INF 1005 System Thinking, System Design

Service System

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Agenda

- ❏ What is Service System?

- ❏ Service System Framework

- ❏ Activity

- ❏ Conclusion

Part 1: What is Service System?

Service Business

Service and the Service Economy

A service can be defined as the application of competences for the benefit of another, meaning that service is a kind of action, performance, or promise that's exchanged for value between provider and client (Achrol & Kotler, 2006).

The service economy refers to the service sector, one of the three main categories, in addition to service activities performed in the extractive and manufacturing sectors. The growth of the service sector has resulted in part from the specialization and outsourcing of service activities performed inside manufacturing firms

Service Science, Management and Engineering.

Service Science, Management and Engineering (SSME) is an umbrella concept under which Service Systems lies.

SSME is an application of scientific, management, and engineering disciplines to tasks that one organization (service provider) beneficially performs for and with another (service client).

SSME aims to understand how an organization can invest effectively to create service innovations and to realize more predictable outcomes.

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Service System: Definition

Katzan (2008) defines a service system as a "socially constructed collection of service events in which participants exchange beneficial actions through a knowledge-based strategy that captures value from a provider-client relationship."

Service system are also defined as, "dynamic value co-creation configurations of resources, including people, organizations, shared information (language, laws, measures, methods), and technology, all connected internally and externally to other service systems by value propositions." (Spohrer, Vargo, Caswell, & Maglio, 2008).

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Part 2: Service System Framework

Value Co-Creation

Something central to the definitions is the concept of value co-creation.

Value Co-Creation is the primary object of study in service science, and essentially service systems. It generally refers to the active participation and engagement of both a provider and a customer (Lyons & Tracy, 2012).

The customer contributes primarily social competence(behaviour and attitude) in the co-creation process and co-creates value for themselves and the service provider. So in doing so, they both create value, hence the word "value co-creation".

Foundational Principles of Service Systems

10 Fundamental concepts essential to the understanding of service systems (especially as an abstraction of service science):

1. Value Co-Creation
2. Resources
3. Access Rights
4. Entities
5. Service Systems Interactions
6. Outcomes
7. Stakeholders
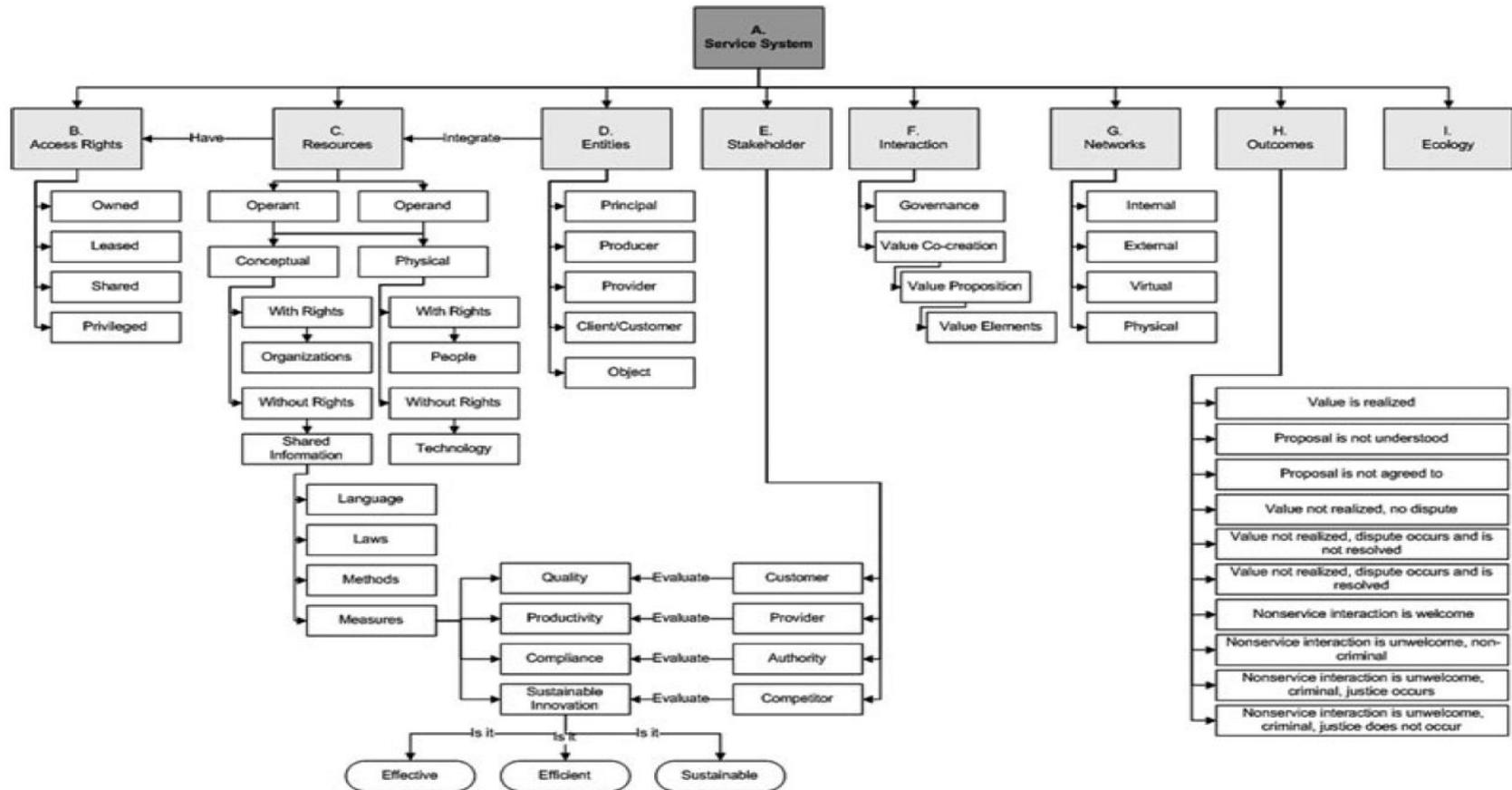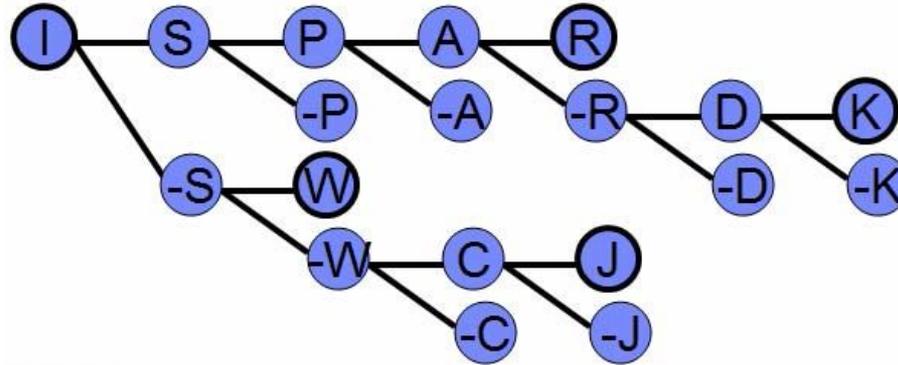8. Measures
9. Networks
10. Ecology

Figure 1   Service system framework.

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ISPAR System of Modelling Service System

I = Interaction

S = Service interaction

-S = Not a service interaction

P = Proposal communicated

-P = Proposal not communicated

A = Agreement

-A = Agreement not reached

R = Realized value co-creation

-R = Not realized value co-creation
(as judged by one or both service systems,
or another interested service system stakeholder)

D = Dispute

- D = Not disputed

K = OK resolution for all interested

-K = Not OK resolution for interested

W = Welcome non-service interaction

-W = Not welcome non-service interaction

C = Criminal (illegal) interaction

-C = Not criminal interaction

J = Justice realized

-J = No justice realized

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Activity

Characterization of an Academic Library as a Service System

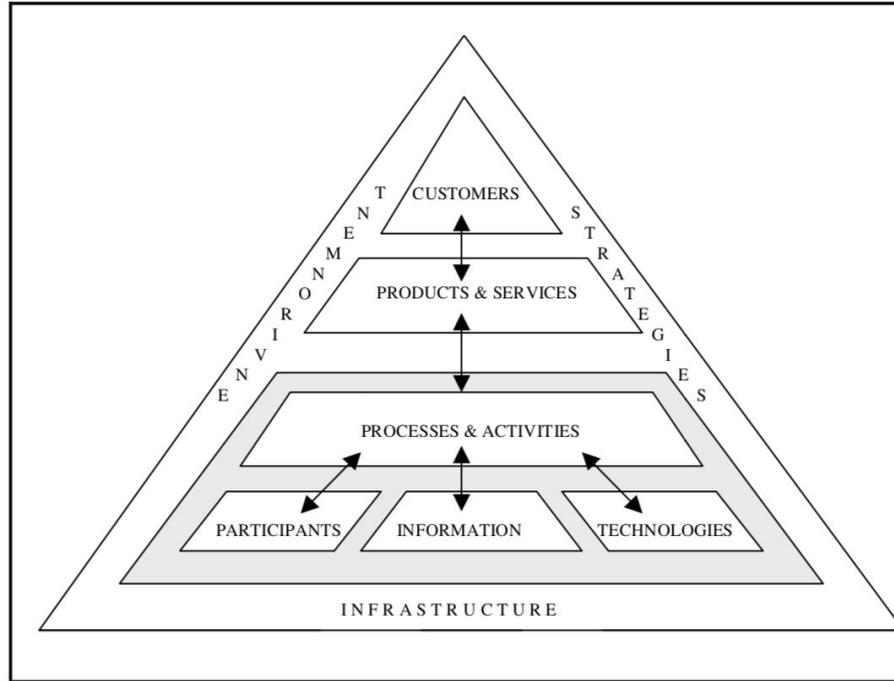| Service System |
|---|
| Access rights |
| Resources |
| Entities |
| Stakeholder |
| Interaction |
| Networks |
| Outcomes |
| Ecology |

Books/collections

Providing a learning environment

Faculty members

Courses materials

Students

Research support

Open access material

IT support service interactions

Library associations

University

Classrooms

Reference knowledge

Workshops information rescources

Value cocreation interactions

e-resource providers

Library staff

Taking a holistic approach
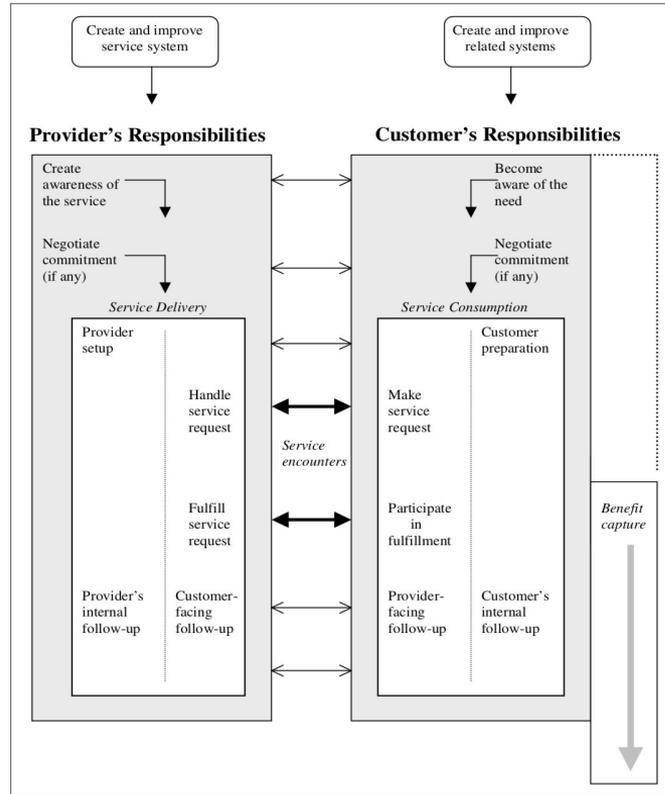
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Analyzing Service Systems

Alter (2003) proposed three frameworks that provide a foundation for understanding and analyzing service systems:

1. The work system framework
2. The service value chain framework
3. The work system life cycle model

Work System Framework

Service Value Chain Framework

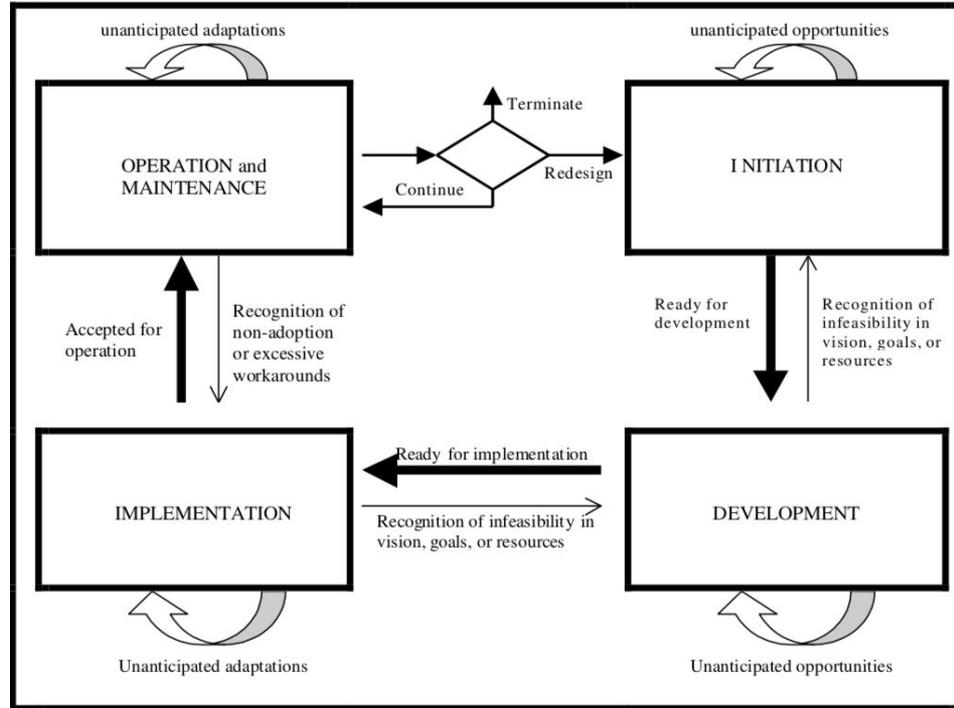# Work System Life Cycle Model

Figure 3. The Work System Life Cycle Model (1).

Part 4: Conclusion

Benefits of the Service System

- Service systems have parts that are social, physical and informatic.

- While agricultural and industrial systems larger have human beings working to change the physical world, service systems impact not only physical spaces, but also social spaces and informatic spaces. These impacts change the nature of social interactions (Ing & Simmonds, 2002).

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Benefits of the Service System

- Service system can provide at least an initial context in which systems scientists and system engineers can mutually benefit.

- The scientists have continued research into the modelling and design of social systems, as well as having advanced knowledge in ecology and natural systems. Engineers have developed tools and methods that have proven workable in a wide variety of applications. Bringing these two communities together is an opportunity not only to regain forgotten knowledge, but also to create new knowledge.

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Where is it used?

1. History
2. Engineering
3. Operations
4. Marketing, Strategic Investments and Management
5. Design
6. Governance
7. Anthropology
8. Computing
9. Sourcing/Real Estate
10. Library and Information Science

Criticisms & Possible Limitations

Some possible limitations of the system includes:
1. Challenges exist in developing a shared vocabulary that can be used across disciplines to describe the great variety of service systems: Hence, people usually just study service systems in abstraction (so it doesn't allow for consistency).
2. The field is relatively new and still in the hectic research phase, and so new things are coming up daily (so keeping up can be very hard).

THANK YOU!

References

Achrol, R. S., & Kotler, P. (2006). The Service-Dominant Logic for Marketing: A Critique. In R. F. Lusch, & S. L. Vargo (Eds.), *The Service-Dominant Logic of Marketing: Dialog, Debate, and Directions* (pp. 320-333). M.E. Sharpe.

Alter, Steven, "Service System Fundamentals: Work System, Value Chain, and Life Cycle" (2008). *Business Analytics and Information Systems*. 30. https://repository.usfca.edu/at/30

Lyons, K., & Tracy, S. (2012). Characterizing organizations as service systems. *Human Factors And Ergonomics In Manufacturing & Service Industries*, *23*(1), 19-27. http://dx.doi.org/10.1002/hfm.20517

Spohrer, J., Maglio, P., Bailey, J., & Gruhl, D. (2007). Steps toward a science of service systems. *Computer*, *40*(1), 71-77. http://dx.doi.org/10.1109/mc.2007.33

Wilby, J., Kijima, K., Ing, D., & Metcalf, G. (2010). *9.1.0 Service Systems and Systems Sciences in the 21st Century*. Retrieved 7 February 2018, from