 : The Service Cubicle Framework as applied to the Medical/Health Value Chain

Positioning in the Cubicle

- With the advent of telemedicine point K (x7, y7, z7) moves towards a Service Factory at L (x8,y8,z8), such that it has a medium technovation and low collaboration, resulting in placing this service offerings at L such that z8=>z7=>0 , x8<=x7<=x6, y8<=y7<=y6).

- This includes more advanced applications such as heart scans and medical diagnostics made available to places where these services are currently non-existent. E-health systems exhibit a range of applications, including emergency telemedicine, epidemic control, and combating bioterrorism, all which can be worked towards

Managerial Implications for the Medical/Health Value Chain

- Health care in most countries is a public service offering
- Advancements in ICT, shortage of specialised health specialists, timely access to health services especially rural sectors are forcing doctors, patients and service providers to gain operational skills and deliver services in novel ways
- Telemedicine and e-health exhibit a range of applications, including emergency telemedicine, epidemic control, combating bioterrorism. These applications and new service offerings will save and change lives for many in an attempt to establish a medical system which can enhance citizen's equality in the access of medical facilities
- However, this imposes significant managerial challenges for the health industry - relevant telecommunications infrastructure and e-business, cultural inertia across nations and organisations, security and privacy, customer management as well as exploitations of technology, information systems and processes in an informed manner,
- Partnering inter and intra organisation within and across industries (telecommunications) and nations (WHO) are key to achieving this outcome

Example 4: Professional Services Value Chain

- The face of the professional services has been changing and evolving with time
- Professional services as delivered by architects, consultants, doctors, tax accountants, lawyers and other professional's within the Professional regime are highly specialised, customised and delivered at a slow pace
- In an era of technological advancements and internet, most law firms are experiencing dramatic changes and are forced to evaluate the way in which they will conduct business with their clients, with particular emphasis on productivity of legal staff, cost control and operational efficiency
- As clients demand new services and immediate access to attorneys and information, at all times of the day from anywhere, law firms have started to realise the potential of deploying integrated knowledge management systems in an urge to put a new focus on high-value service delivery rather than on billable, hour-based matters
- Legal market regulation in the UK is on the way to significant liberalization, which possibly may affect the development of online legal services. It is reported that the British government will move to adopt the Clementi Commission recommendation that "will allow outside investors to own law firms and other professionals to form partnerships with solicitors"
- Against this backdrop, law firms are now seeking innovative solutions and technology applications, in conjunction with new ways to lift barriers to collaboration, including outsourcing and off shoring some of their non-core legal activities

Positioning in the Cubicle

- Schmenner classified professional services provided by architects, consultants, doctors, tax accountants, lawyers and other professional's within the Professional Services quadrant at M.

- Schmenner in his revised framework placed the traditional tax accountants still at M(x9,y9,0), where the customization and interaction (variation) was great and the relative throughput time (order-to-delivery) was high.

- In contrast, Schmenner positioned firms such as H&R Block and paralegal staff (new business organisational structures), which are more focussed on individual tax returns etc and require less customization, interaction and relative throughput times, in the Service Factory quadrant at N(x10,y10,0).

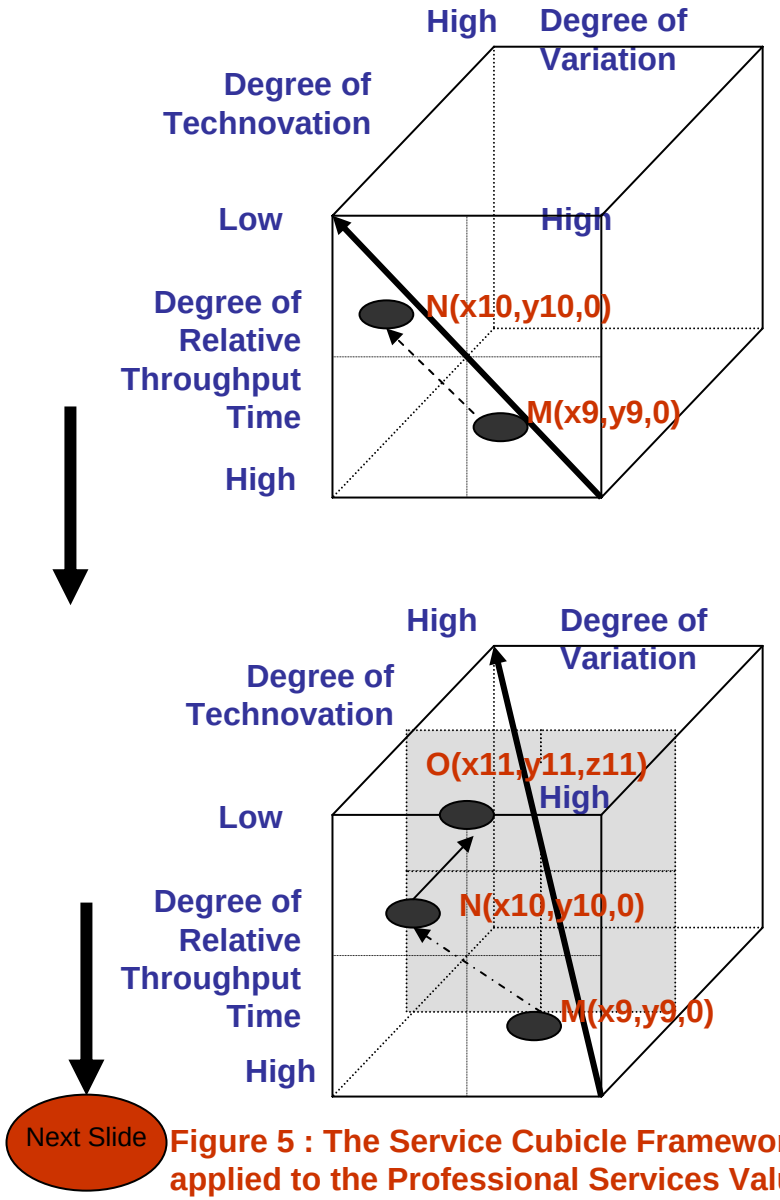

Figure 5 : The Service Cubicle Framework as applied to the Professional Services Value Chain

Positioning in the Cubicle

- Professional service providers, eg. law firms seeking for innovative solutions and technology applications, in conjunction with new ways to lift barriers to collaboration, including outsourcing and off shoring some of their non-core legal activities.
- The traditional paralegal functions followed by outsourced, off shored, and online legal functions are placed in the Service Factory quadrant at O(x11,y11,z11) such that z11>0
- Strategic functions such as automated document management, legal research, self-service research tools, query databases, portals, data mining, practice management and transactional systems which enable delivery of novel legal service offerings are made up of medium technovation, still requiring customisation and interaction with clients but with relatively lower throughputs.
- This positions these specialised services in the Professional Services-quadrant at P(x12,y12,z12) made up high technovation, low customer interaction and customisation, with very low throughput such that x12>=x11,y12>=y11, z12>=z11

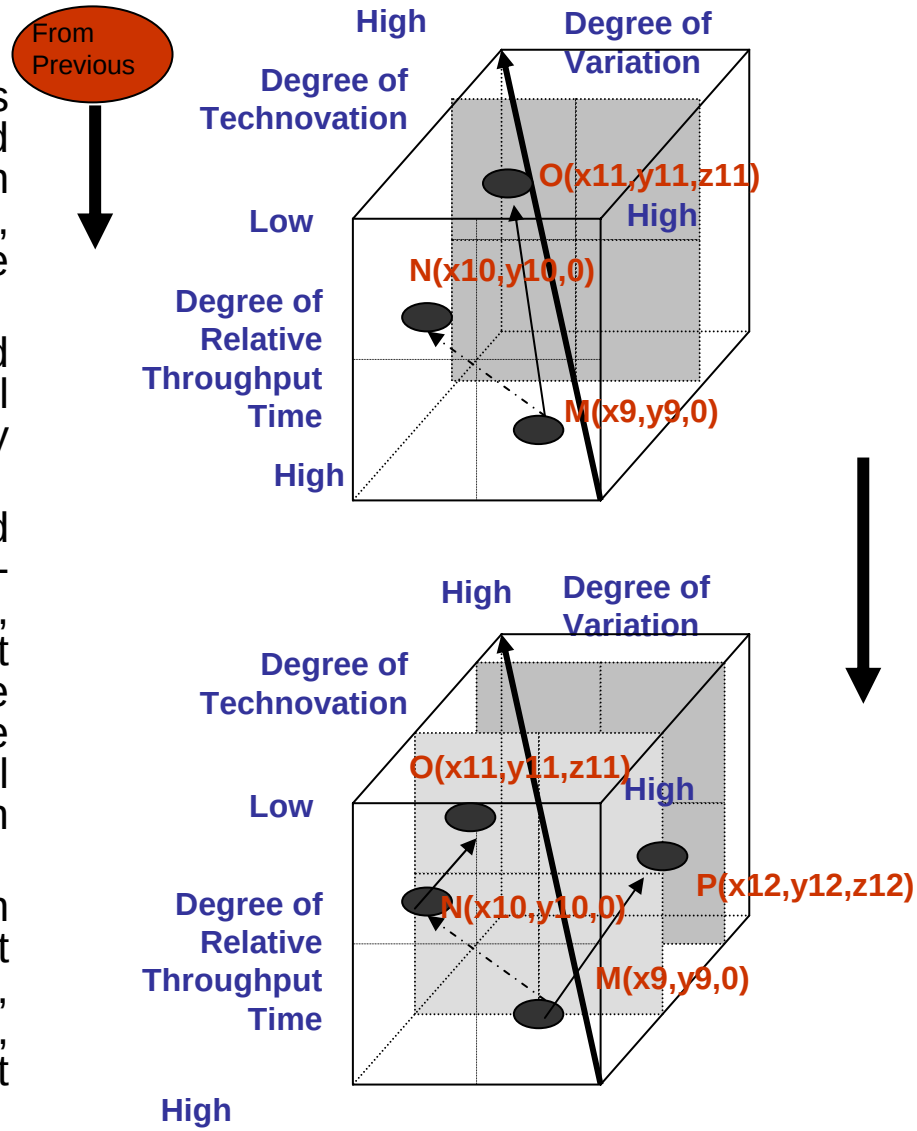

Figure 5 : The Service Cubicle Framework as applied to the Professional Services Value Chain

Managerial Implications for the Professional Services

- With ICT advancements and evolution of professional knowledge based systems, splitting the core from support functions of this industry is eminent
- The more conventional practice based transactional support functions such as paralegal, are likely to be outsourced, off shored and become online – e-business dependent
- The high end professional service functions will still require customisation and interaction with clients and will remain as the core function of any professional service provider, but at a high response rate due to the efficiencies and effectiveness of the back-end support infrastructure
- The professional service industry as a whole gains mobility, flexibility, agility and security, thus gaining an ability to design service offerings which allows them to differentiate themselves from competitors and yet contain costs
- Managers need to guard, protect and align service offerings, build organisational structures, supporting processes and IT systems and manage customer encounter points

Managerial Implications and the Service Cubicle as a Tool for Service Classification

- The four examples so chosen shed good insight into Schmenner's framework – one each for Mass Factory, Service Shop, Service Factory and Professional Services with the diagonal representing the productivity diagonal
- The Service Cubicle, with the added third axes of degree of Technovation demonstrates that in effect MF, SS, SF and PS are not merely the four quadrants of the 2X2 Schmenner framework, in fact represent cubes within the 3X3 research framework of the Services Cubicle
- Based on the four examples, it is evident that as degree of technovation is introduced - new technology options, delivery channels and collaborative arrangements when taken together, arms organisations with collaborative agility which has a positive impact on the overall productivity as shown by the cubicle diagonal – hence a reduction in the degree of variation and degree of relative throughput of a service offering
- Thus, the taxonomy, the notion of Technovation forms a very important aspect of the Service Cubicle – a service classification template for strategic analysis and decision making and for managers to use and position their service offerings in a dynamic manner

Areas for Future Research

- Investigation of the key drivers of technovation and their impact on services management
- Empirical research as to finding evidence for productivity improvement along the suggested diagonal movement within the service cubicle
- Implications of service cube movement on service design and value network configuration