

## A Note on Service Sector

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1. Considering it under three broad categories facilitates analysis of service sector:

- That provides knowledge intensive and high technology services such as communications, software development, R&D
- Services as business activity: such as financial services, hospitality, renting of machinery & equipment, transport
- Services directly for social development such as for education, health, sanitation etc

Clearly each of these types directly contributes to GDP but in addition enhance the contribution of all other sectors to GDP. For example two high technology service industries, telecommunications and software development have greatly changed business and delivery processes in almost all the sectors contributing to their growth.

2. Innovation and R & D in the service industries have characteristics different from those in manufacturing industries. Service innovation is often immaterial in nature and therefore difficult to measure and protect. Services have a higher degree of customization and hence 'R & D' and innovation require strong inputs from 'customer' or 'user'. Unlike manufacturing, R & D is not localized, the activity is dispersed in a sort of network.

3. In service industries, the internal organizational processes and behavior play a much more important part than in manufacturing in which by and large processes are standardized. For example existence of internal 'systems' capabilities are critical for ICT to contribute to the performance of a firm. Similarly in service sector, innovative design and efficient management of supply chain is the key determinant of its growth. Aggregators are new types of firms supplying services, and their numbers are expected to increase.

4. Not all service industries are the same. They require different skills, organize their 'production' and marketing functions differently, make use of different levels of technology and serve different markets and differentiated customers. . They may have different propensities to engage in international trade, and to innovate, and they respond differently to economic conditions.

5. In summary, quantitative analysis of growth and competitiveness of service firms or organizations require looking at and using tools and techniques for measuring organizational processes.

*End Note: As far as measurement of R & D and innovation in service sector is concerned, OECD and other international agencies are preparing manual of standardized definitions and concepts based on their experience of working in manufacturing industry and detailed analysis of construction, utilities and marketed services.*

**Box 1. Examples of TPP innovations in selected service industries**

**Wholesaling of machinery, equipment and supplies**

- Creation of web sites on the Internet, where new services such as product information and various support functions can be offered to clients free of charge.
- Publication of a new customer catalogue on CD (compact disc). The pictures can be digitally scanned and recorded directly on the CD where they can be edited and linked to an administrative system giving product information and prices.
- New data processing systems.

**Road transport companies**

- Use of cellular phones to reroute drivers throughout the day. Allows clients greater flexibility over delivery destinations.
- A new computer mapping system, used by drivers to work out the fastest delivery route (*i.e.* from one destination to another).
- This makes it possible to offer clients faster deliveries.
- The introduction of trailers with eight globe-shaped containers instead of the usual four.

**Post and telecommunications companies**

- Introduction of digital transmission systems.
- Simplification of the telecommunications net. The number of layers in the net has been reduced by using fewer but more highly automated switching centres.

**Banks**

- The introduction of smart cards and multipurpose plastic cards.
- A new bank office without any personnel where clients conduct “business as usual” through the computer terminals at hand.
- Telephone banking which allows clients to conduct many of their banking transactions over the phone from the comfort of their own homes.
- Switching from image scanning to OCRs (Optical Character Readers) in the handling of forms/documents.
- The “paperless” back-office (all documents are scanned for entry into computers).

**Software consultancy and supply companies**

- The development of a whole range of different customer packages in which clients are offered varying degrees of assistance/support.
- The introduction of new multimedia software applications that can be used for educational purposes and thus eliminate the need for a real life human instructor.
- Making use of object-oriented programming techniques in automatic data processing systems development.
- The development of new project management methods.
- Developing software applications through computer-aided design (CAD).

**Technical consultancy companies**

- A new method of purifying water abstracted from lakes for use as household drinking water.
- Offering customers a new “supply control system” which allows clients to check that deliveries from contractors meet specifications.
- The development of a standard for construction work carried out in already densely built-up areas (where care has to be taken not to inflict damage on any of the surrounding buildings).

**Advertising and marketing companies**

- Delivering lists of potential customers on diskette together with a list filing system (software) that allows the client firms themselves to analyse and draw samples from the list.
- Being able to assist clients in direct marketing campaigns by offering to distribute pre-labelled advertising leaflets, etc., addressed to selected households.
- Initiating a control process to check by phone with random households that they are actually receiving the adverts/leaflets they are supposed to.
- Delivering the software applications needed for clients themselves to be able to analyse data along with statistical databases.