UNIVERSITÀ DEGLI STUDI DI SALERNO

DIPARTIMENTO DI SCIENZE AZIENDALI MANAGEMENT & INNOVATION SYSTEMS

ASVSA

SIMAS
SISTEMI PER L'INNOVAZIONE E MANAGEMENT SOSTENIBILE

# Marketing Strategy in Service Business

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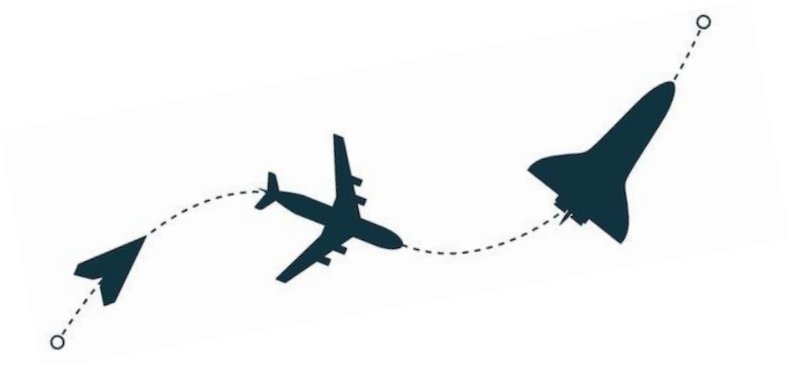
# Programme

- Marketing and  Service Marketing: an overview
- Marketing plan
- Complexity management
- New marketing strategies approaches: Relationship Marketing and Many-to-Many network; Experiential marketing; Unconventional marketing
- New marketing vision: Service Research - from S-D logic & Service Science to service ecosystems & service systems
- Technologies as Decision Support Systems for marketing strategies

Case studies
Examples
Project work

# Agenda: Lesson 4

- Value co-creation
- S-D logic & service ecosystems
- Service Science & service systems – smart service systems



Examples

# 4.1

# Value co-creation

# G-D logic, the past

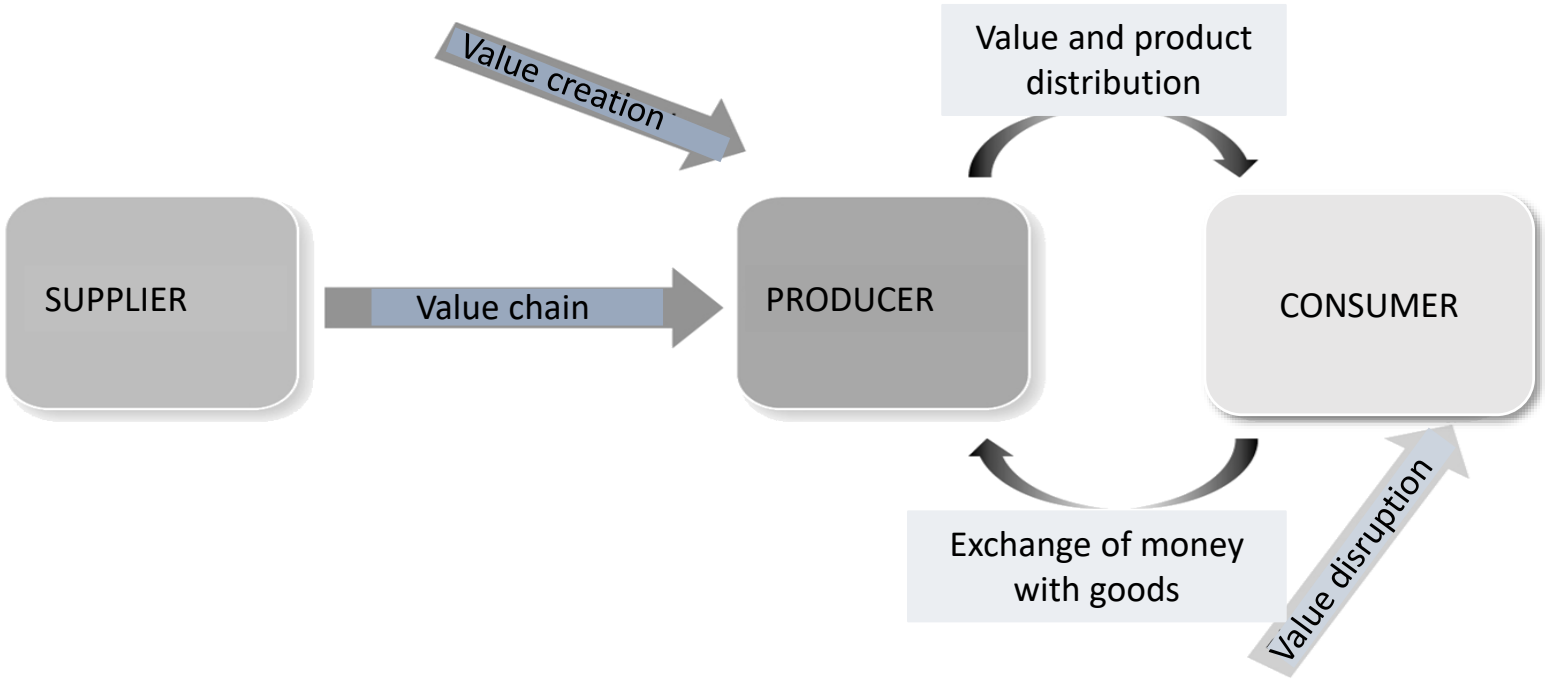
G-D logic describes production and exchange phases as essential elements of business and economy; it substains that production and distribution of tangible goods are the main purposes of an organization.

G-D logic is closely linked to the neoclassical economy, for which actors are **rational**, companies are aiming at maximizing profit and customers at maximizing utility.

# G-D logic, the past – «producer vs. consumer»

Probably one of the most harmful conceptualization of G-D logic is the contrast between “producer-consumer”, with this implication: some actors (ex. companies) “produce” (create) value (value-added), while others (es. consumers) “consume” (destroy) that value (value-destroyers).

# G-D vision of producers and consumers



# What about value?

- What is value?
- When can we say that something (a product, a process, a relationship) has elements of value?
- And for whom?

Nothing can be attributed in a completely objective way unless confirmed by a personal evaluation.

# What about value?

- Value is something that cannot be standardized, imposed, duplicated.
- Anything that has value for an actor (a person, a customer, a supplier, a company, the community) may not have it for a different actor.
- Value is something subjective, variable in time, influenced by the values possessed by each one, by external contingencies, by trends of the moment, by changing needs over time.

# What about value?

Value represents what you are willing to give “in return”.

In order to obtain something valuable for someone, one can be willing to give up a large number of resources (time, money, work done, or other elements), even important ones.

This trade-off is related to value.

# What about value?

The production and supply of any product and/or service therefore represents only a first phase of the value generation process

Value proposition (potential value)

# What about value?

This process must be completed downstream of a simple proposition by an equally important process of “confirmation”, which can be realized through the purchase, collaboration, mutual satisfaction of a need by the recipient of the offer

Value-in-use (actual value)

# What about value?

The consumer, historically seen as a destroyer of value (because after the process of consumption and use the product no longer presents value), is more than a simple actor of value creation: the consumer is a fundamental figure for the very definition of value of products he decides to buy.

Value co-creation

# About value creation

Specifically, value is given by consumers' choices/preferences, by customer use of the purchased product (**value-in-use**) and benefits from the connected service.

Value is function of the specific context in which the consumer is (**value-in-context**) and for this reason it may change in the time and in the space.

The focus of decision making and a new interpretation of value **co-creation** have to be both **internal** (resources improvement) and **external** (collaborative relationships).

# The centrality of human factors

**Individuals** are the key players in the co-creation process, combining resources coming from different market sources (organizations and other actors), private sources (themselves, friends, family, etc.) and public (governmental and community institutions , etc.).

This does not mean that human actors are not influenced by organizations and other structures. People create organizations and structures that in turn are influenced and controlled.

# Value co-creation

- **Prahalad and Ramaswamy**, 2003, 2004a, 2004b: value co-creation improves the experience of consumption and use by stimulating innovation on the service side and on the product side;

- **Vargo and Lusch**, 2008: value co-creation is a general concept that embraces every event in the theoretical and practical dynamics in *the relationship between companies and customers, contributing to the emergence of value through interaction* (interaction between the actors).

# Value co-creation

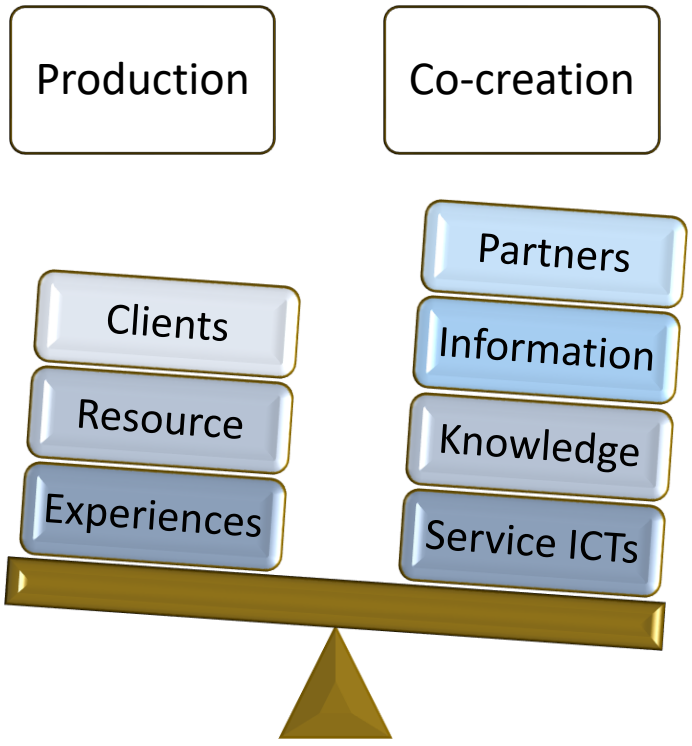
**For most organisations value is created by producing products and services which customers want to buy.**

**value is created when the customer uses or consumes a product or service.**

# Value co-creation

Value co-creation is the phenomenon through which value is now thought to be realized, disseminated and enjoyed among the actors involved in its generation process, meaning **value** above all **as a common benefit** (sometimes also collectively), obtained only thanks to the intense collaboration between the parties.

# Co-creation advantages – viewed by observers




Customers are hence crucial for product enrichments and are thus addressed as *prosumers*; they are considered fundamental for competitive advantages. The value creation process involves clients in a personal consumption process, considering them as real strategic value co-creators, thus suggesting that firms may be the integrators and managers of necessary resources for the benefit of competitive behaviour.

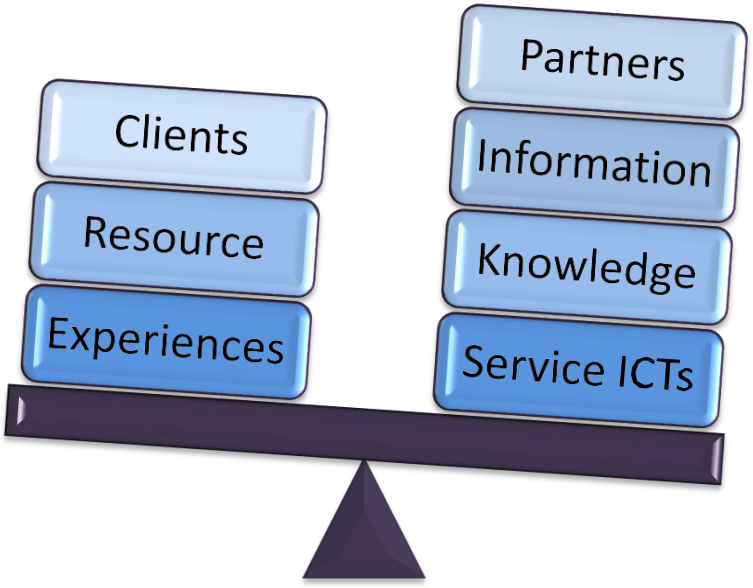
# Co-creation advantages – viewed by observers

Production

Co-creation

Static elements

Value creation elements



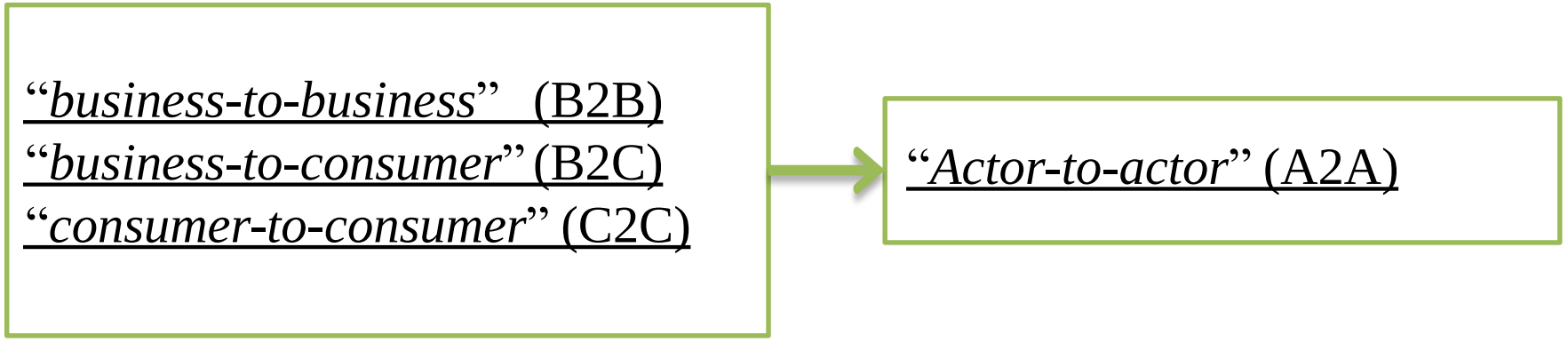

Dynamic elements

Value co-creation elements

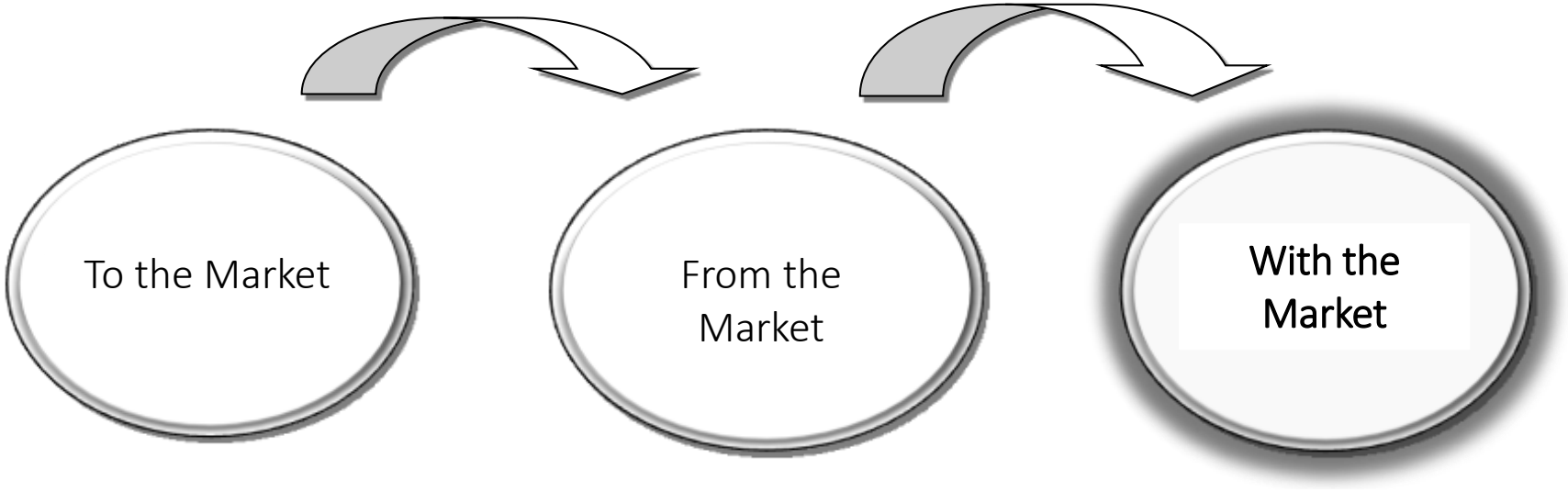
# Co-creation advantages – viewed by observers

**FROM**

**TO**



# Evolution of the relationship with the market




"Matter in Motion"

Management of Customers and Market

Collaboration with Customers and Partners to create and to substain value

# Why value?

Value creation processes suggest a change of roles and relevance dimensions.

Clients do not acquire value directly from product purchases but they derive it from products' use, transformation and consumption; a firm doesn't autonomously create value for clients, but can only offer value propositions that clients may choose, experiencing them and transforming them into value through use.

# Value co-creation insights

- the consumer is no longer seen exclusively as a target (value destroyer);
- companies may only make their own proposal (value proposition);
- consumers are considered active players of production (value co-creator) within a complex system of service delivery (service system);
- consumers may benefit not only from the products purchase, but also from the process, use and consumption of the products (value in use), because they are active (participant) in the value generation process;
- decision making is heavily influenced by value co-creation process, in fact the co-creative purpose, shared with customers, supports the sustainability of their value proposition.

# Value co-creation insights

Co-creation fundamentals:

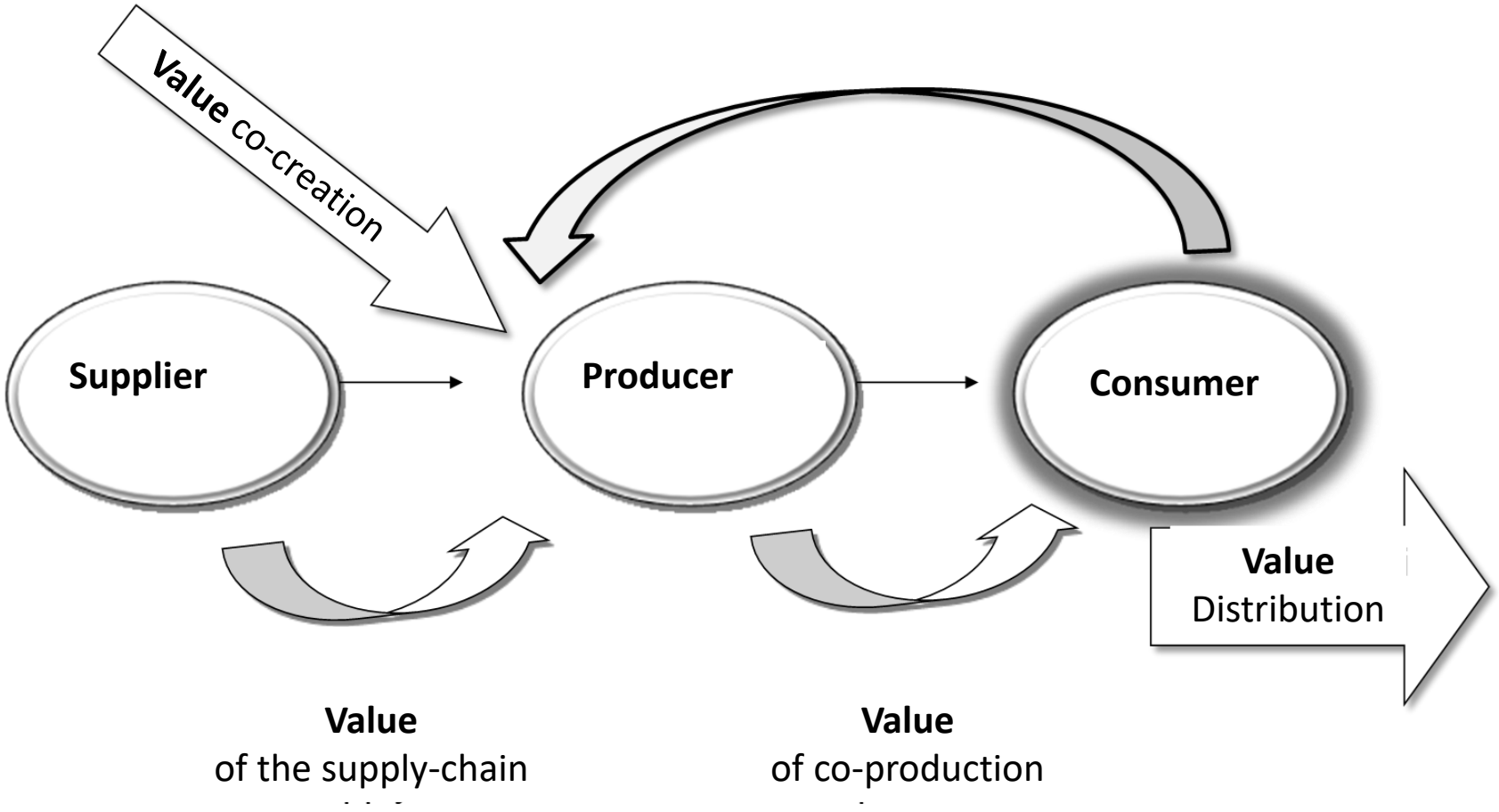
- An active role for all the actors (decision makers) involved, including end-users (final customers);
- a constant collaboration, multi-directional, multi-forms, multi-part;
- a development of reticular relationships;
- a continuous release of resources by everyone;
- strategic sharing of information and objectives.

# Value co-creation insights

Co-creation involves:

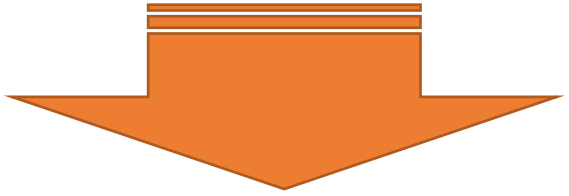
- A growing mutual satisfaction;
- a better result than that achieved by working independently;
- greater sustainability of the offer, given the convergence of purposes.

# Value co-creation insights



# Value co-creation for competitiveness

Value co-creation takes place when a potential resource becomes an effective specific benefit, it implies the active multi-actor contribution, so it may be considered as a dynamic flow of interactions among different actors possessing critical resources and the desire to reach collective mutual satisfaction



‘Harmony’ between actors can be understood as a fusion of listening skills, considerations, dialogues qualify competitiveness in business by value co-creation phenomena.

# 4.2

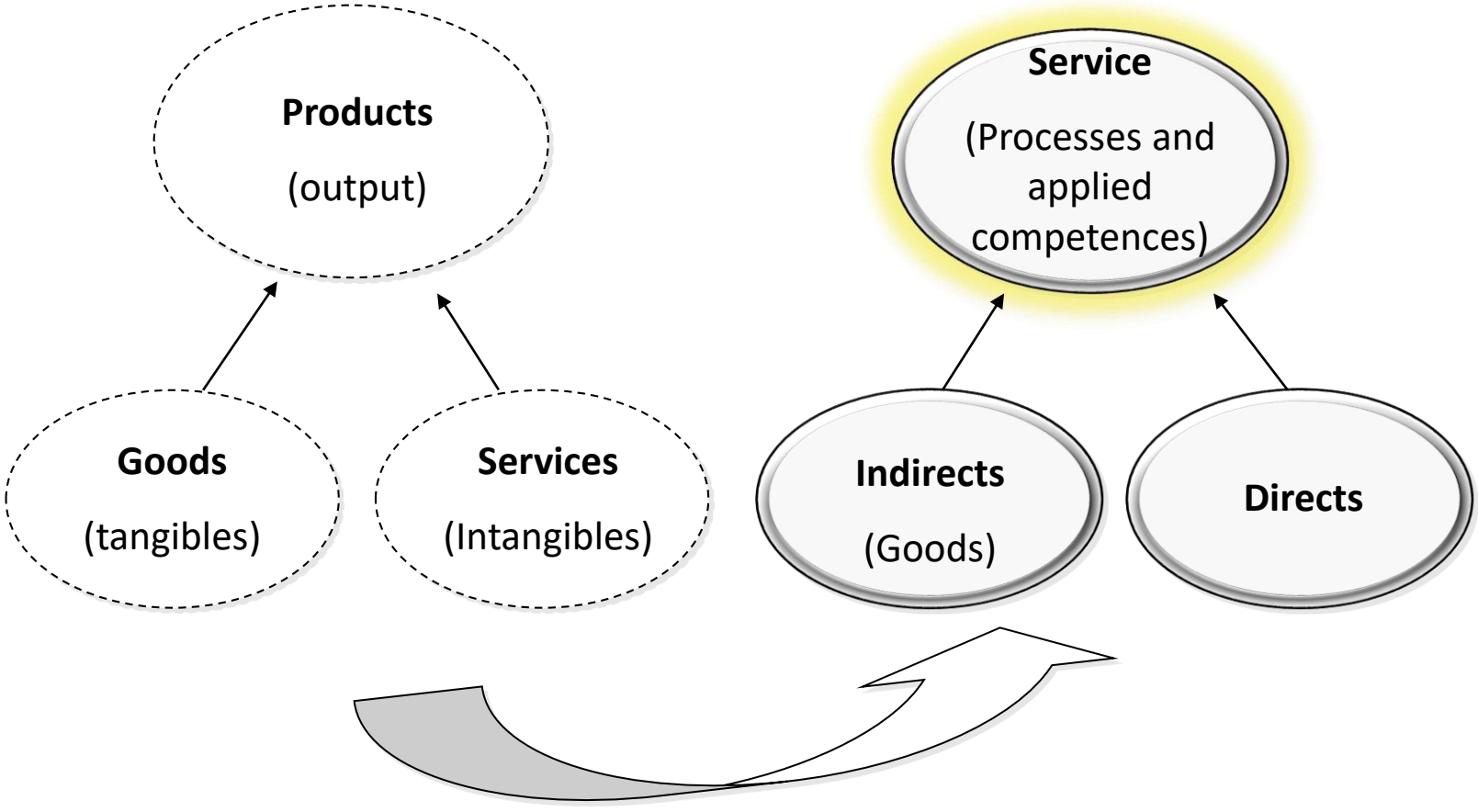
# Service-Dominant Logic

# Service Research

# G-D logic, the past – «services=service industry»

In the past, according to classical perspective, «extractive» sector was considered primary, «manufacturing» sector as secondary and what remains was usually considered as «services», named «tertiary», because it can not be classified in the previous categories (i.e. consulting context, transportation, waste management, other utilities).

# Service-oriented new economy paradigm (change in perspective)

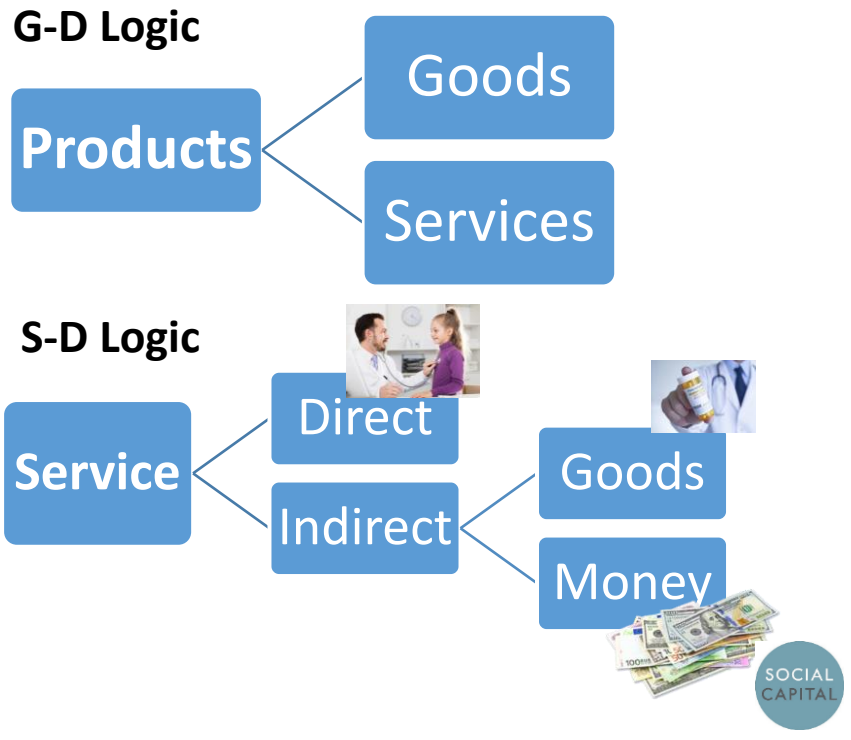


# Clarifications: Service vs. Services

**Services** = intangible products

**Service** = *process* of using one's competences for the benefit of some parties (The application of knowledge and skills)

**Service *transcends* "goods and 'services'"**




**There are No "Services" in S-D Logic**

# S-D logic


- Service-Dominant (S-D) Logic is a **mindset** for a unified understanding of the **purpose and nature of organizations, markets and society**.

- The foundational proposition of S-D logic is that **organizations, markets, and society** are fundamentally concerned with **exchange of service -** *the applications of competences (knowledge and skills) for the benefit of a party.*

# S-D logic and centrality of «Market-ing»

In S-D logic the main purpose of an enterprise is to serve itself by serving others, integrating its internal resources with others available from public and market sources and to create additional resources to be applied for the benefit of other actors (individuals, family, companies, etc.).

Service opportunities change because the available resources continuously change.

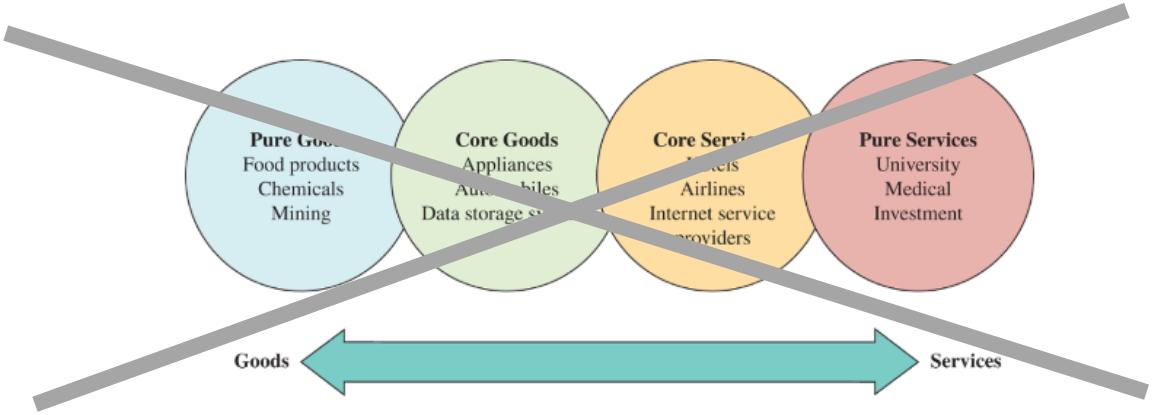
# S-D logic

S-D logic is inspired by the fundamentals of **network theories** and is focused on:

- new **value** «generation» processes,
- modern (entrepreneurial) **interactions**,
- new forms of network **integration of resources**,

in the attempt to set a closer approach to current marketer specifications and more adhering to reality, and developed around a new service idea.

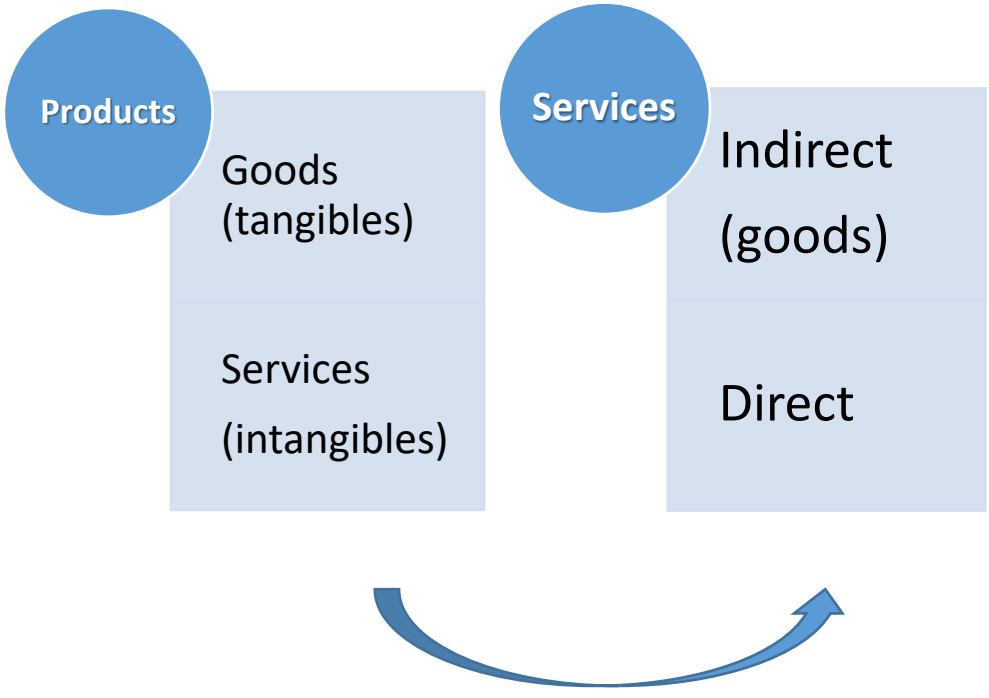
# Goods-services Continuum




**Goods and service** represent
**neither** a **dichotomy nor a continuum**

# Change of Perspective

*SDL*
*"is concerned with the vertical relationship between service and goods,*
*rather than the horizontal difference*
*between services and goods"*
*(Vargo and Lush, 2008:29)*



# S-D logic - Definitions

The Service Dominant Logic (SD logic) represents a theoretical proposal mainly related to marketing studies that highlights the change of perspective compared to traditional interpretative models (defined as a whole Good Dominant Logic - GD logic), more focused on the importance of goods and characterized by the historical difference between goods and services.

# Innovative contributions: Service

The S-D logic defines the service as:

«Application of skills through actions, processes and performance aimed at producing a benefit for themselves and for third parties, directly or indirectly connected».

# Innovative contributions: the goods-service relationship

The set of resources available to a company, consisting of specialized skills and adequate knowledge are key elements for success and survival (FP1).

In practice, the service represents the general case of which the good can be considered a particularity, "it is the service that is always exchanged".

# Innovative contributions: service exchange

The S-D logic interprets the condition of exchange differently (FP2), asserting that its intrinsic nature is exclusively linked to service, no longer understood as a marginal or functional element. The goods do not represent the only object of transaction, rather they appear as an instrumental element (appliance) for the supply (provision) of the services themselves, observed as the real protagonists of the interactions and agreements between the parties of an exchange.

# Innovative contributions: exchange purpose

The authors use the term "service" always singular to better reflect the purpose of producing a benefit to a recipient and differentiate this indication from the concept of simple unit of output implicit in the expression in the plural (services), proper to the G-D logic.

Ultimately, even when a customer purchases a physical product, he essentially buys (and above all benefits) the service directly connected to it.

# Innovative contributions: Knowledge and Resources

The SD Logic privileges the importance of intangible resources, and in particular of knowledge, as a competitive factor (FP4), considering that physical resources and often inert (defined as *operand*) imperatively require certain intangible and much more dynamic activities (defined *operant*), related to them, in order to be made usable and really useful.

# Innovative contributions: the indispensability of the Service

The S-D logic explains that the price of all products (*value-in-exchange*) only represents the provision of a "priceless" experience linked to the interconnected service; even the first (the product) could not even exist without the second (the service). Companies only have the opportunity to make their own value proposition to offer in the market (value proposition).

# Innovative contributions: Value

The value is determined by the final consumer (FP6), by his / her choices / preferences, by the way in which he / she makes use of the purchased product (*value-in-use*) and benefits from the connected service.

Value is also a function of the specific context in which the consumer is located (value-in-context) and this can also vary in time and space.

# International Accreditation

The international scientific community, stimulated effectively by the perseverance of the authors Steve Vargo and Bob Lusch (recently deceased) has shared a new vision on the "service", according to which an innate sense / need always emerges for all organizations to "do something" (provide a service) "for" and above all together "with" other parts, completely modifying the supplier (supplier) / customer (user) relationship.

# FPs and Axioms

The authors have produced different representations of their theory and synthesized in 10 fundamental points (foundational premises - FPs), then became 11. From these fundamental premises, thought has recently evolved towards the definition of 4 Axioms, from which numerous other authors have been inspired for a new interpretation of the commercial, managerial and strategic logics of our economy.

# Axioms & Foundational Premises (FPs) of S-D Logic

| | | |
|---|---|---|
| Axiom1 | FP1 | Service is the fundamental basis of exchange. |
| | FP2 | Indirect exchange masks the fundamental basis of exchange. |
| | FP3 | Goods are a distribution mechanism for service provision. |
| | FP4 | Operant resources are the fundamental source of strategic benefit. |
| | FP5 | All economies are service economies. |
| Axiom2 | FP6 | Value is cocreated by multiple actors,always including the beneficiary. |
| | FP7 | Actors cannot deliver value but can participate in the creation and offering of value propositions. |
| | FP8 | A service-centered view is inherently beneficiary oriented and relational. |
| Axiom3 | FP9 | All social and economic actors are resource integrators. |
| Axiom4 | FP10 | Value is always uniquely and phenomenologically determined by the beneficiary. |
| Axiom5 | FP11 | Value cocreation is coordinated through actor-generated institutions and institutional arrangements. |

Source: Vargo and Lusch (2004), "Evolving to a New Dominant Logic for Marketing" *Journal of Marketing* 68(January), 1-17. Vargo and Lusch (2008), "Service-Dominant Logic: Continuing the Evolution" *Journal of the Academy of Marketing Science* 36(Spring), 1-10, Vargo and Lusch (2016), "Institutions and axioms: an extension and update of service-dominant logic" Journal of the Academy of Marketing Science, 1-19.

# The Axioms of the S-D logic

| | |
|---|---|
| A1 | • Service is the fundamental basis of the exchange. |
| A2 | • Customer is always value co-creator. |
| A3 | • All the economic and social actors are resources integrators. |
| A4 | • Value is always uniquely and phenomenologically determined by the beneficiary. |

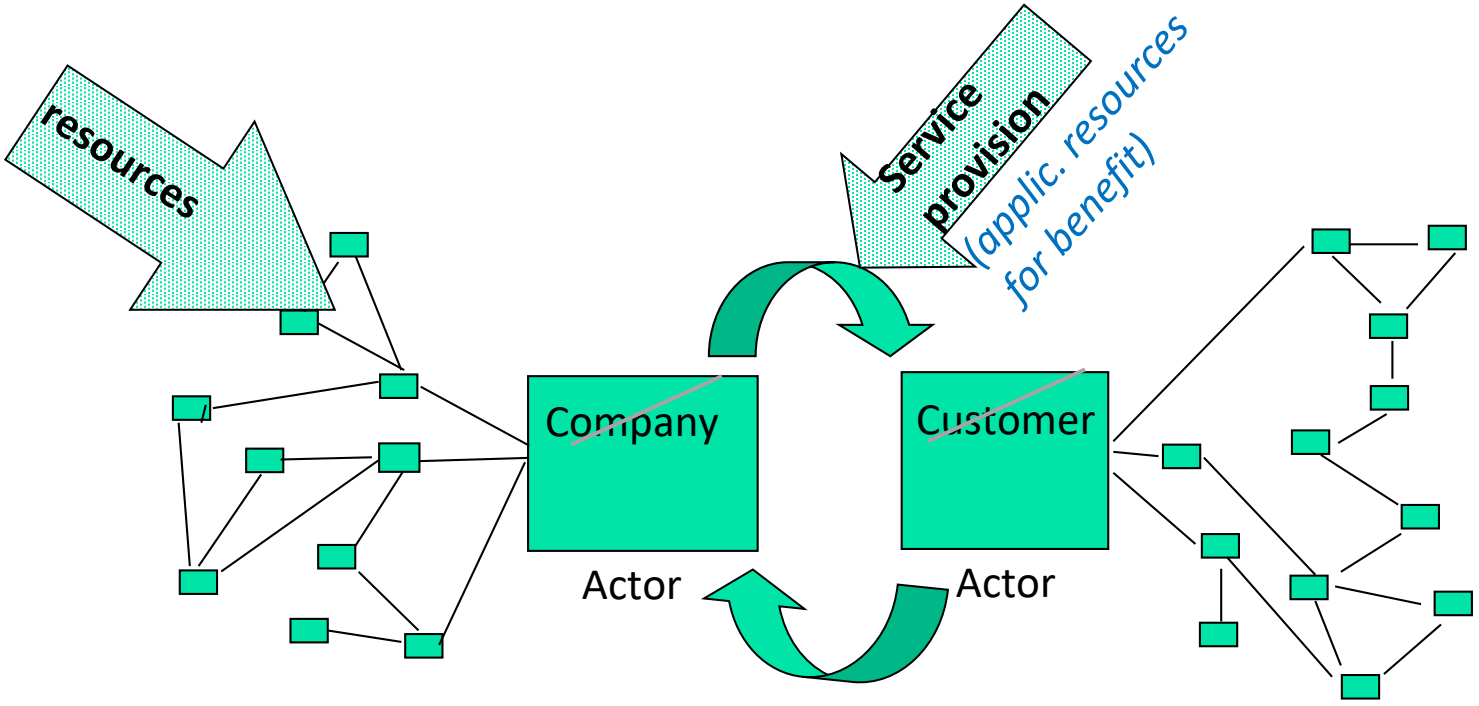
# S-D logic: today – «Axiom n.1»

The first axiom is based on the application of operant resources for the benefit of another actor.

The service is always exchanged with another service, which implies that:

1. Goods are devices to provide a service,
2. All companies are service companies,
3. All economies are service economies.

*"A1 (FP1)* ***Service*** *is the fundamental basis of* ***exchange.***"

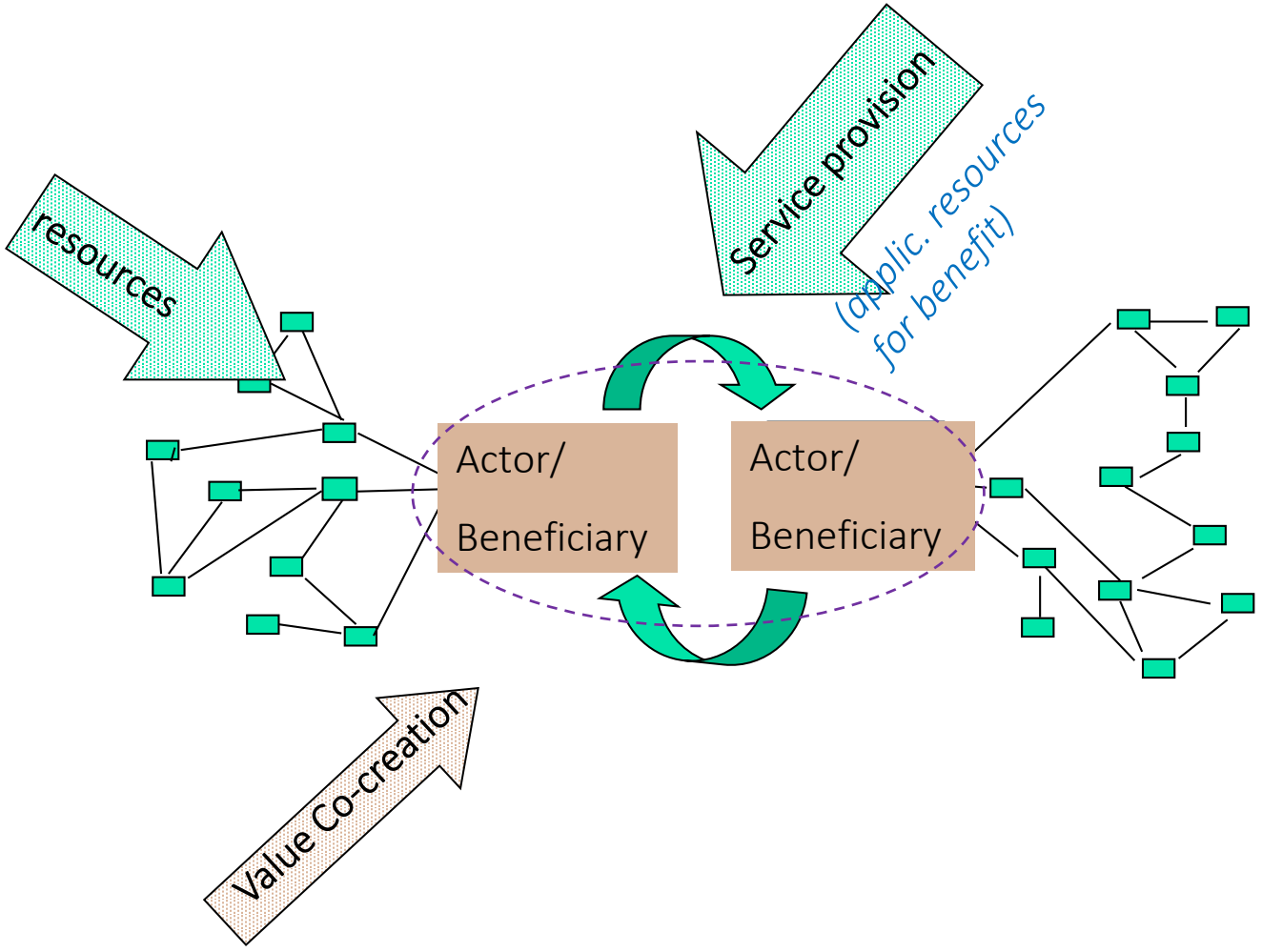


# S-D logic: today – «Axiom n.2»

The second axiom is opposed to the G-D logic, which sees the company as the only creator of value; the value is always co-created through the interaction of the actors, both directly and through the goods.

[E.g. A doctor who provides patient with a service co-creates value with him, never independently, and the drug (a good) given by the doctor is seen as a device to facilitate the provision of the service and the co-creation of value.]

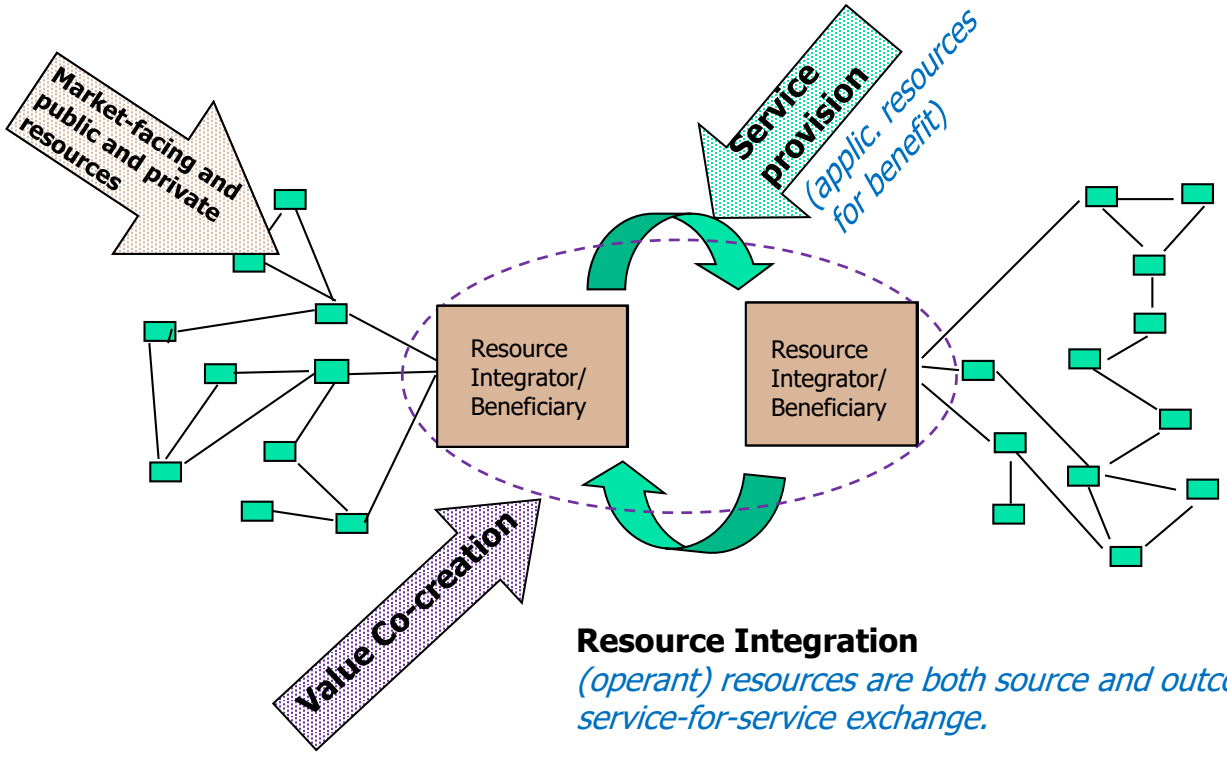
*"A2 (FP6)* ***Value*** *is always* ***co-created by multiple actors,*** *including the* ***beneficiary.****"*



# S-D logic: today – «Axiom n.3»

The third axiom shows how the integrable resources come from a multiplicity of sources: private sources (eg oneself, friends, family), market sources (ie from other actors, through barter or economic exchange) or from public sources (ie access collective from community and government sources) or, more likely, through the provision of services from different sources, often at the same time.

*"A3 (FP9) All social and economic **actors** are **resource integrators."***




**Resource Integration**

*(operant) resources are both source and outcome of service-for-service exchange.*

# S-D logic: today – «Axiom n.4»

The fourth axiom of the S-D logic reflects the generic nature of the actors and reinforces the idea that the value is phenomenological. Particular attention was paid to the choice of the phenomenological word, rather than "empirical", because the second term often evokes something similar to a Disneyworld event - always positive, pleasant and so on.

# Service-for-service exchange

Not only the barter may clarify the "service-for-service exchange": even exchanging something for money means that each actor is providing other actor with a service.

Goods appear as instrumental tools (appliance) for the supply (provision) of services.

# A2A

The FP9 implies a *network structure* for value creation, it requires a move from a single-minded concern with restricted, pre-designated roles of "producers"/ "consumers," "firms"/ "customers," etc. to more generic actors—that is, to an *actor-to-actor* (A2A) orientation.

The A2A orientation implies several things:

- First, it confirms that value creation takes place in *networks*, since it implies that the resources used in service provision typically, at least in part, come from other actors, as specified in FP9;

# A2A

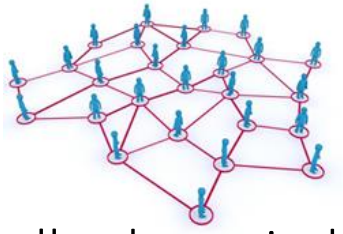
- Second, it implies a dynamic component to these networks, since each integration or *application of resources* (i.e., service) changes the nature of the network in some way. This in turn suggests that a network understanding alone is inadequate and that a more dynamic systems orientation is necessary.

- Third, it suggests the existence of mechanisms to facilitate all of this resource integration and service exchange through the coordination of actors. As in Vargo and Lusch (2011), acknowledgement and understanding of the existence and role of *institutions*, those routinized, coordinating mechanisms of various types, and institutional arrangements, assemblages of interdependent institutions, become essential to understanding value cocreation.

# Resource integration

3. All social and economic **actors** are **resource integrators.**

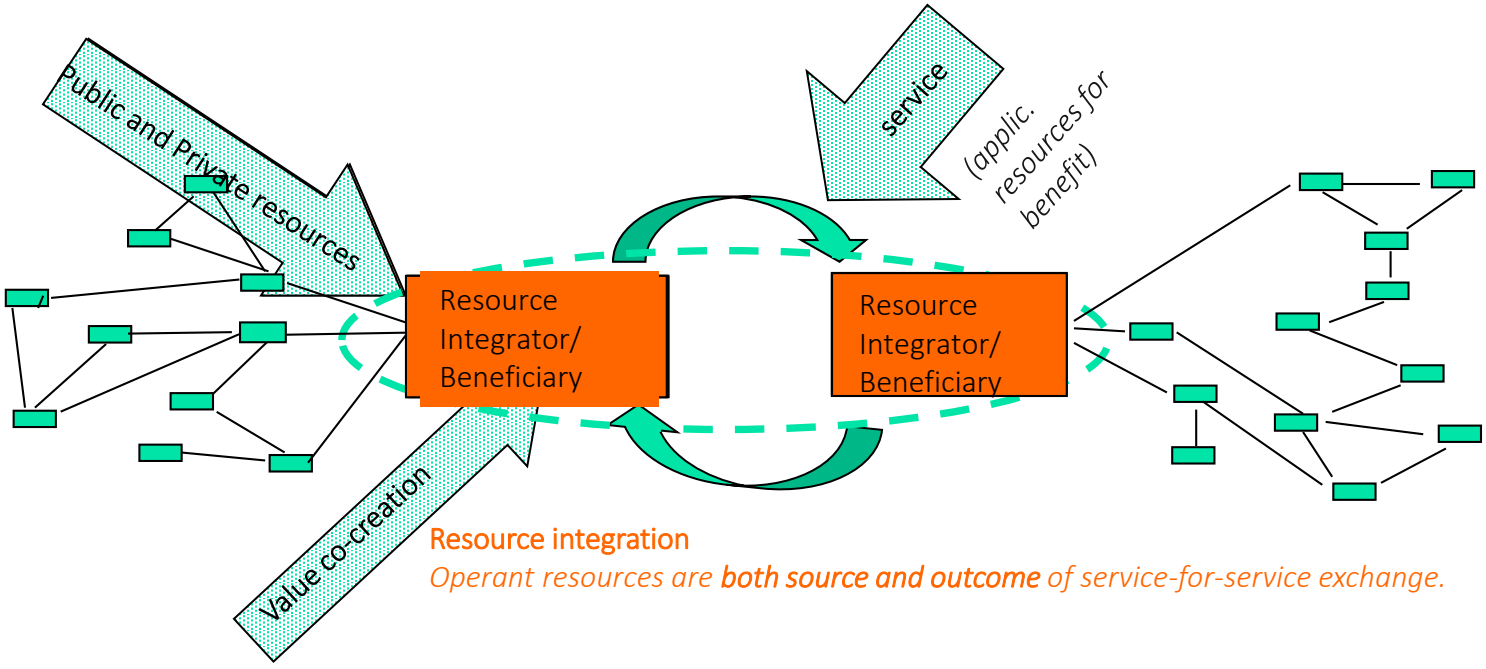
→ The context of co-creation is a **network of networks**



→ What we really do as individuals, organizations, families etc. is **getting resources** through service exchange and **integrate** them in a **unique way**.

# Resource integration

3. All social and economic **actors** are **resource integrators**




Resource integration

*Operant resources are **both source and outcome** of service-for-service exchange.*

Resource Integrators

# Resource integration

**OPERAND RESOURCES**

Natural or economic resources usually tangible and static which require some alterations to assume value.
They represent the **distrIbution mechanisms** of service.

**OPERANT RESOURCES**

Human knowledge and skills, cultural and social resources usually intangible and dynamic which act on operand resources to create value and **competitive advantage**.

The sinergy deriving from user's, provider's (and each member's) personal resources gives birth to a **unique** result, superior to the simple sum of the single individual contributions.

# Resource integration

*Operant resources* are resources capable of acting on other resources to create value (under suitable circumstances).

Knowledge and skills which can be used in action to create value, such as the ability to find, extract, refine, shape and use gold.

# Resource integration

Operand resources are static resources on which an action is necessary for achieving value. Goods (devices) are operand resources.

A natural resource, such as gold, is an example (*operand resource*). The gold must be found, extracted, refined, shaped and used (*operant resources*).

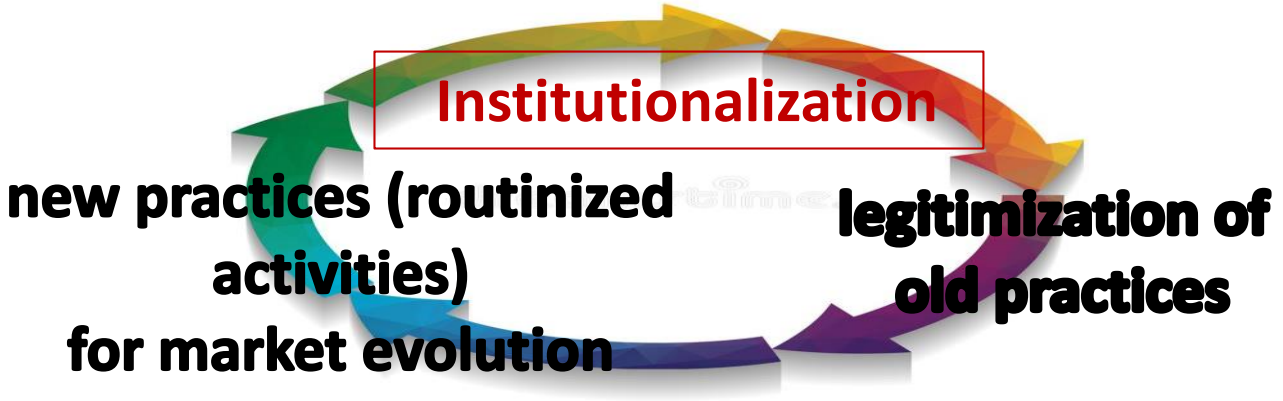
# S-D Logic Axiom n.5

**A5**

Value cocreation is coordinated through **actor-generated institutions and institutional arrangements**

Institutions provide the glue for value cocreation through service-for-service exchange

- **Institutions**: humanly devised rules, norms, and beliefs that enable and constrain action and make social life predictable and meaningful
- **Institutional arrangements**: higher-order sets of interrelated institutions



# FP11: Institutions and institutional arrangements

Two main enablers and **coordination mechanisms** of value co-creation (strictly interconnected):

**INSTITUTIONS**

*rules, norms, meanings, symbols, practices* and *agreement* that **govern** actor's collaboration

**INSTITUTIONAL ARRANGEMENTS**

interdependent **assemblages** of institutions: essential **facilitators** for value co-creation in markets and society

The two enablers permit to perform activities and exchange in a «natural» and «coordinated» way in line with the rules determined a priori.

"Humans create institutions to coordinate their behaviours " (Barile et al., 2016).

# Service Ecosystems

Starting from the «social shift» of SDL (11 FP), Vargo and Lusch proposes a new conceptualization of networks based on the transcending and systems perspective of service

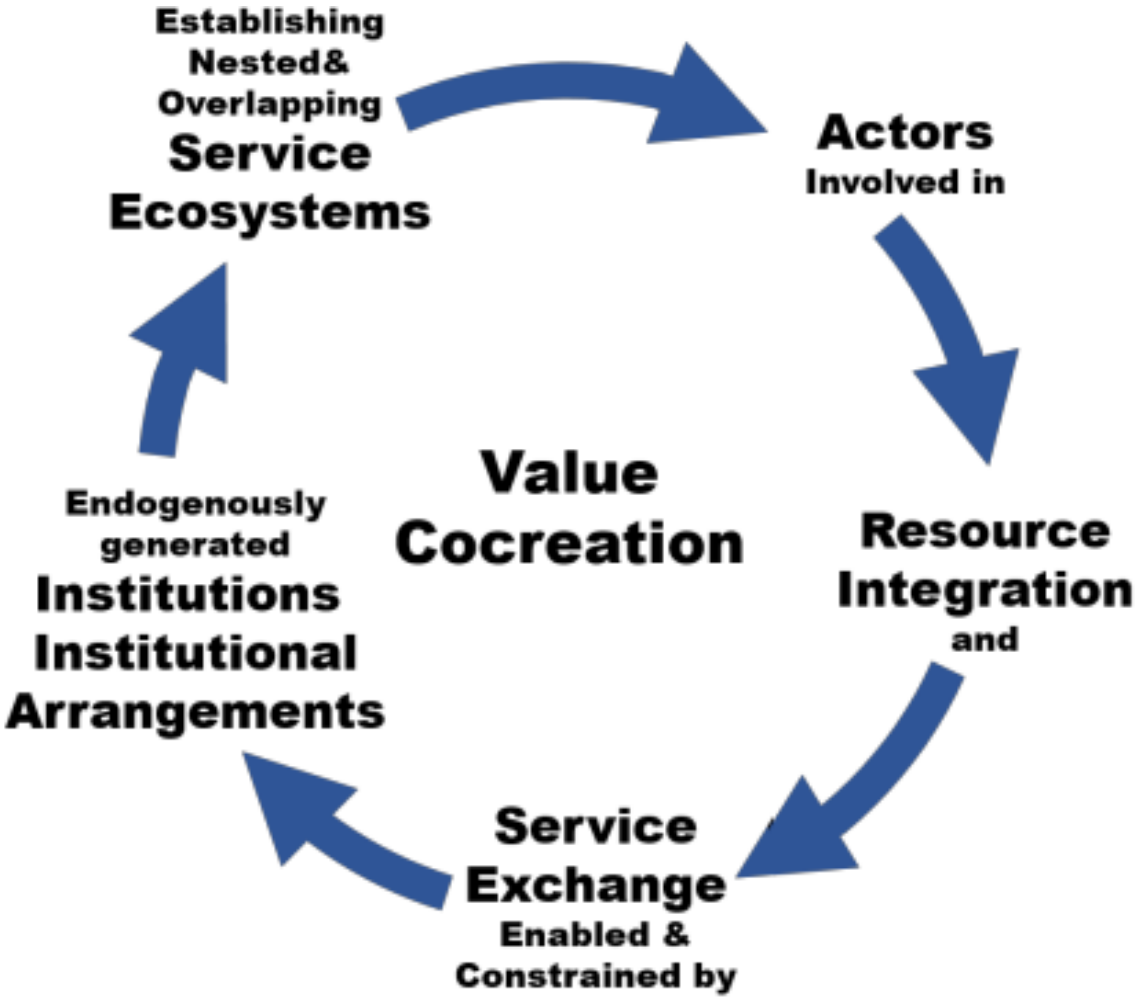
Value co-creation involves complex networks of actors and supply chains (rather than dyads)

⇩

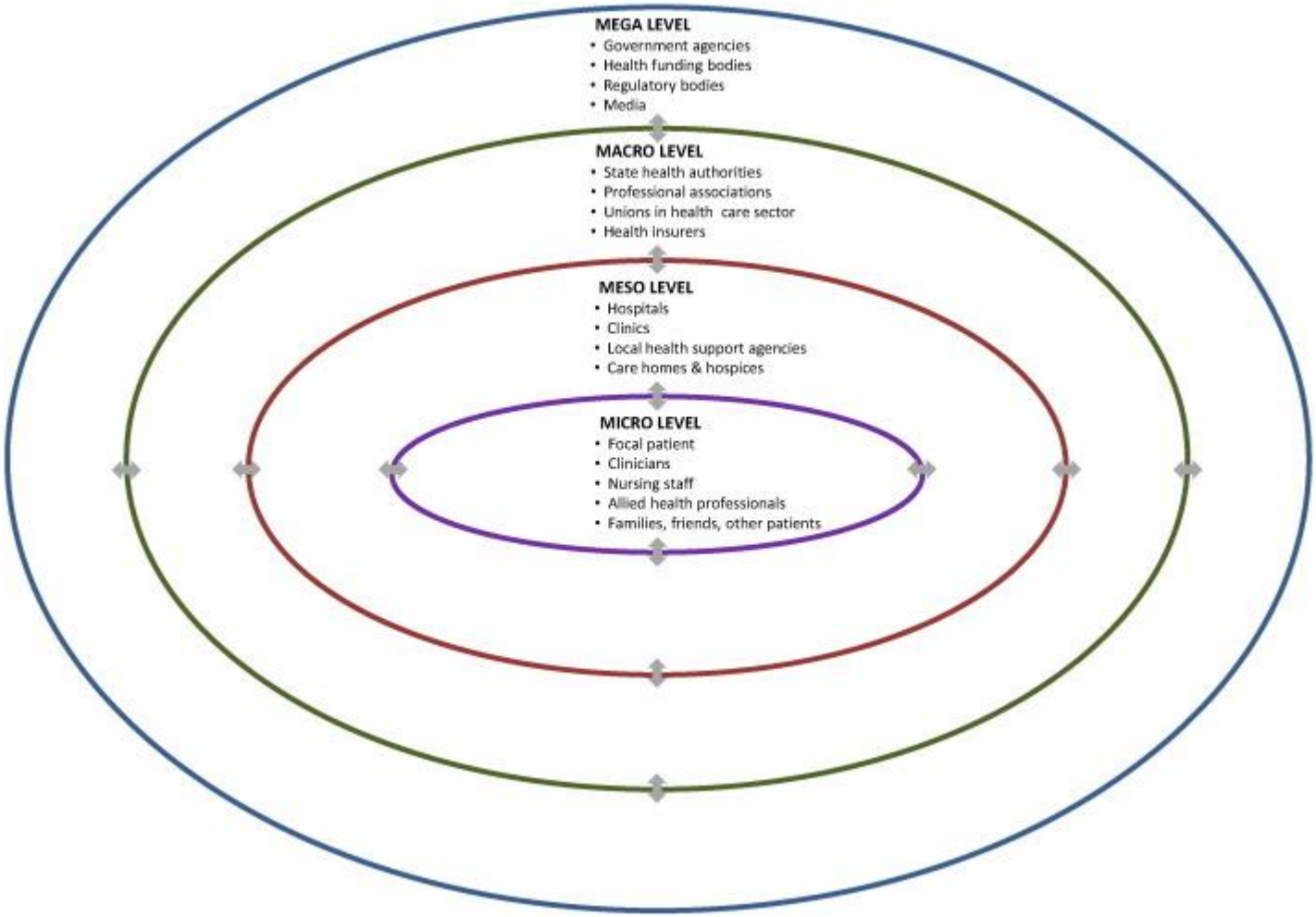
THEN, new multi-actor models are required to reread the mechanisms for competitive advantage

> "relatively self-contained, self-adjusting system[s] of resource-integrating actors connected by shared institutional logics and mutual value creation through service exchange"
>
> Lusch and Vargo (2014, p. 161)

# Service Ecosystems



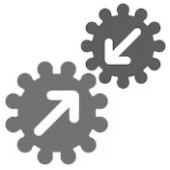
# Service Ecosystems: an example



# Service Ecosystems: main dimensions

**INSTITUTIONS**

Coordination mechanisms for exchanges based on preexisting shared rules (socially and commonly accepted) that act as enablers of resource integration



**RESOURCE INTEGRATION**

Exchange of resources occurring in the multiple interactions between actors (*from pre-delivery, design to post-delivery*)

**TECHNOLOGY**

IT and ICTs based platforms that make exchanges more efficient and accelerate innovation

**VALUE PROPOSITION**

Set of common values that guide the attainment of shared purposes for each actor

# Service Ecosystems: main concepts

The service ecosystem is an autonomous and self-regulating system based on a network of interacting actors stratified and nested within three ecosystem levels: micro, meso and macro.

Actors collaborate and integrate resources according to agreements, sharing mutual interests, with the aim of pursuing a collective well-being through the pursuit of the individual well-being of each actor.

The purpose of the service eco-system is to pursue a condition of individual well-being that can contribute to the pursuit of general well-being.

# Service Ecosystems: main concepts

The functioning of the service ecosystem depends on the **institutions**. Institutions are emerging social practices that modify human behavior, not established and pre-established structures to manage human action, but tacit rules, symbols, meanings, tacit “rules of the game”, which regulate the interactions between actors.

The set of institutions makes up the institutional agreements, or provisions, that favor coordination between the different levels of the eco-service system.

# Service Ecosystems: main implications in terms of marketing

All actors seek resource densities to improve the viability of their system, integrating resources, co-creating value and determining value uniquely and phenomenologically from their perspective and context.

The role of marketing and other business disciplines: go beyond the vision of actors as consumers, producers, companies and government agencies and to consider them in an actor-centric and value-centric way.

# Main Insights

- emerging inputs and outcomes (new value) can foster value co-creation and innovation

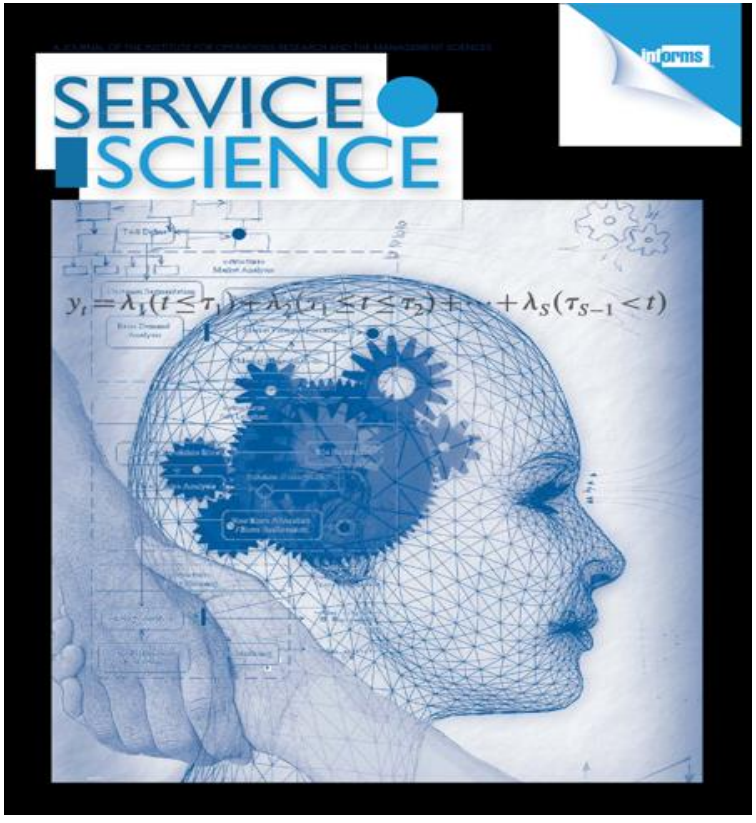

- outputs can act as a basis for the constant renewal of values and innovation that leads to co-evolution and viability over time

# 4.3

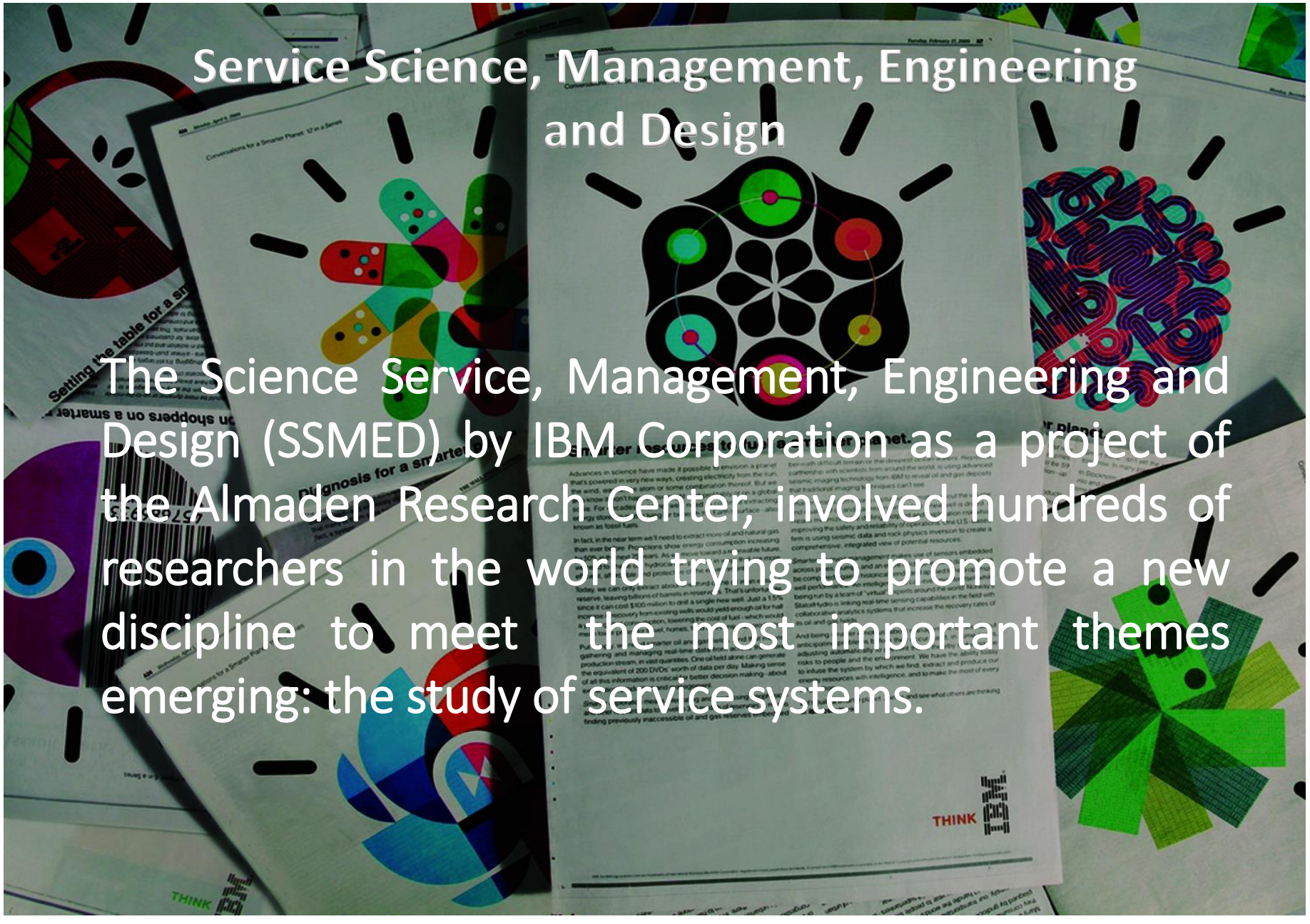
# Service Science, Management, Engineering and Design

## Computer Science


## Service Science




**What is the link?**


Service Science, Management, Engineering and Design
The Science Service, Management, Engineering and Design (SSMED) by IBM Corporation as a project of the Almaden Research Center, involved hundreds of researchers in the world trying to promote a new discipline to meet the most important themes emerging: the study of service systems.
THINK

# Service Science

Service Science management, engineering and design (SSMED)

- Multidisciplinary research stream that studies the implications emerging from the new management approach to service
- Unifying framework for service design, delivery and evaluation that aims at developing the capabiliteis required by service economy;
- Introduced after company's shift from a good-logic to a service centered perspective

**The founders:** Spohrer and Maglio (2008)

**Aim**: to combine and to apply computer science, operational research, industrial engineering, management and social sciences to find the most appropriate organizational model to support the emergence of value

# Service Science

Always looking for *service innovation*, service science would combine organization and human understanding with business and technological understanding to:

(1) explain the origins and growth of service systems;
(2) solve fundamental problems such as how to invest optimally to improve service productivity and quality;
(3) produce unique service professionals and service scientists

# Service Science

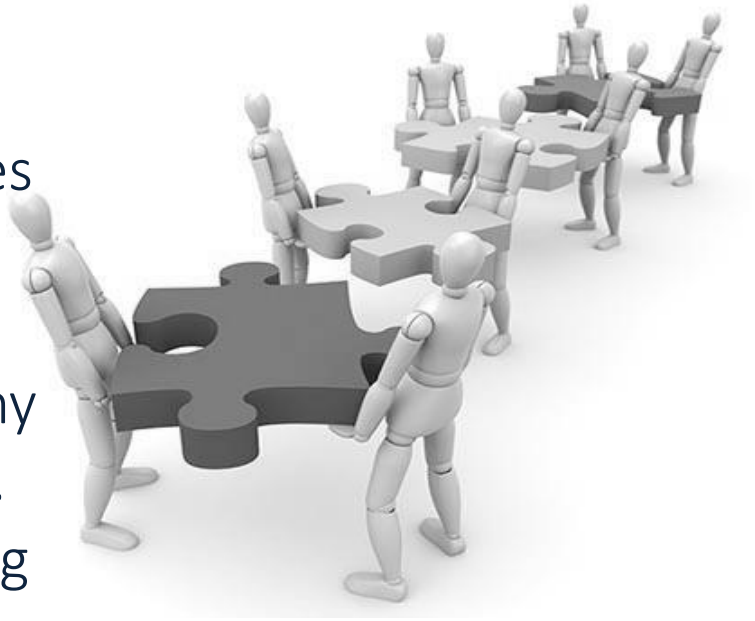
Many disciplines have accumulated *knowledge* relevant to understanding a service system, each focusing on different aspects of the overall system.

For instance, organization theory focuses on structures, rules, and incentives to create effective groups of individuals.

# Service Science

Service is an ever complex issue to deal with.

- Service is related to **value co-creation** among actors.
- Adopting a Service view improves positive interaction between entities in reticular system.
- Service co-creation involves many actors within a dynamic process.
- Service exchangers need evolving expertises and competencies.



# Service Science, Management, Engineering and Design

The service-dominated economy has been multisectoral and transdisciplinary. This makes difficult to define a new kind of discipline that could be considered really “cross and unifying”. There are important academic debates on how to describe the implications of service concept characterizations both for basic and applied research.

Service Science focuses on a new and updated service concept, on the study of service systems and on the recent conceptual and interpretative development of *smart service systems*.

# Service Science, Management, Engineering and Design

Service Science, Management, Engineering and Design (SSMED), proposes several prospects of investigation and embraces many fields of interest and application.

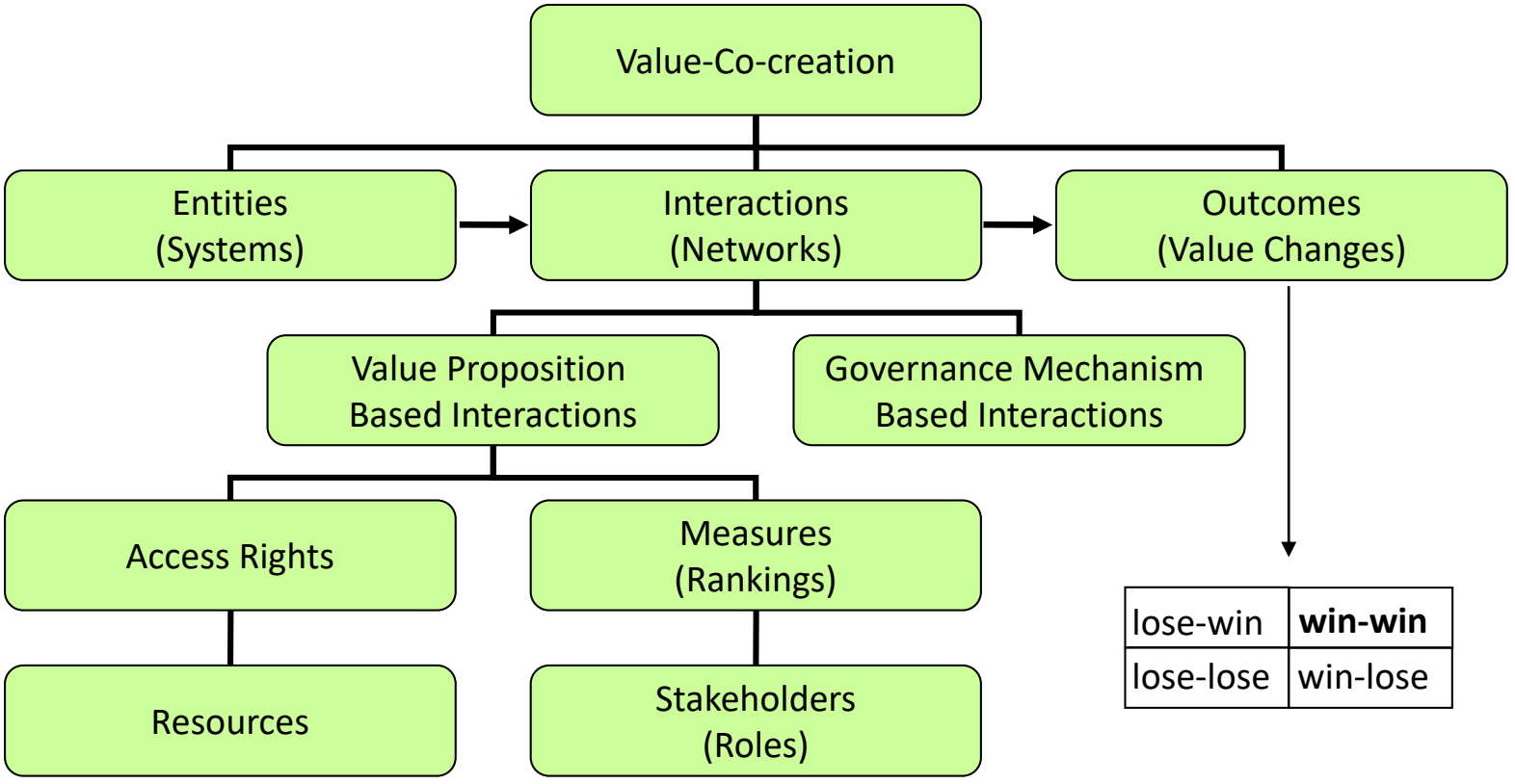
- In terms of *Science*, it investigates what service systems are and how they really evolve, focusing on the active role of the people employed in them, of knowledge, of shared information, and of technologies, as well as on the importance of the active participation of the services' users (the demand) in the production process (offer);

- In terms of *Management* it investigates possible solutions for implementing evaluation of efficiency, sustainability reports, and systemic interaction within service systems;

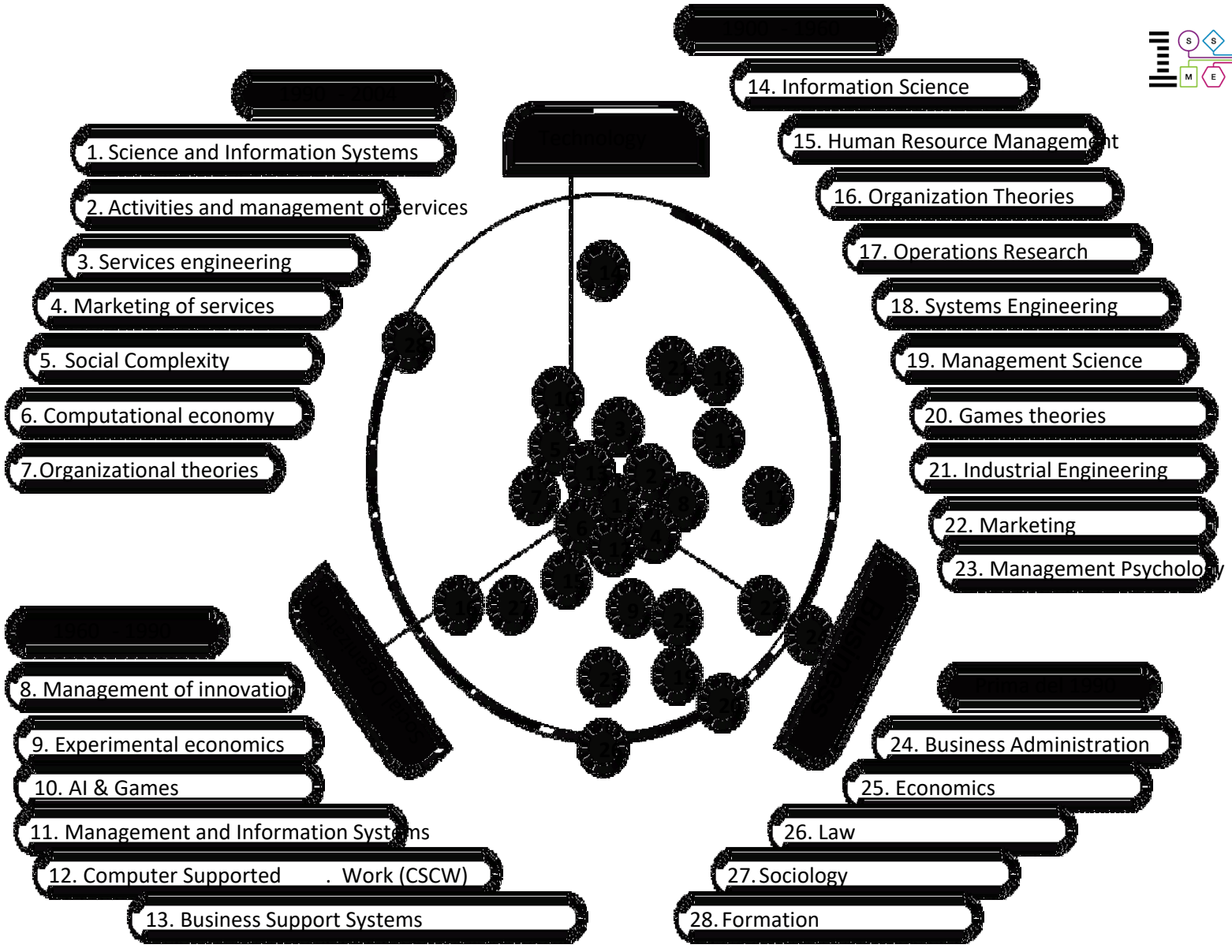
- In terms of *Engineering* it is responsible for developing new technologies for the processes of detection, measurement, and dissemination of information-essential for sharing in the contemporary process of value-generation;

- In terms of *Design* it seeks to deepen the appropriate configuration techniques for the proper structuring of service systems.

# SSMED Key Concepts




Source: www.ibm.com


1. Science and Information Systems
2. Activities and management of services
3. Services engineering
4. Marketing of services
5. Social Complexity
6. Computational economy
7.Organizational theories
14. Information Science
15. Human Resource Management
16. Organization Theories
17. Operations Research
18. Systems Engineering
19. Management Science
20. Games theories
21. Industrial Engineering
22. Marketing
23. Management Psychology
8. Management of innovation
9. Experimental economics
10. AI & Games
11. Management and Information Systems
12. Computer Supported . Work (CSCW)
13. Business Support Systems
24. Business Administration
25. Economics
26. Law
27. Sociology
28. Formation

# Service Systems

**Service systems** are value-creation networks composed of (Bryson et al. 2004; Maglio et al. 2006):

- People
- Organizations
- Technology
- Shared information

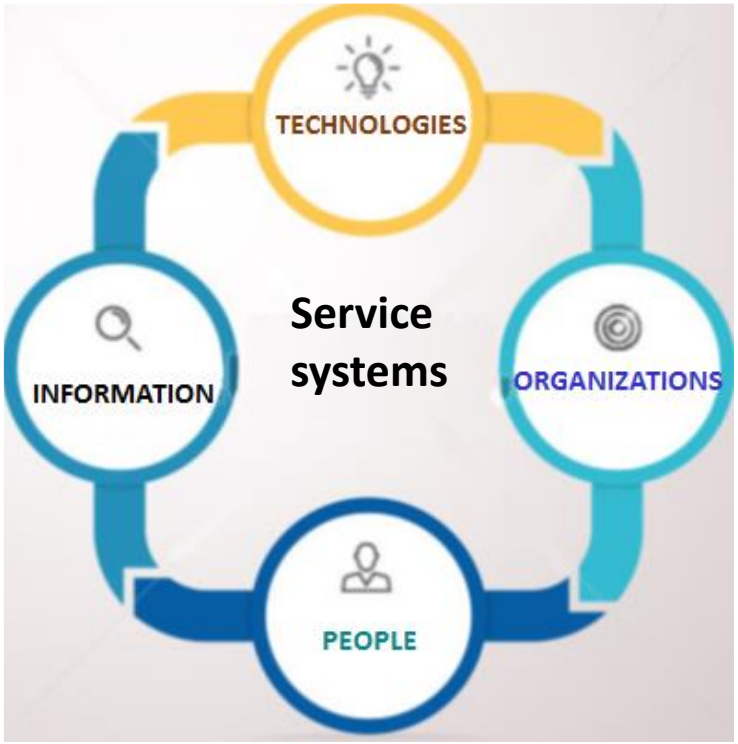

- promote **real-time** relationships and accelerate up **co-learning** processes in many fields (e.g. smart services in the energy sector, transport, etc.).
- come from systematic methods, continuous learning, data collection, innovation, social responsibility and network governance, and all the operations that benefit from the application of **new technologies**.

# (1) Service Systems: definition

**Service systems:** value-co-creation configuration of people, technology, value propositions connecting *internal* and *external* service systems, and shared information able to create and deliver **value** to providers, users and other interested entities, through service.

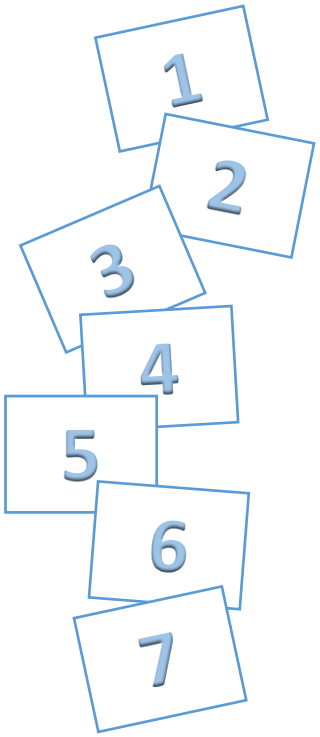
SPOHRER, MAGLIO, BAILEY AND GRUHL (2007)

The **aim** of service system is to use its own resources and the resources exchanged with other actors to improve its own and other's well-being



| SSMED Foundations | Main Focus |
|---|---|
| *Resources: Everything that has a name and is useful can be viewed as a resource* | *Useful* instruments for activities |
| *Entities: Some complex resource configurations can initiate actions, and these are called service system entities (or just entities, or sometimes just service systems)* | Openness of evolving systems |
| *Access rights: dealing with the social norms and legal regulations associated with resource access and usage.* | Supra-Systems relevance |
| *Value Co-creation Interactions: Also known as value-proposition-based interaction mechanisms* | Joint process within Service Systems |
| *Governance Interactions: Intuitively, governance mechanisms are a type of value-proposition between an authority service system entity and a population of governed service system entities* | Common finality, internal and external equilibrium |
| *Outcomes: When service system entities interact, value-co-creation is only one of the possible outcomes.* | Value intended in an extended way |
| *Stakeholders: The four primary types of stakeholders are customer, provider, authority, and competitor* | Contextual influences and self-regulation |
| *Measures: The four primary types of measures are quality, productivity, compliance, and sustainable innovation* | Up to now only qualitative |
| *Networks: Also known as service system networks, service systems entities interact with other service system entities (normatively) via value-propositions* | Networked *embeddedness* |

# (2) Service Systems: definition




*value-co-creation configurations,*

*resources integrators,*

*knowledge-based,*

*capable of enabling connections and interaction,*

*with the aim of reaching desired outcomes,*

*simply, always, an operative application,*

*any number of elements, interconnections, attributes, and stakeholders interacting in a co-productive relationship.*

… a Service System is basically composed of heterogeneous entities, interacting with each other with specific purposes

| Service System definitions | Authors | Year |
|---|---|---|
| Service systems represent value co-creation configuration of people, technology, value propositions connecting internal and external service systems , and shared information (e.g., language, laws, measures, and methods), like an assemblage of unites entities by some form of regular interaction or interdependence. | Spohrer, Maglio, Bailey and Gruhl | 2007 |
| Service Systems can simply be a software application, or a business unit with an organization, from a project team, a business department, a global division; it can be a firm, institution, government agency, town, city or nation; it can also be a compostiion of numerous collaboratively connected service systems within and/or across organizations. | Qiu, Fang, Shen and Yu | *2007* |
| Service Systems act as resource integrators, understandable in terms of elements of a work system, within the organization and through the network enduring resource specialization, those operand and operant, such as knowledge, skills, know-how, relationship, competences, people, products, money, etc. | Spohrer, Anderson, Pass and Ager | *2008* |
| Every service systems is both a provider and client of service that is connected by value propositions in value chains, value networks, or value-creating systems. | Vargo, Maglio and Akaka | 2008 |
| A service system is any number of elements, inteconnections, attributes, and stakeholders interacting in a co-productive relationship that create value, in which principal interactions take place at the interface between the provider and the customer. | Spohrer, Vargo, Maglio and Caswell | *2008* |
| A service system primarly relates to customer-provider interactions as well as open system with it being capable of improving its own state and the one of another system though acquiring, sharing, or applying resources, with the aim of creating a basis for systematic service innovation. | Golinelli | *2008* |
| Service systems are a complex interplay betwwen form and customer that form an open system which needs to be designed using the techniques of viable systems and systems dynamics, in which both parties are focused on achieving outcomes. | Ng and Maull | 2008 |
| Service systems can be divided into “front stage” (about provider/customer interactions) and “back stage” (about operational efficiency) and service performance relies on both of them, putting people (customers and employees), rather than physical goods, in the centre of its organizational structure and operations. The smallest service system is a single person; the largest one is represented by the global economy. A service system essentially is a social-technical system, focusing on engineering and delivering services using all available means to realize respective values for both provider and customer. | Qiu | *2009* |
| Service systems can be represented as real networks, in which the same entities combine their streghts through direct and indircet connectivity, as they are oriented toward enduring competitiveness and daily intercations with other external interdependent service systems. | Polese | *2009* |

# The different definitions

«A service system is any number of elements, interconnections, attributes and stakeholders interacting in a co-productive relationship that create value, in which the principal interactions take place at the interface between the provider and the customer»

Spohrer, Vargo, Maglio and Caswell, 2008

«A service system primarily relates to customer-provider interactions as well as open system with it being capable of improving its own state and the one of another system though acquiring, sharing, or applying resources, with the aim of creating a basis for systematic service innovation»

Golinelli, 2008

«Service systems can be represented as real networks, in which the same entities combine their strengths through direct and indirect connectivity, as they are oriented toward enduring competitiveness and daily interactions with other external interdependent service systems»

Polese, 2009

# Service Systems: origins

The concept derives from **systemic vision** and **network theory** (Richardson, 1972; Normann and Ramirez, 1993; Castells, 1996; Capra, 2002)

**System**

entity **emerging** from a specific structure (organzational-physical equipment) thanks to interactions among all system's members (Barile, 2013).

**Aim**: **survival** through the acquisition (and the exchange) of **knowledge** from the other systems situated in the context which leads to the creation of new knowledge.

Since value co- creation is centred on knowledge exchange to acquire mutual benefits, system is the **most adequate configuration** for companies aiming at acquiring sustainable competitive advantage.

# From Systems Theory

## SYSTEM

- "complex of *interacting elements*" (Von Bertalaffy, 1956)
- "an entity that is *adaptable* for the purpose of surviving in its changing environment" (Beer, 1975);
- "entity which is a *coherent* whole" (Ng, Maull and Yip, 2009)

## Actors & connections

Composed of many part (Parsons, 1965), boundaries, **connections** and different relationship with relevant stakeholders based on the sharing of critical and influential capabilities

## SUB-SYSTEMS

## SUPRA-SYSTEMS

sub-systems focus on the analysis of relationships among its own internal components while supra-systems focus on the connections between the analysis unit and other influencing systemic entities in their context (Golinelli, 2005)

# Service Systems

Today, *service systems* represent an **emerging issue** in economic research, all-encompassing many specific topics (**innovation**, **smart cities** and **communities**) and even quality, traditionally related to technologies and processes

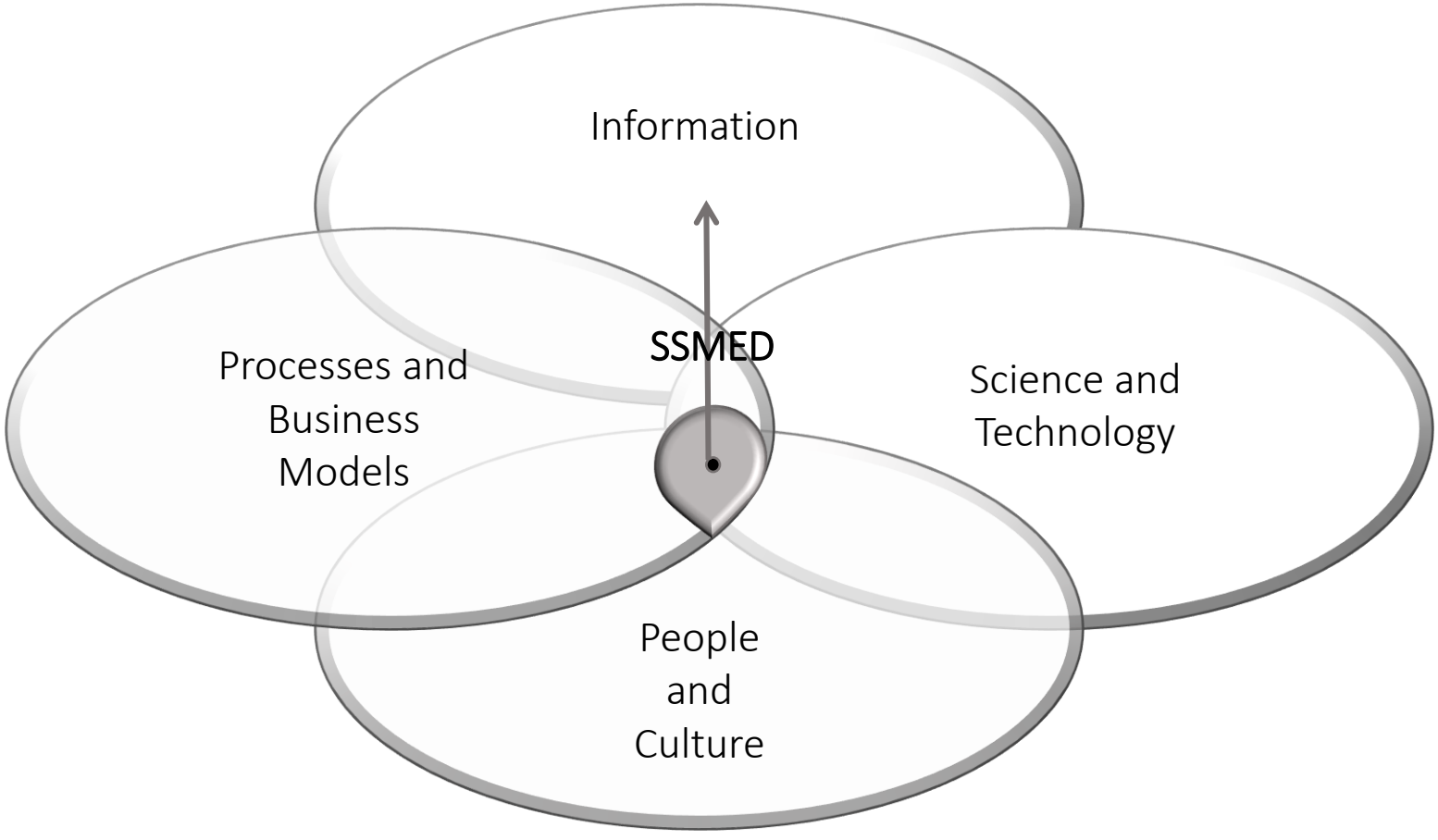
Reinterpretation of **service design**, service supply and **fruition**, in which multiple active actors **synergistically** participate in the value co-creation process, which is characterized by resource-sharing and common finality.

***MAIN REFERENCES:***

ALTER, S. (2008)

SPOHRER, J., VARGO, S.L., MAGLIO, P.P, CASWELL, N. (2008)

# Service Science, Management, Engineering and Design



# (1) Service Systems: ORGANIZATIONS

**Organizations:** interconnected systems entities sharing the same value system.

A Service system is composed of a network of organizations carrying out integrations of multiple resources in order to achieve **reciprocal benefits** for all the stakeholders.

Every member of the system has its own interests and pursues specific aims. Thus, managers should seek to harmonize the differing needs of each subject in an attempt to satisfy the stakeholder's demands and, at the same, the well-being of the system.

**Individual objectives**

**System's Goal**

# (2) Service Systems: PEOPLE

**Human factor** is essential to balance the needs of all the stakeholders.

**Knowledge** is the real added value to foster value co- creation, since this process is grounded of the exchange of internal and external (contextual) competencies and resources

In a market based on *intangibilities*, service delivery does not represent only economic exchange, but can be undesrtood as the result of the integration of the **specialized skills** of each member.

Customers can help firm to improve service starting from service design, by sharing their capabilities and creativity.

# (3) Service Systems: TECHNOLOGY

**ICTs**: opportunities for providers and consumers to exchange resources, fostering the sharing of value propositions at intra- and inter-organizational level

The diffusion of new technologies and platforms (community, forum, blog, social network) can enhance the interactions among stakeholders, with an increase in **stakeholder engagement**.
Users can make comments and judge service quality, providing organizations with suggestions on the improvement of the offering.

The more the social and relational capital grow, the more the knowledge exchanged intensifies.

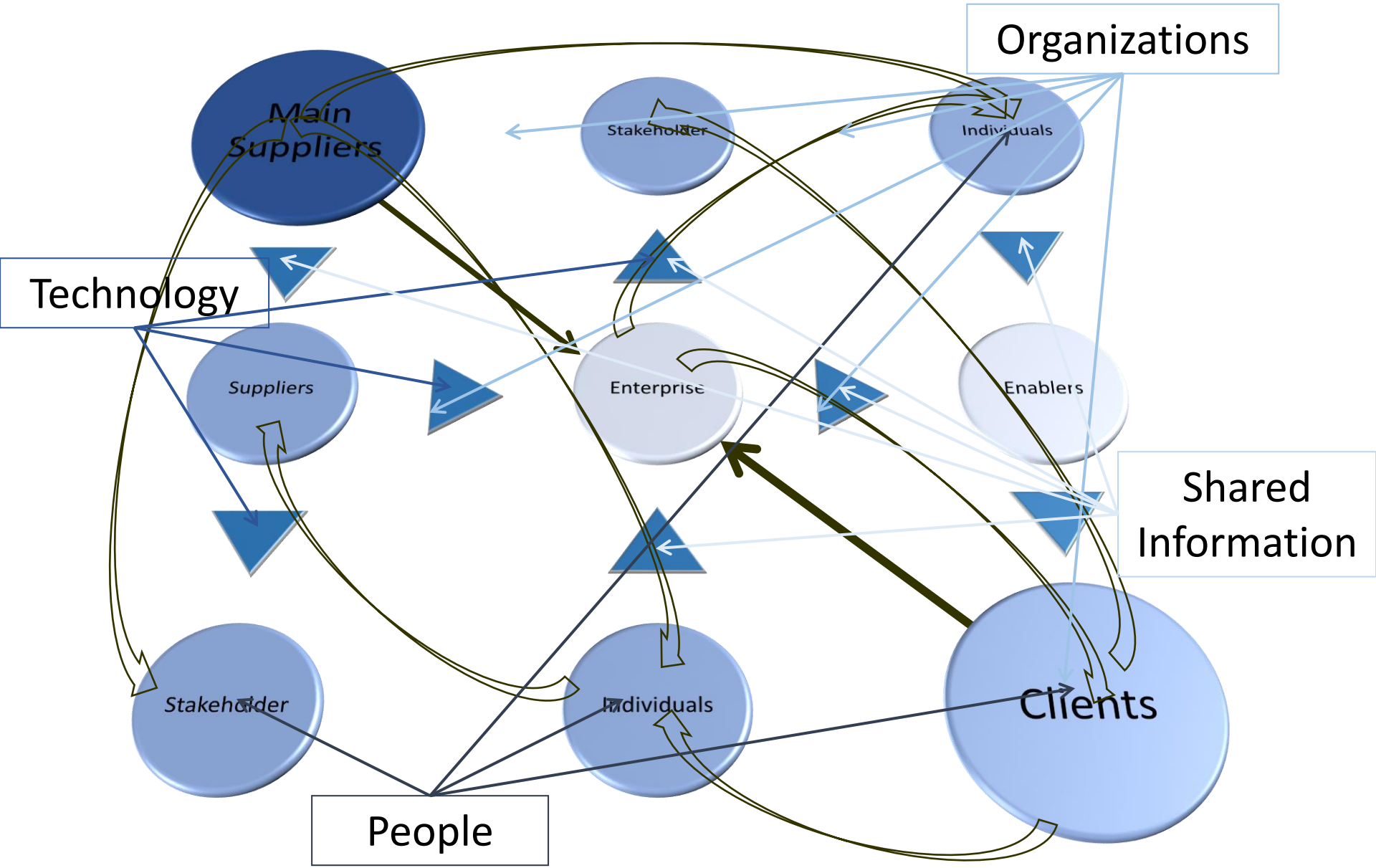
# (4) Service Systems: INFORMATION

Through technology and ICTs co- creators can constantly share flows of **information**, increase their **knoweldge**, strenghten **relationships** and modify their **behaviors** to pursue common goals.

The possibility to transfer every kind of information in real time permits users to play a predominant role in business **decision-making** and service improvement

The combination of the 4 elements of service systems (organizations, people, technologies and information) allows to create value through the implementation of a **networked system** in which companies, institutions, organizations and users share a systematic flux of information and **know-how**, which can be **managed** in an **efficient way** thanks to technology

# Service System as Value Network



# Complex Service Systems

***as the base of a Smarter Planet…***

*iterative, interactive, instrumented, interconnected, intelligent*

*S.M.A.R.T.: Specific, Measurable, Agreed, Realistic and Timely*

*(More measurement data, More networks, More learning and adaptation)*

Smart traffic systems

Intelligent oil field technologies

Smart food systems

Smart healthcare

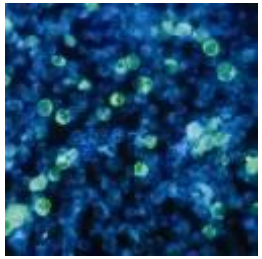
Smart energy grids

Smart retail

Smart water management

Smart supply chains

Smart countries



Smart weather

Smart regions

Smart cities

Source: www.ibm.com/think

# Complex Service Systems

Complex Service Systems, as smarter systems improve quality of life,
creating more opportunities for win-win interactions:
resulting in measurable resource access & value-cocreation for multiple stakeholders.

# Smart Service Systems

*S.M.A.R.T.: Specific, Measurable, Agreed, Realistic and Timely (More measurement data, More networks, More learning and adaptation)*

There is an increasing demand for ‘smart service systems’ based upon ICT, to create a basis for systematic and sustainable *service innovation* in complex environment.

# Smart Service Systems

I. Smart service is the application of specialized competences, through deeds, processes, and performances that are enabled by smart products.

II. Smart service systems are service systems in which smart products are boundary-objects that integrate resources and activities of the involved actors for mutual benefit.
SSS concerns several elements interacting with each other and working together for a common final goal, through smart solutions.
Smart service systems need to be understood as complex, open, and dynamic sociotechnical systems.

# Smarter Planet

## *Iterative, interactive, instrumented, interconnected, intelligent*

*(More measurement data, More networks, More learning and adaptation)*

**Information and analytics for Informed Decisions**
How we're making better decisions through smarter use of data

**Smart Grid**
A smarter grid is transparent, accessible, resilient. And optimized from the user on up

**Smarter money. Money rarely changes hands anymore**
Ones and zeroes can help the world be smarter about dollars and cents

**Smarter Food from Food technology with a healthy appetite for innovation**
Technology is shaping how it grows, how it tastes and how it gets to your plate

**Green buildings are smart buildings**
Given their environmental impact, it's time we designed from the earth up

**Smarter Government. "Citizen-centric"—the evolution to e-government continues**
From the local town council to international collaborations, new ways of working are underway

**Smarter Cities**
Safe neighborhods. Quality schools. Affordable housing. Traffic that flows.It's all possible

**A prescription of intelligence for Smarter Healthcare**
To build a smarter system, healthcare solutions need to be instrumented, interconnected and intelligent

**Cloud computing.**
Workstations used to be tied to a mainframe. Now they're conversing with a cloud

**Smarter IT systems**
The foundation for a smarter planet

**Smarter Oilfields**
Get to the "first" oil faster. Increase recovery rates. Sense and solveproblems before they start

**Smarter Products. The era of the one-size-fi product comes to an end**
The goods we use are getting smarter. Now manufacturing has to as well

**Making retail smarter for known shoppers**
Accelerate supply chains. Strengthen loyalty. Improve margins

**Smarter Traffic**
How we get from point A today to point B tomorrow

**Smarter Water Management**
Whether too much or not enough, the world needs a smarter way to think about water

**Smarter Telecom for nowadays Communication Technology**
Demand is skyrocketing for more and smarter ways to communicate. Can we keep up?

**Smarter Food**

**Smarter Products**

**Making retail smarter**

# Service Science vs S-D logic

## Similarities with SDL

- Relational approach to business
- Focus on resources (RBV)
- Many-to-many logics to business behaviour

## Differences with SDL

- Practical approach
- Technological- Informational focus
- Smart vision on planet
- Measurement of service and *systematic* search for innovation and continuous improvement


SPOHRER, J., ANDERSON, L., PASS, N., AGER, T. (2008)
SPOHRER, J. MAGLIO, P.P., BAILEY, J., GRUHL, D. (2007)
VARGO, S.L., LUSCH, R.F., WESSELS, G. (2008)

# Service Innovation

## Service Research approach

Innovation does not happen when a new product is introduced into a market or a new service provided (traditional perspective) but when its introduction determines new practices and institutionalized solutions to co-create value among the players.

Institutionalization, understood as maintenance, disintegration, change of institution, is the process underlying innovation (Vargo et al., 2015), useful for solving problems, developing new forms of knowledge and also implementing new and more effective ones. technological components starting from value co-creation processes (Akaka et al., 2017).

# Service Innovation

## Service Research approach

Innovation implies a necessary coordinated action between people and technologies: service systems are focused on humans and they become smart when humans, through technologies, are able to optimize their actions and operations.

Service depends on people, human behavior, human cognition, human emotions and needs, acting with technology in order to create value that can be shared. Technology has the "task" of allowing effective use of data and optimizing the interactions between actors that make up the service system as a whole.

# Service Innovation

## Service Research approach

In recent years, technological advances have allowed the creation of several products that can potentially be considered smart as potentially capable of promoting the co-creation of value within smart service systems.

The technological advances appear relevant and (potentially) innovative as they are able to favor better integrations of resources among the actors operating within systems which, it can be argued, are characterized by continuous and systematic interactions between actors mediated by technology.

UNIVERSITÀ DEGLI STUDI DI SALERNO

DIPARTIMENTO DI SCIENZE AZIENDALI MANAGEMENT & INNOVATION SYSTEMS

SIMAS
SISTEMI PER L'INNOVAZIONE E MANAGEMENT SOSTENIBILE

ASVSA
Associazione per la ricerca sui Sistemi Vitali

**THANK YOU.**

Questions? Comments?

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