



Service Science

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Welcome to Our Declaration of Interdependence

Jim Spohrer, IBM Research

As the nations, businesses, non-profits, and people of the world become more interdependent, value creation and conflict resolution mechanisms, both historically evolved and consciously designed, are becoming more diverse, complex, and unfortunately, more susceptible to cascade failures and the law of unintended consequences. Service science is emerging as the study of *value-cocreation phenomena* in a globally integrated and connected world, which has the potential to become significantly smarter and more sustainable. In a service world, diverse entities create, abandon, utilize, ignore, configure, reconfigure, specialize, integrate, protect, and share resources and relationships to cocreate benefits with and for each other, both as individuals and collectives, both for the short-term and the long-term.

In fact, as we launch this on-line <<Service Science>> journal, the world is poised on the edge of what may become a deep global recession, if not an economic depression, brought on by the unexpected failure of large, seemingly unsinkable, financial institutions. Nevertheless, the concerns these failures generate do serve the purpose of making more people aware of the reality of the global ecology of interdependent service system entities and service system networks in which we live our modern lives. Everything, it seems, is interconnected and interdependent, and service is the glue that holds the world together.¹ How can we make this 'glue' smarter, and invest to improve it more systematically?

Everyday most of us interact with over forty service systems. Utilities, transportation, communication, financial, information, business, insurance, government, education, healthcare, retail, entertainment, and many more each and every day, make life as we know it possible. A fair number of our interactions with specific service systems did not exist twenty years ago, before internet and mobile wireless technology, even fewer of those available today existed one hundred years ago, before instantaneous global communications and social-institutional changes such as women joining the workforce in large numbers. We need to better understand how we got here, and what opportunities exist for where we might be going. Social, technological, economic, environmental, and political change are all interdependent. How can we get smarter simultaneously along all these dimensions?

Service science is inherently interdisciplinary. Service science is also emerging rapidly. For these two reasons, this on-line <<Service Science>> journal is needed. Multiple excellent traditional journals exist and will continue to exist interdependently with this on-line journal. In fact, we hope this journal will prove to be a catalyst and proving ground that stimulates the creation of an increasing quantity and quality of interdisciplinary articles in existing journals. How can we as a community made up of diverse academic disciplines, national and scientific cultures, and professional practices ensure this happens?

A world model, mind set, or knowledge framework for the types of service system entities, interactions, and outcomes is only a starting point for service thinking and the emergence of service science. As we design and guide the evolution of new service systems and networks, how do we keep the doors of opportunity wide-open, without going through ones with painful unintended consequences for everyone? Now I would like to draw on my own

¹ Others might say that information, people, money, energy, technology, trust, institutions, rule of law, or a sustainable environment is the 'real' glue that holds it all together. Stepping back, we know that four fundamental forces (modes of interaction) are the glue that holds the natural world together. What is the glue that holds the artificial world together? Our claim is that service, that is knowledge-intensive service activity, is the glue for large scale systems of billions of people in our modern, artificial world. Just as some see the word 'artificial' as a pejorative, the same is true for the word 'service.' We must get over this prejudice, if we are to make progress. Our notion of service is not the historic economic notion of intangible product, unproductive labor, or low value work, the residual left after high value agricultural and manufactured products. Our notion of service is closer to knowledge-intensive transformation or change (as-is and to-be states of the world) brought on when particular types of entities with resources and capabilities, interact in particular ways, and value-cocreation phenomena result. Put another way, if we, humans, cannot cocreate value together, we cannot live together, stably and sustainably, in higher numbers and at higher densities. Without more systematic service innovation our human ecology is threatened.

experiences as a scientist and executive in IBM Research, an institution with a proud history for innovation and change. In my ten years at IBM, I have witnessed the transformation of IBM from a multinational corporation to a Globally Integrated Enterprise (GIE)². IBM Global Business Services and Global Technology Services now account for more than 50% of IBM's revenue, and employ hundreds of thousands of people in global delivery, solutions, and innovation centers worldwide. In my time in IBM's venture capital group, I witnessed and contributed to win-win-win interactions as our global service business scaled up innovation from much smaller ventured-backed firms that had unique knowledge-based capabilities that mattered to our customers. I was then fortunate enough to be asked with nine others to start the first truly dedicated, focused service research group in IBM Research, and explore with university, government, and industry partners around the world the possibility of creating 'a science of services' that came to be known as SSME (Service Science Management and Engineering).³ In all of these experiences, as well as IBM's Global Innovation Outlook and newly announced Smart Planet initiative, it is becoming increasingly clear that to design service systems and service networks effectively, the key is open collaborative innovation that involves more and more of the stakeholders. The best way to avoid unintended consequences is to involve all the stakeholders and truly listen to their voices.

Welcome to all. We will need all our diverse backgrounds and unique perspectives to make progress. Let's cocreate a body of knowledge and a set of rigorous standards for evaluating and utilizing this knowledge to improve value-cocreation opportunities for each individual and all our collectives in a sustainable manner. Like true independence, true interdependence requires hard work as well as some measure of sacrifice. In a very real sense, the establishment of this on-line <<Service Science> journal is a humble and hopeful declaration of interdependence.

² Samuel J. Palmisano. The Globally Integrated Enterprise. *Foreign Affairs* 85(3) 127-136.

³ To emphasize the importance of design and arts fields to the creative construction of new service experience, not just science, management, and engineering we sometimes also refer to SSME/A. While the name is a mouthful for sure, it is intended as an inclusive acronym that reflects the multidisciplinary skills and capabilities required to create, scale, and improve new service experiences.