

IT4IT™ Poster Series #5

Service Science



by Mark Smalley

“Service” is such a frequently and widely used term in the IT industry that it can be confusing. What people actually mean when they say “service”? Is it an economic exchange between an enterprise and its customers? Or a technical interaction between software component?

It could easily be both, and everything in between. Fortunately, help is at hand. It’s called “**service science**”. This started off with Jim Spohrer at IBM in 2004 as a reaction to the scarcity of job candidates with the right mix of knowledge, including computer science, engineering, management and social science.

To quote Spohrer, “there was a huge shift from manufacturing to services. Something big was happening in the world, and we had to deal with it.” Today, about 500 universities worldwide offer some sort of service science program, so we can safely say that it’s an academic discipline to be taken seriously.

So what can we learn from it?

SERVICE

Service can be defined as “the application of resources for the benefit of another”. The key word here is application. It’s not as if ownership of resources is transferred. Resources are used, resulting in value for both the consumer and provider of the service. When ownership of resources occurs, we speak about goods. Goods are tangible, services are not. Confusingly, “product” is also often used to denote goods, while the formal definition in service science is that product is the collective term for goods and services. A product comprises goods, services, or a combination of both.

It’s useful to distinguish between a service offerings, engagements and acts. A service offering is what is potentially available. A service engagement occurs when the prospective provider and consumer agree on a service act. The agreement is not necessarily formal – the act of hailing and stepping into a taxi, and uttering “airport” also constitutes an agreement. Finally, the service act (sometimes called performance) is the actual co-creation of value for and by both parties.

“Co-creation” is an important notion. Service is not delivered to a passive consumer – the consumer has an active role to play. To take a non-IT example, when having a haircut, the consumer is expected to hold his or her head in position, specify requirements, give feedback during the act, and thank the hairdresser profusely, even if the haircut is dreadful. The service act results in both output and outcome. The output is the new hairstyle, and the outcome may be a feeling of attractiveness and confidence.

**In summary, the key service terms are:
OFFERING, ENGAGEMENT, ACT, OUTPUT AND OUTCOME.**

SERVICE SYSTEM

The **Taking Service Forward** initiative formulated many useful **definitions**, including this definition of service, that introduces the term “service system”: service is “an aggregation of a service engagement with one or more service acts between two or more service systems creating service outcomes”. In service science, not only consumers and providers but also parties such as integrators and brokers are referred to as “service systems”. The name may seem clunky but the concept is powerful. It’s another way of looking at organizations. The main components are intent, resources and capabilities.

Intent is something that creates, motivates, and fuels change. It is the reason for providing or consuming service and the way it is done. It refers to expectations, requirements, principles, policies, goals, strategies, plans, guidance.

Resources are entities to which a service system has access for the purpose of delivering, consuming or managing a service. These may be components within the service system of the provider, or within the service system of the consumer, or any other service system that participates in the delivery, consumption or management of a service. Resources come in various forms: human, financial, physical, logical and informational.

Capabilities can best be seen as properties of service systems. They are the dynamic configurations of resources that represent a service system’s potential to provide, consume or manage services. While resources can be acquired, capabilities are more organic and have to be cultivated. They represent an organization’s unique way of working and as such, it’s value.

This leaves us with one last term to describe, the service relationship. This is an aggregate of two or more roles that work together to perform collective behaviour. Trust is an essential part of a relationship. The nature of trust will influence service offers, engagements, agreements, and the service acts themselves.

**In summary, the key service system terms are:
INTENT, RESOURCE, CAPABILITY AND RELATIONSHIP.**

FURTHER READING OF SERVICE SCIENCE:

[The service system is the basic abstraction of service science.](#)

Paul P. Maglio, Stephen L. Vargo, Nathan Caswell, Jim Spohrer, 2009

