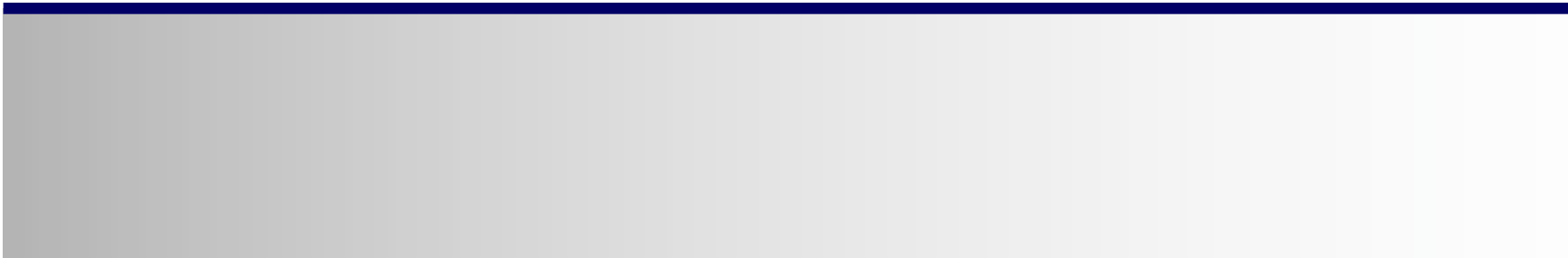


CdL Data Science 2021-22  
Service Science  
F9101Q022

**SSME = Service Sciences,  
Management and Engineering**

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# 1° Services

# Agenda

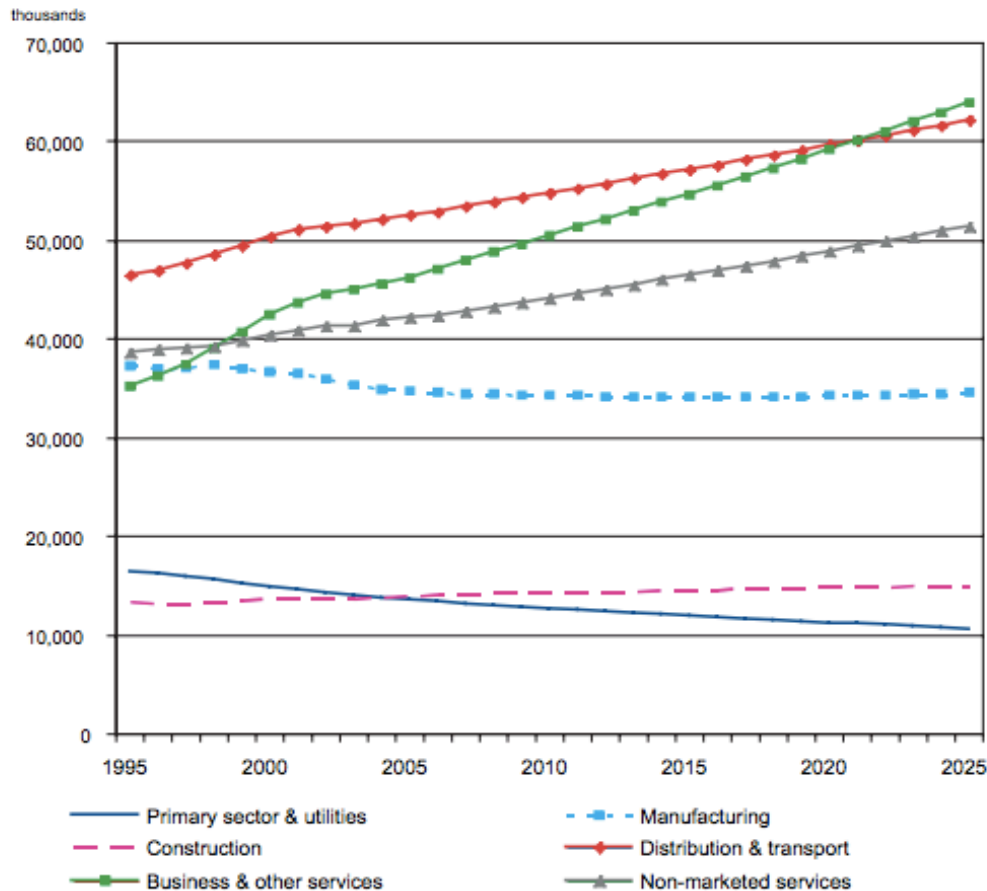
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- Context to the study of services
- History and early definitions of services
- Differences between products and services
  - Understand and define the services dominant economic shift
  - Discover the fundamental principles underlying services
  - Determine the elements necessary for systematic services innovation

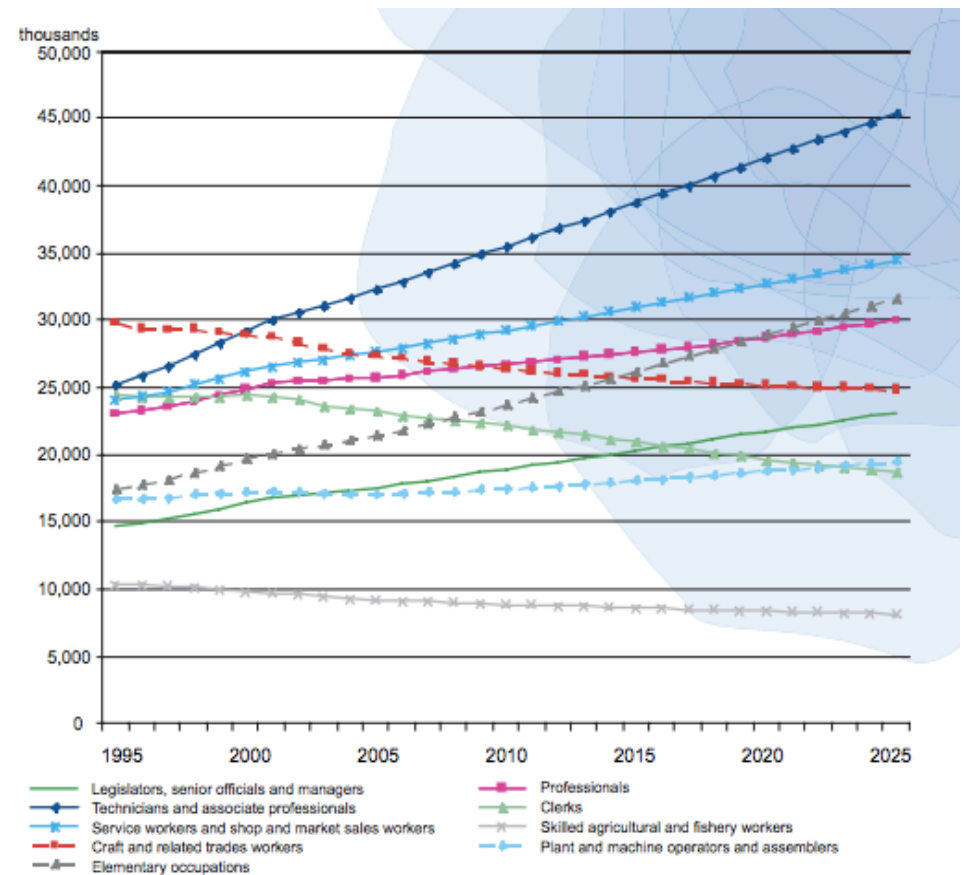
# Why are they so important?

- Services becoming the new hub of most modern economies
- Services dominating current economic activities

- Past and Likely Future trends by Sector (EU 25)

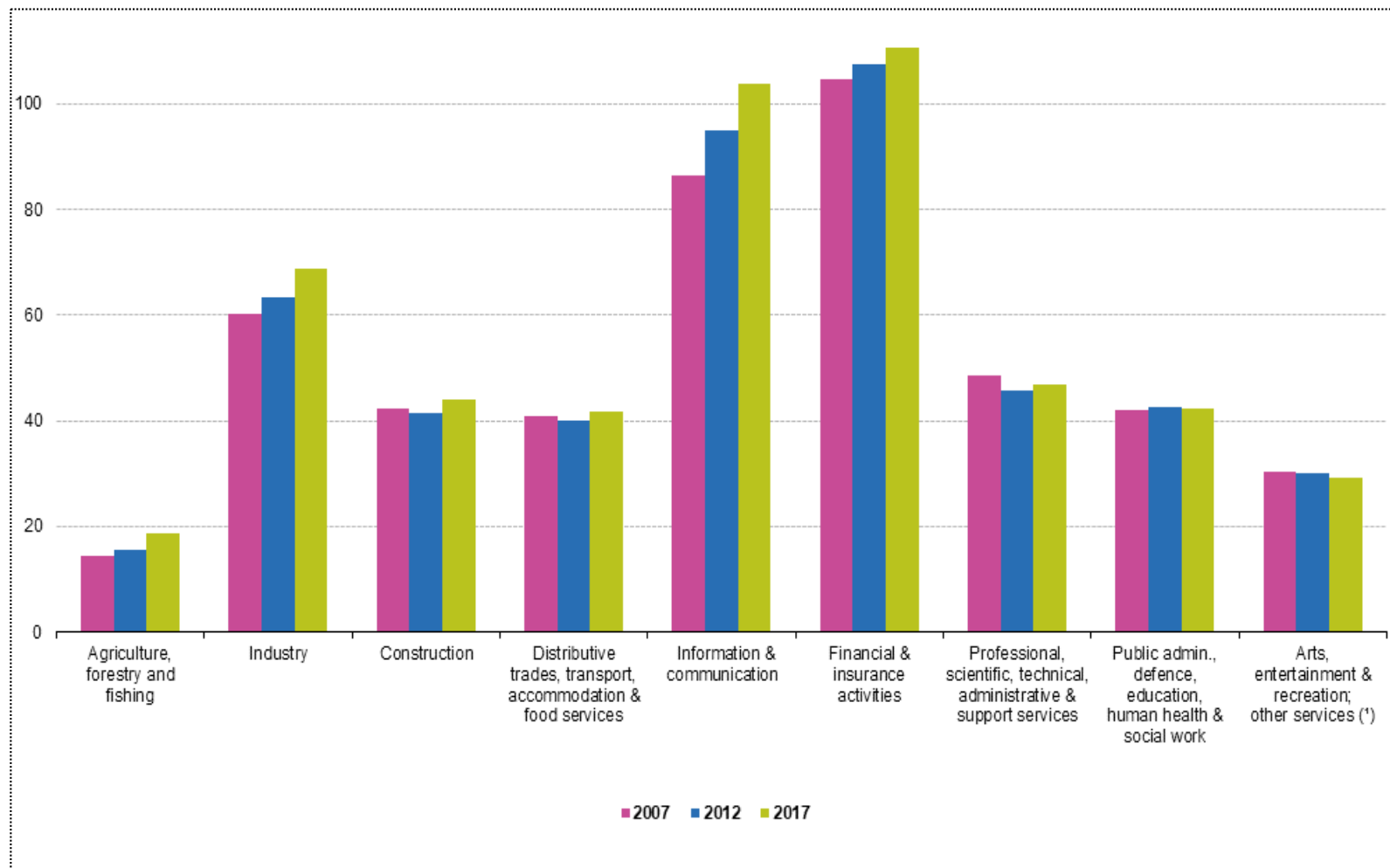


- Past and likely future trends by occupation (EU 25)



# Context pre-Covid

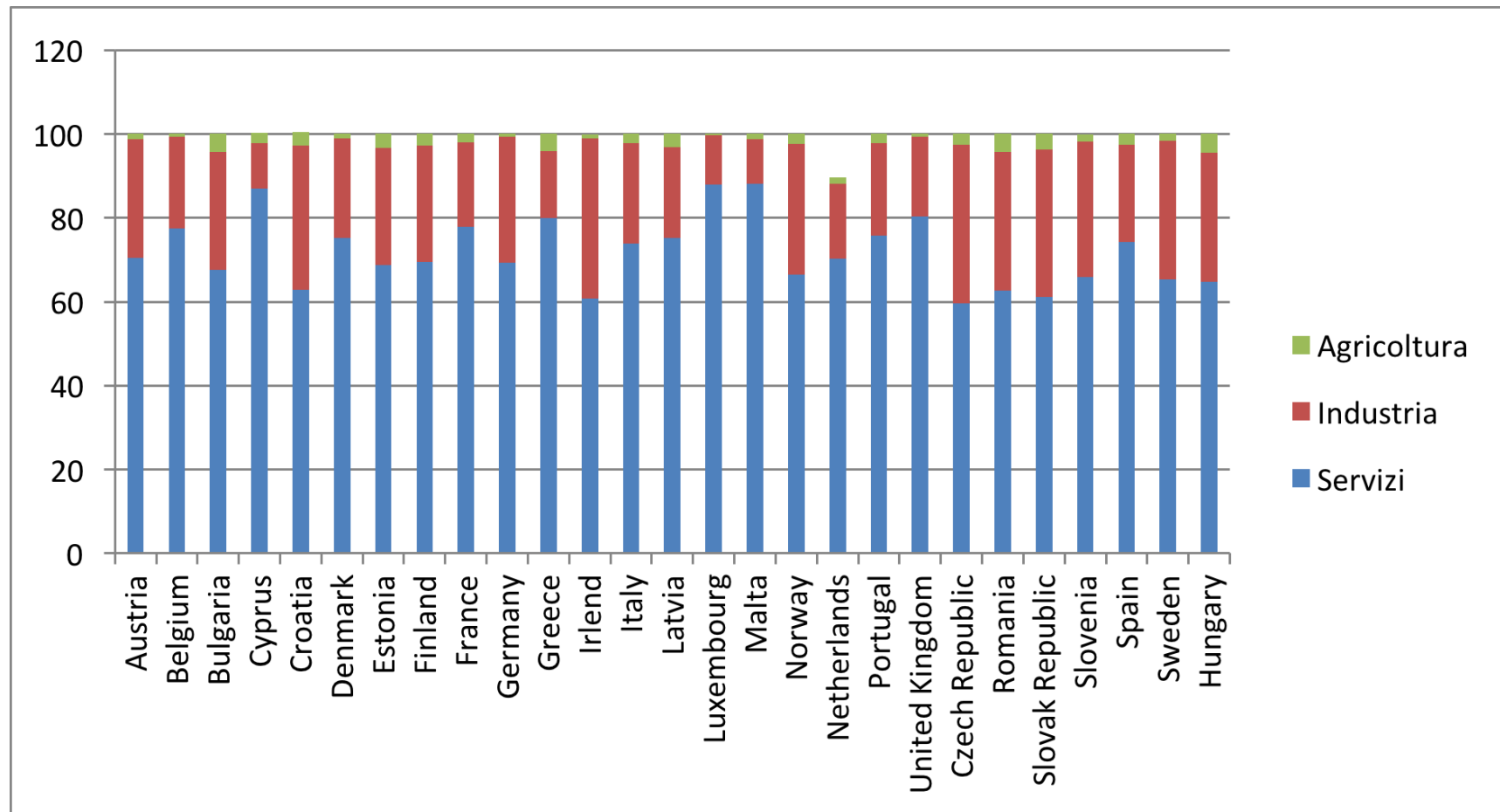
**Real labour productivity, eu-28** (thousand EUR per person employed)  
*source: Eurostat, 2018*



# Context pre-Covid

## GDP - composition, by sector of origin, eu-28 (percentage values)

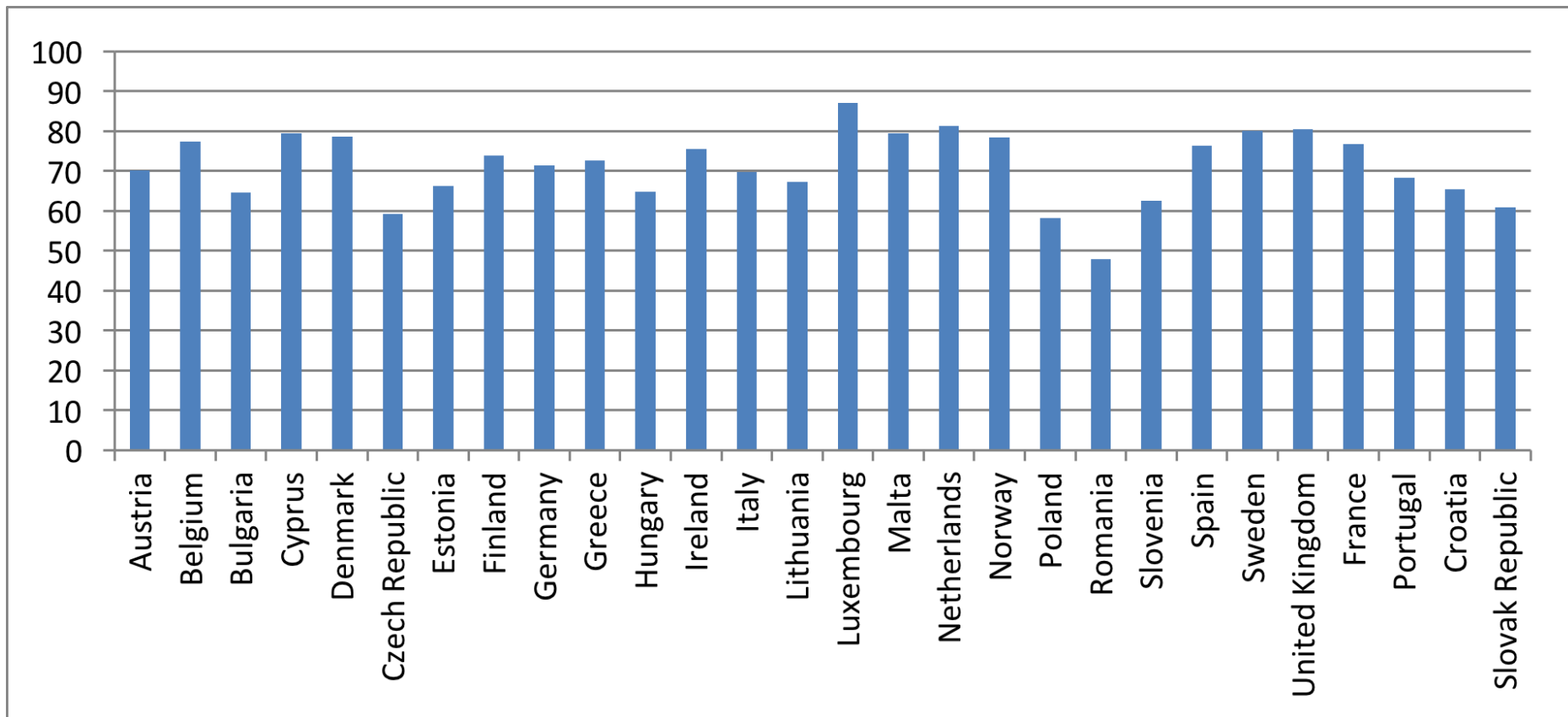
source: The World Factbook, 2018, Central Intelligence Agency.



# Context pre-Covid

**Employment in services** (% of total employment). European area.

source: The World Bank, International Labor Organization, ILOSTAT database, 2017.

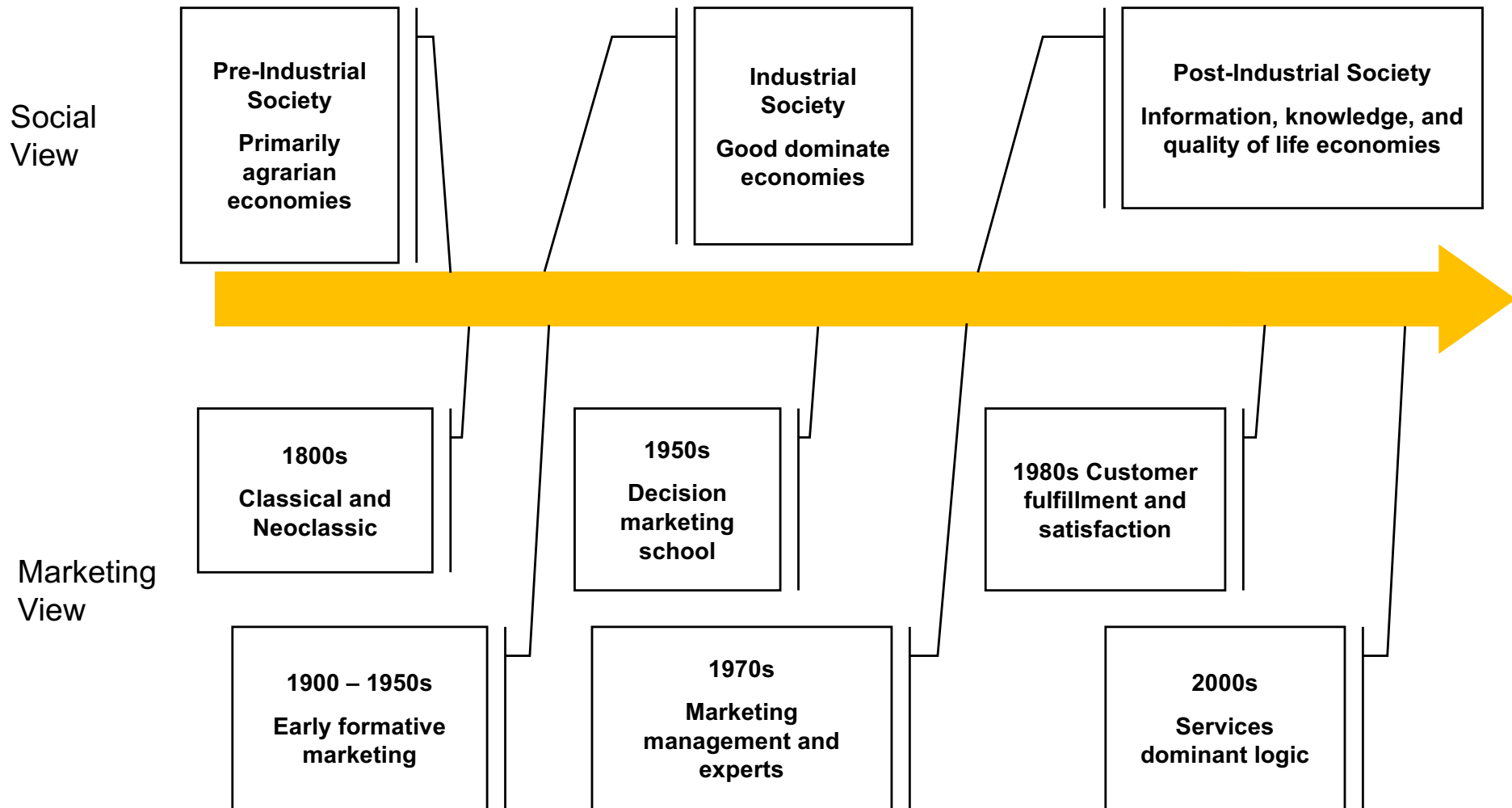


# Covid-19 Impact on Service Economy

	Servizi	VA, var. % 2019-2020	VA, variazione % dal trend			Perdita annuale (mld Eur)			Perdita cumul./ 2019
			2020	2021	2022	2020	2021	2022	
Servizi di alloggio e ristorazione	SI	-35.2%	-35.9%	-23.2%	-6.7%	21.3	13.9	4.1	-66.8%
Trasporto e magazzinaggio	SI	-11.9%	-12.6%	-15.3%	-4.9%	11.1	13.6	4.4	-33.3%
Attività artistiche e di intrattenimento	SI	-14.4%	-13.4%	-9.4%	-2.6%	8.5	5.9	1.6	-25.0%
Commercio all'ingrosso e al dettaglio	SI	-11.4%	-12.4%	-5.4%	-1.6%	22.8	10.1	3.0	-19.7%
Attività professionali, scientifiche e tecniche	SI	-9.9%	-8.9%	-6.9%	-2.6%	13.4	10.3	3.8	-18.1%
Attività manifatturiere	NO	-11.5%	-12.3%	-4.2%	-1.2%	31.8	11.0	3.1	-17.9%
Fornitura di energia, gas, aria e servizi idrici	NO	-10.0%	-8.3%	-4.2%	-2.4%	3.3	1.7	0.9	-14.5%
Attività estrattiva	NO	-9.5%	-8.1%	-3.5%	-2.3%	0.5	0.2	0.1	-13.5%
Agricoltura, silvicoltura e pesca	NO	-6.2%	-5.3%	-5.5%	-2.2%	1.7	1.8	0.7	-12.9%
Costruzioni	NO	-6.5%	-7.2%	-3.5%	-0.6%	4.9	2.4	0.4	-11.5%
Istruzione	SI	-8.3%	-6.2%	-1.3%	-1.0%	3.8	0.8	0.6	-8.2%
Attività immobiliari	SI	-3.0%	-4.0%	-3.0%	-0.1%	8.6	6.5	0.1	-7.2%
Attività finanziarie e assicurative	SI	-2.7%	-3.0%	-1.9%	-0.7%	2.5	1.6	0.6	-5.7%
Sanità e assistenza sociale	SI	-3.9%	-4.3%	-1.1%	0.0%	3.9	1.0	0.0	-5.5%
Servizi di informazione e comunicazione	SI	1.6%	-1.5%	-1.4%	0.5%	0.9	0.9	-0.3	-2.4%
Amministrazione pubblica e difesa	SI	-1.1%	-0.8%	0.1%	0.1%	0.8	-0.1	-0.1	-0.6%
<b>Totale economia</b>	<b>NO</b>	<b>-8.7%</b>	<b>-9.0%</b>	<b>-5.3%</b>	<b>-1.5%</b>	<b>140.4</b>	<b>82.7</b>	<b>23.9</b>	<b>-15.9%</b>



# Economic Evolution of Services



# What is a Service?

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- In economics and marketing, a service is the **non-material** equivalent of a good
- It is claimed to be a **process** that creates benefits by facilitating either a change in customers, a change in their physical possessions, or a change in their intangible assets
- By supplying some level of skill, ingenuity, and experience, providers of a service participate in an economy **without the restrictions of carrying stock (inventory)** or the need to concern themselves with bulky raw materials. On the other hand, their investment in expertise does require **marketing and upgrading** in the face of competition which has equally few physical restrictions

# Some other Definitions

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- ...work output that **perishes** in the very instant of its production (Smith, 1991)
- A good is a tangible physical object or product that can be created and transferred; it has existence over time and thus can be created and used later. A service is **intangible** and perishable. It is an occurrence or process that is created and used simultaneously or nearly simultaneously (Sasser, 1978)
- A service is an activity or series of activities of more or less intangible nature that normally, but not necessarily, take place in interactions between customer and service employees and/or physical resources or goods and/or systems of the service provider, which are provided as solutions to **customer problems** (Gronroos, 1990)
- Services are deeds, processes, and performances (Zeithaml & Bitner, 1996)

# Service Dominant View

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Services dominant view (Vargo & Lusch 2004) revolves around three primary notions

– **Co-creation of value**

- Customer as co-producer of the value extracted from the service system
- Customer as input to the service process

– **Relationships**

- Relationship with the customer is of paramount importance and is a source of innovation and differentiation
- Long-term relationships facilitate the ability to tailor the service offerings to the customers' needs

– **Service provisioning**

- Provision service capacity to meet fluctuations in demands while retaining (quality of service) QoS
- QoS is mainly from the perspective of the customer

# Provider-Client Relationship

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- **Provider**

- An entity (person, business, or institution) that makes preparations to meet a need
- An entity that serves

- **Client**

- An entity (person, business, or institution) that engages the service of another
- An entity being served



# Some other basic Concepts

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- Resources, physical and non-physical (actor and object)
- Service systems
- Access rights
- Interactions
- Governance mechanisms
- Service systems networks
- Ecology of service systems
- Stakeholders
- Measurements (quality, productivity, compliance, sustainability)
- Results

# Lovelock's Classification

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- Services classification systems have long existed in service management literature, some take a specific feature of the service as a classification key, for example:
  - Nature of service
  - Recipient
  - Producer of the goods object of the service
- Those who tried to define a single classification system was **Lovelock** (Marketing of services, 1983)
- Through a set of matrices Lovelock classifies the services representing different dimensions closely linked to each other

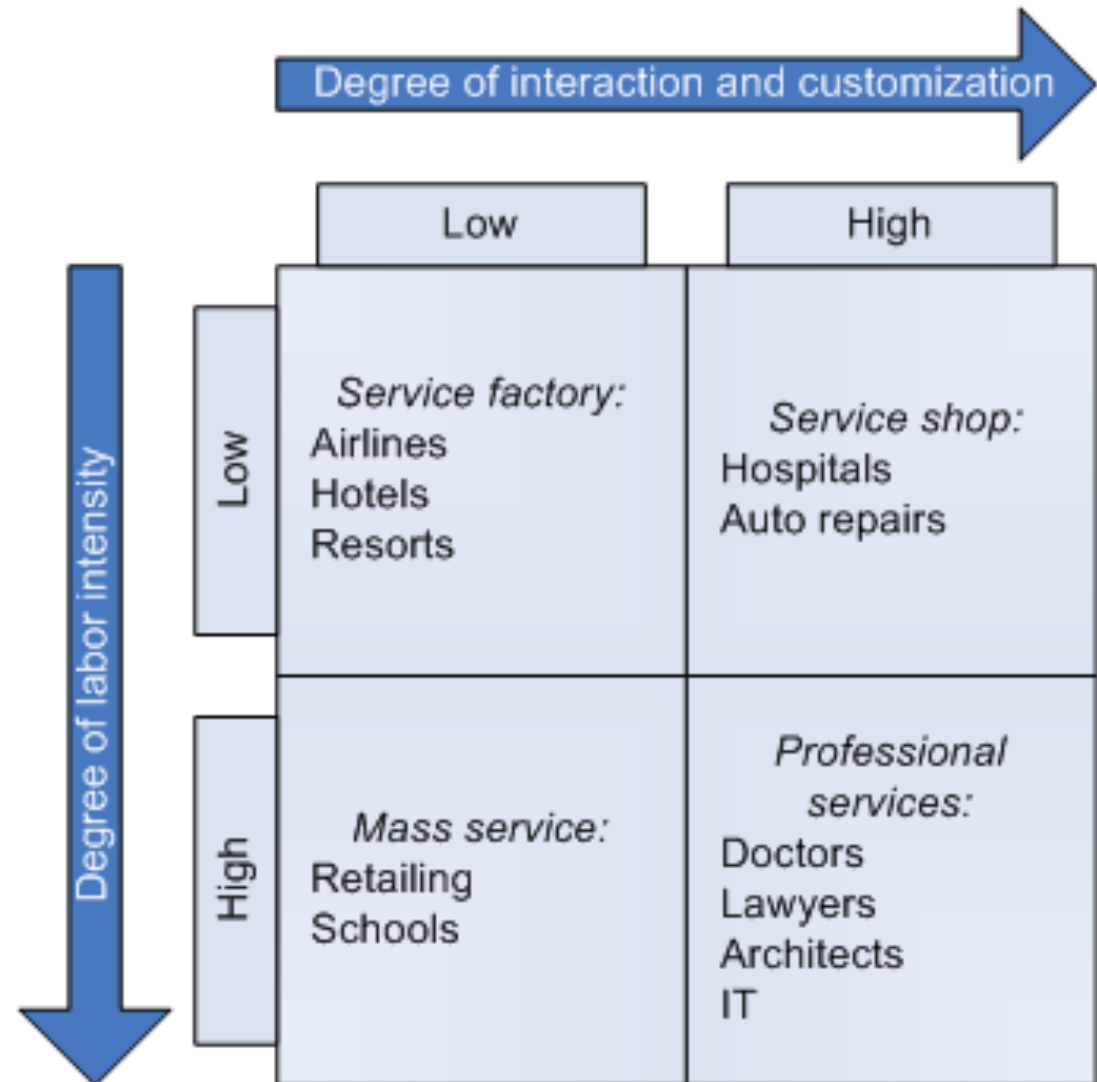
# Service Process Matrix

## Degree of labor intensity

the ratio of labor cost to capital cost

## Degree of interaction and customization

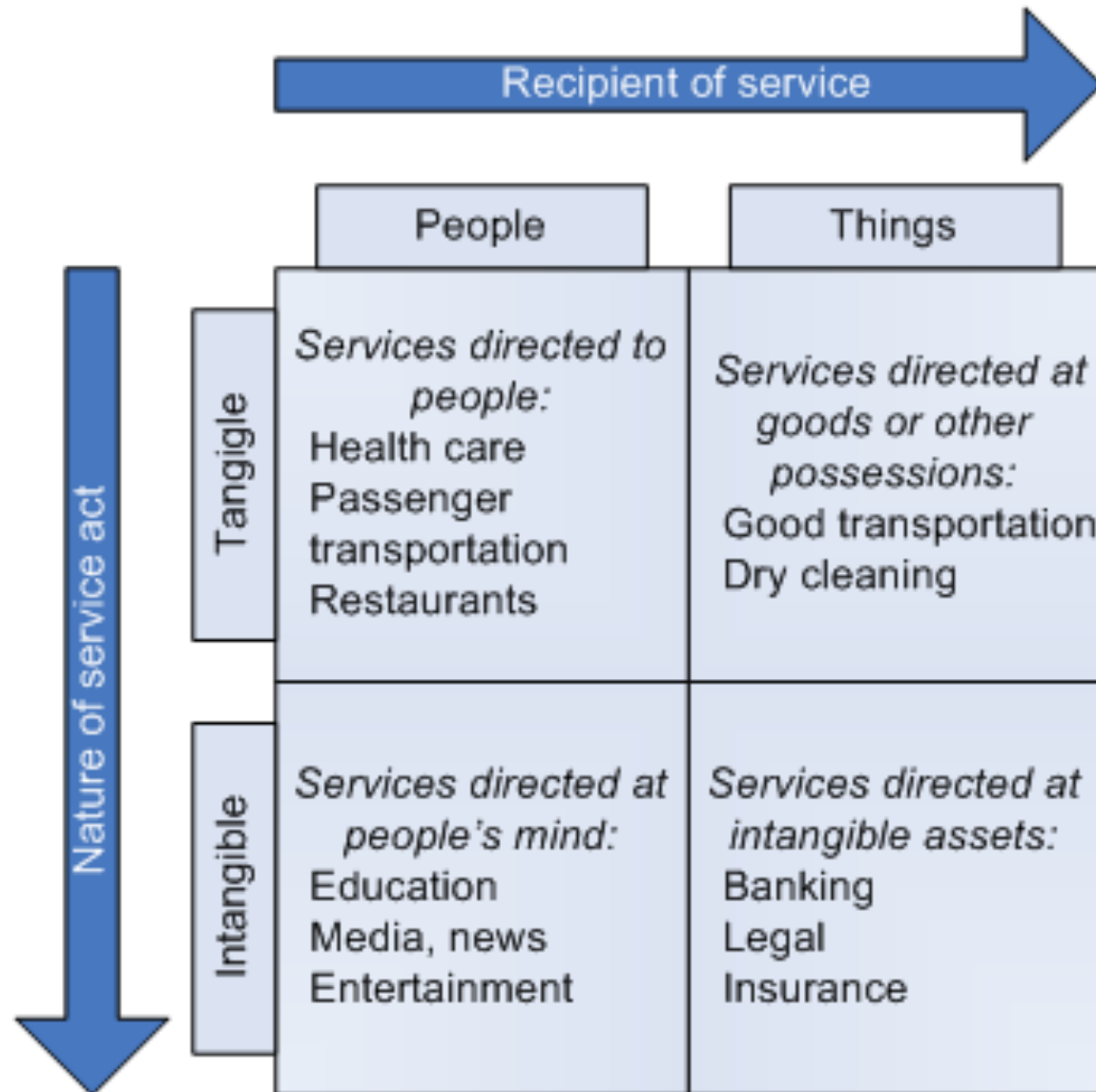
ability of the client to affect specialization



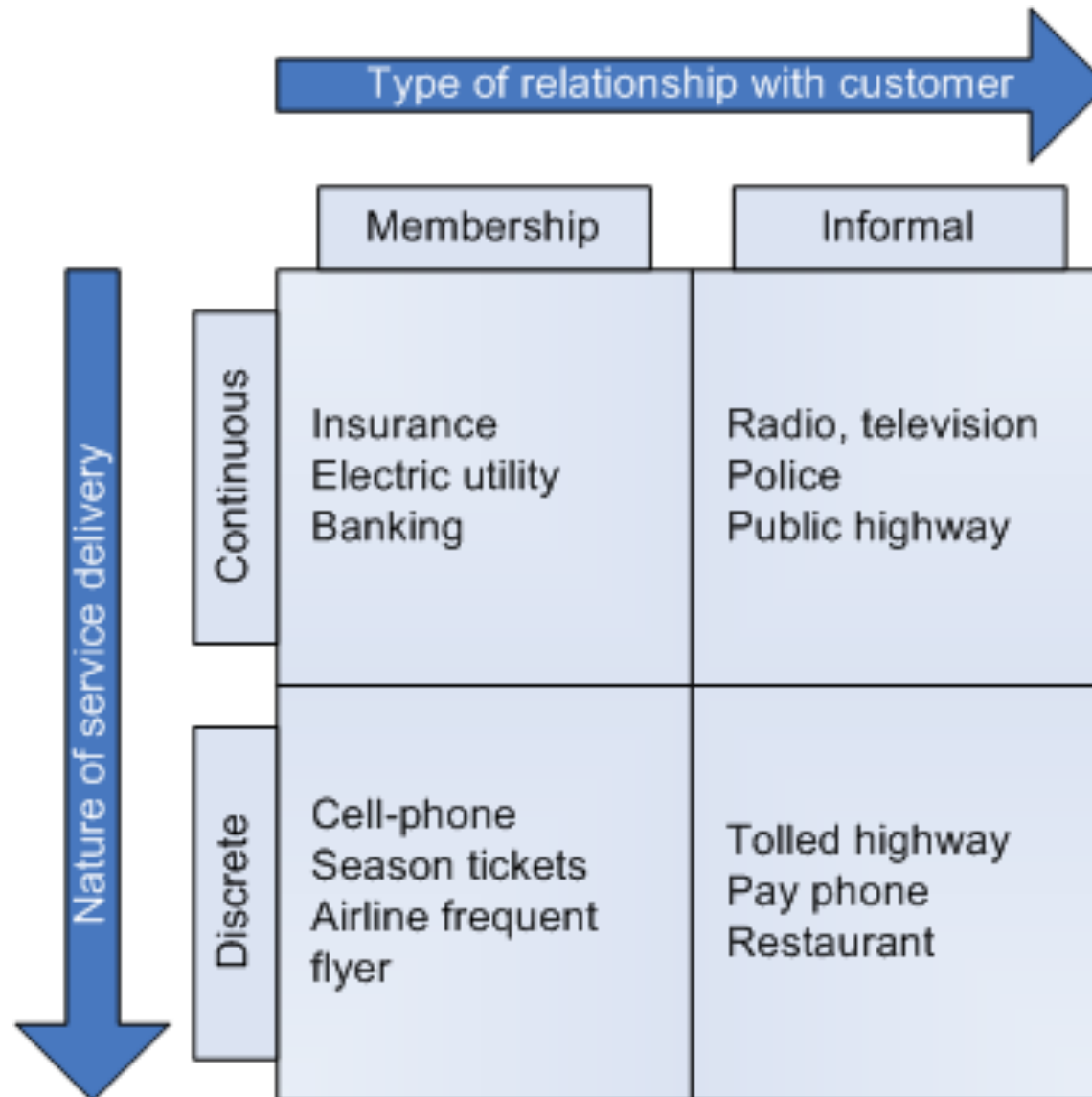
(Adapted from Lovelock (1983) and Fitzsimmons & Fitzsimmons (2003))



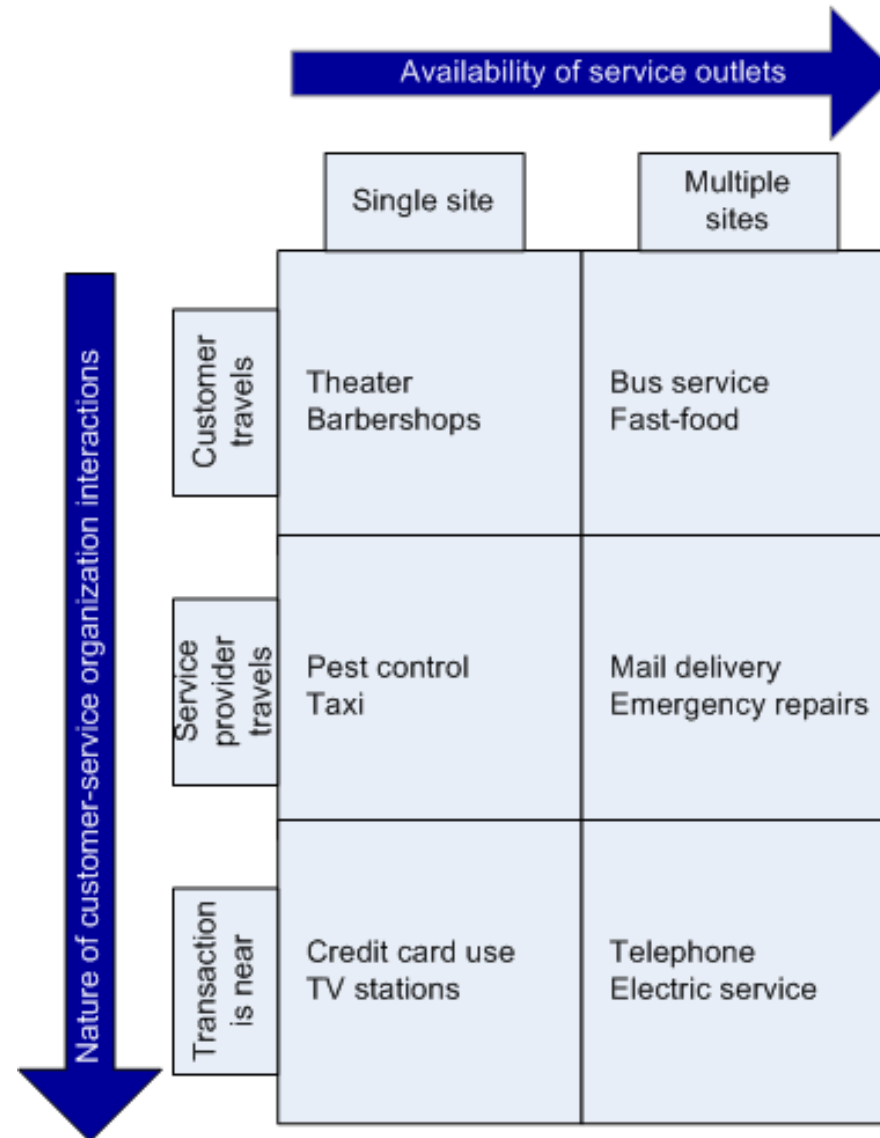
# Nature of Services Act Matrix



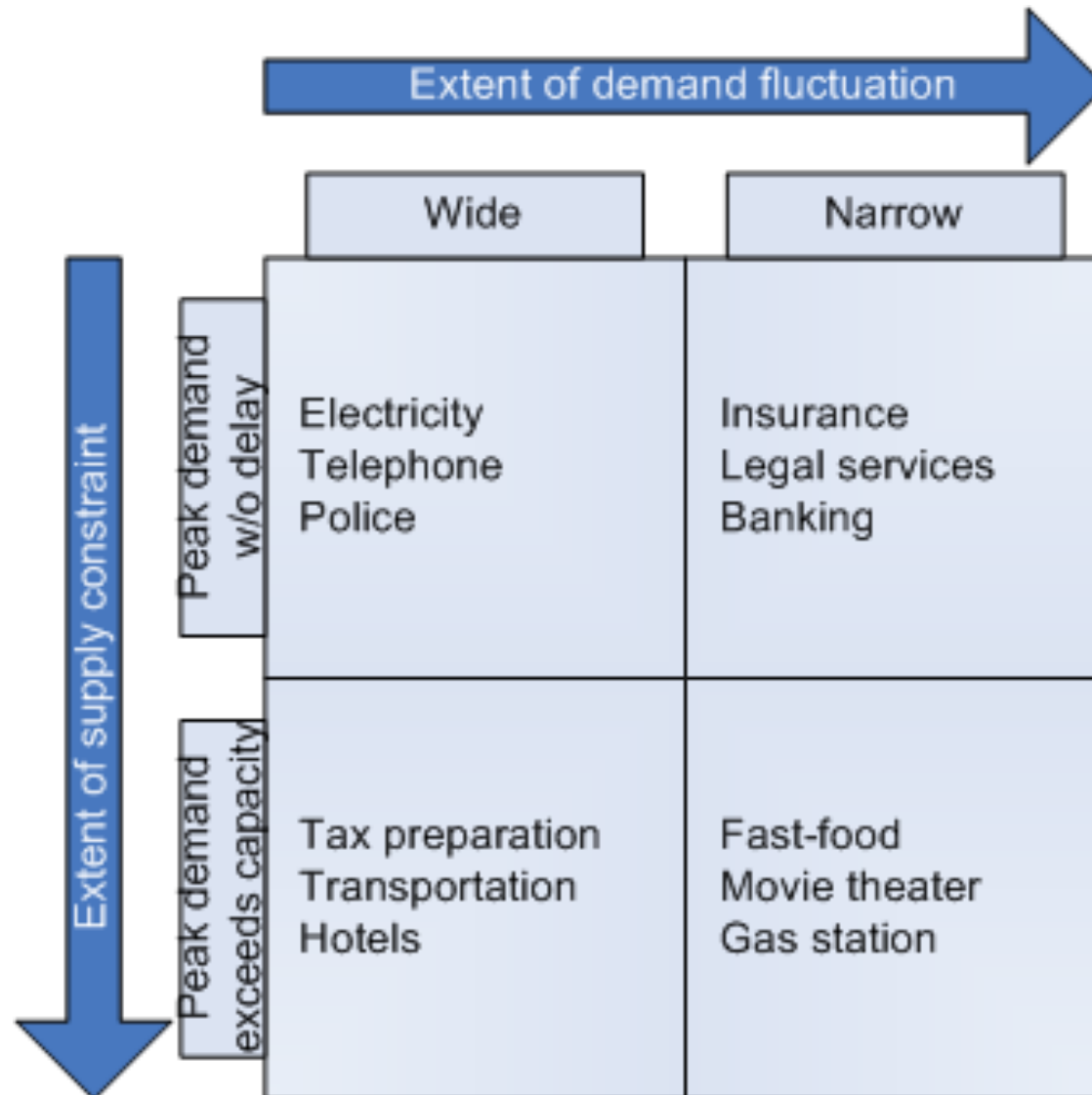
# Client Relationship Matrix



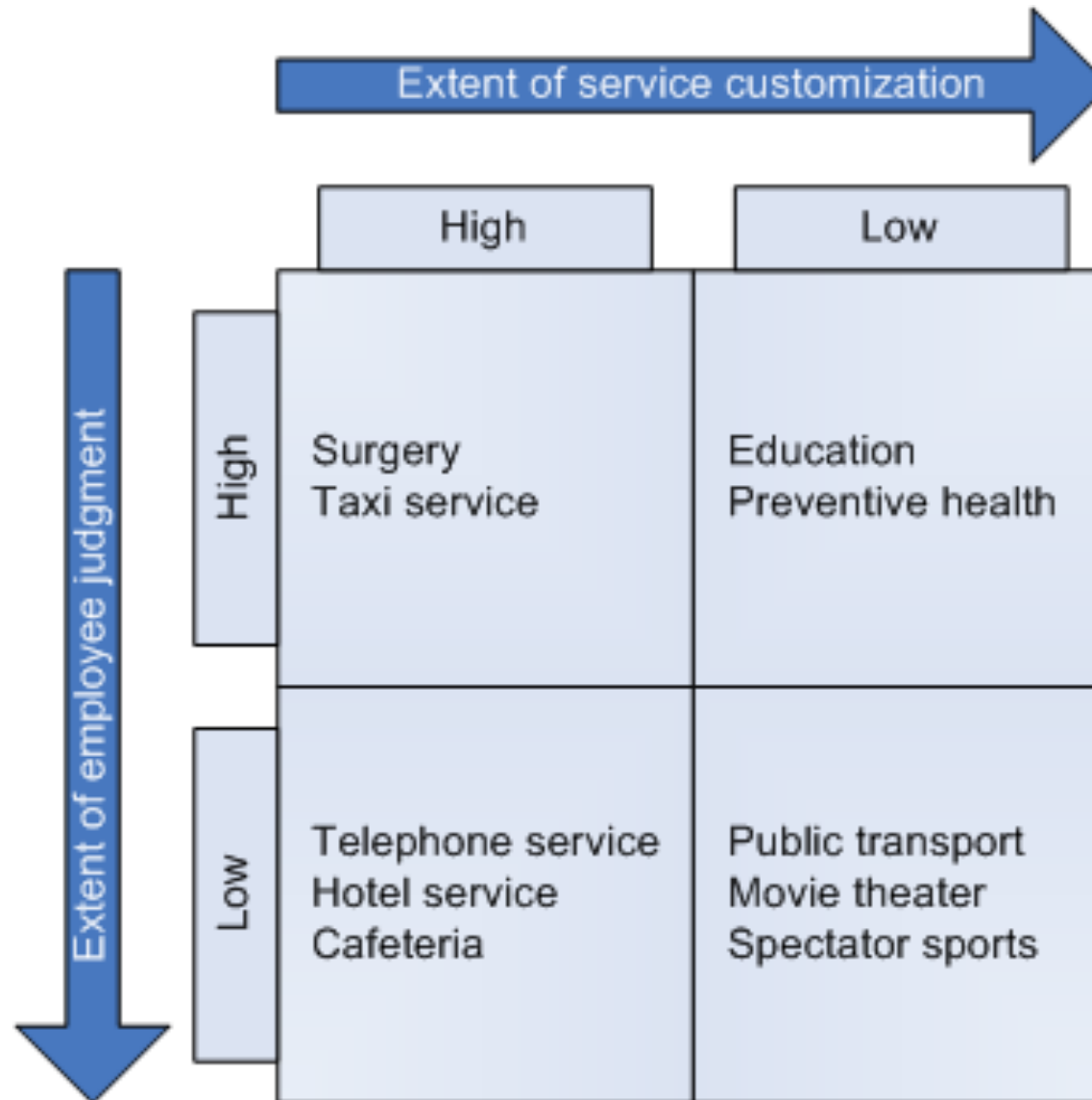
# Availability of Services Matrix



# Service Demand Variation Matrix



# Service Delivery Matrix



# New Service Classification Matrix

		Degree of Customer Contact			
		None to Low Moderate		High	
Degree of Customization and Tangible (goods) Component	High	With Tangibles	Car sharing Acquisto auto Amazon	Ristorante	
		Without Tangibles (or complimentary)	Spotify		
	Low	With Tangibles			
		Without Tangibles (or complimentary)	Telefonia Trasporti		Università

# New Service Classification Matrix

		Degree of Customer Contact			
		None to Low Moderate		High	
Degree of Customization and Tangible (goods) Component	High	With Tangibles	Amazon; Land's End; L.L. Bean	Auto Repair; Nice Restaurants	Cardiac Surgeons; Orthopedic Surgeons; Catering
		Without Tangibles (or complimentary)	Expedia; Turbo Tax; Online Banking;	Support Call Centers Personal Banking Insurance Agents	Doctors; Tax Accountants; Hair Stylists; Lawyers; Architects; Financial Advisors
	Low	With Tangibles	ATM; Online; Retailers without "transparent customization"	Super Markets; Wal-Mart; Fast Food; Restaurants	Specialty Shops
		Without Tangibles (or complimentary)	Morningstar; University of Phoenix Online; MBA; Automatic Car Wash	Theme Parks; Airlines; Hotels; Movie Theaters	Education; Massage Shops