

From user-centred design to designing for service

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Here is Adam Smith on one side of the £20 note. He is inscribed on this important everyday artefact because his ideas are inscribed in our everyday culture. He is often called the father of the field we now call economics, but he probably thought of his work as moral philosophy. Some of his work was concerned with what was then a key problem in the emergence of the nation state during the late 18th century, concerned with how we should think about the wealth of a nation, explored in his 1776 book *An Inquiry into The Nature and Causes of The Wealth of Nations*.

In it he argued that nations get rich through individuals and enterprises creating wealth and that they do this through the division of labour and the increases in productivity that result. His argument starts off with the example of pin-makers. Instead of a cottage industry, in which one artisan undertakes most of the processes involved in making a pin, Smith noted that arranging things differently, so that different workers specialised in 18 different operations, led to massively increased production. Instead of one worker not even managing to produce one pin a day, Smith calculated that one person, in a team of ten in which their work was divided up so each did several of the operations, could make around 4800 pins a day. A century or more later, researched and implemented on a larger scale by Frederick Winslow Taylor in steel-making and Henry Ford in car-making, this way of thinking about manufacturing, is at the core of many industries today. It focuses on producing objects more

efficiently, at scale and at lower cost, which can then be sold, creating a profit, which goes back to what Adam Smith was concerned with – how one nation state can become richer than another.

But a little over two hundred years later, this way of thinking about value creation is hampering our efforts in two areas. Firstly, tackling some of the immense challenges facing the world connected to climate change and inequalities in wealth distribution. And second, a related issue of how we understand, and go about designing and managing, services.

What do we mean by services? It turns out we don't really understand what services are. The field of economics has shaped the ways that governments go about calculating gross domestic production and the ways national output is divided into sectors. Some industries extracted raw materials, others processing them, others created more value by assembling components into goods and selling them to customers. Services were the left-over category for everything else, everything from education to software to banking to getting your hair cut. In management research from the 1970s onwards¹, the early definitions of services were based on describing them as what goods were not. But in the past decade or so, a consensus² has been developing that challenges some of these ideas.

It coincides with the emergence of a new design profession – service design – which has become increasingly visible through conferences, publications, an embryonic research community, and new educational programmes. In the UK design consultancies such as Engine³, live|work⁴, Participle⁵ and ThinkPublic⁶ are helping public and commercial clients design and organize new kinds of value relation through service. In Denmark, a government agency called Mindlab⁷ brings together anthropologists and designers with policymakers, to stimulate social innovation and redesign public services. The Italian academic Ezio Manzini has set up a number of design projects that bring ideas of service ecologies to particular kinds of context with an emphasis on placemaking⁸. The United Nations Institute for Disarmament Research is exploring how design practices can bring local knowledge into peace and security programmes in which local action takes place⁹.

Drawing on these developments, I'm going to do in this talk is try and persuade you that the shift over the past decade, from designing objects to designing experiences, has to go one step further. To do this, I will look at the history of services and of design, and then argue that the distinction between goods and services does not matter that much, but that the concept of "service" – in the singular – remains useful. Rather than talking about service design, I will introduce the idea of *designing for service*, and then discuss what this mean for design management.

¹ See for example Grönroos, C. (2000) Service management and marketing: A customer relationship approach. 2nd ed. Chichester, UK: Wiley.

² See in particular Vargo, S. and Lusch, R. (2004) Evolving to a new dominant logic in marketing. Journal of Marketing, 68 (1): 1-17, and Vargo, S. and Lusch, R. (2008) Service-dominant logic: Continuing the evolution. Journal of the Academy of Marketing Science, 36 (1): 1-10.

³ <http://www.enginegroup.co.uk/>

⁴ <http://www.livework.co.uk/>

⁵ <http://www.participle.net/>

⁶ <http://thinkpublic.com/>

⁷ <http://www.mind-lab.dk>

⁸ <http://www.sustainable-everyday.net/manzini/>

⁹ See the UNIDIR Strategic Design and Public Policy conference report at <http://www.unidir.org/pdf/activites/pdf9-act337.pdf>

Understanding value

Adam Smith is one of several early economists whose work can be read as focussing on value-in-exchange. If we go back to the pin-makers, the basic element of what strategy guru Michael Porter calls a value chain are identifiable. From raw materials to processed ones, through various stages of production, finally a 'good' is produced which can be marketed and sold. From the value-chain perspective, that's where the story ends, with an economic transaction in which lots of pins are exchanged for money. For economists, what happens later is not of interest – goods can go straight to landfill, because all that matters is the transaction and, as we know too well, there are few penalties for throwing things away. But alongside value-in-exchange is another way of thinking about value, which has been mostly ignored in 19th and 20th century economics (although Smith does mention it in *The Wealth of Nations*). In contrast to many economists, anthropologists and sociologists have done a lot of work in trying to understand value by studying everyday practices in many different cultures.

The concept of *value-in-use* says the story continues when the customer or end user starts using a good. This way of thinking about value is *temporal*, because time becomes an important dimension, and *relational*, because what matters is what happens between the user and the good and all the other people and objects connected to them. Instead of a value chain, we need to trace what management writers Richard Normann and Rafael Ramírez call a value constellation¹⁰.

These concepts – value-in-use, temporality, relationality, and value constellations – lay the groundwork for helping us focus not on goods and services, but on service. Over the past decade a number of strands of management research have come together to explore the idea that the distinction between goods and services does not matter. Instead, everything is service, and goods or other physical artefacts simply play roles in value creation. Steve Vargo and Bob Lusch have brought together many of these ideas in what they call a 'service-dominant logic' which argues that economic exchange is fundamentally concerned with *exchanging service for service*. It is not that physical goods do not matter, but rather they are usually just part of an economic offering in a relationship between service provider and a customer who is not a consumer, but a co-creator of value through their everyday practices.

In the value chain I just described, it's clear what the role of design is. Here, design is in the service of management helping deliver corporate strategy. Product design differentiates goods from one another through styling, materials and functionality. Design for manufacture makes production more efficient and cuts costs. Communication design stimulates consumer desire and building emotional connections with them. User-centred design aims to make goods easier to use and hopes they'll be closer to what people need and want. Design for sustainability tries to reduce, reuse and recycle along the value chain. But if we shift from the value-in-exchange perspective to the idea of value-in-use, and from goods and services, to service, then a number of possibilities open up.

¹⁰ Norman, R. and Ramírez, R. (1993) Designing interactive strategy: From value chain to value constellation. *Harvard Business Review*, 71 (4): 65-77.



Let's take the example of a toaster. Here's a picture of a very ordinary electric toaster from an ordinary British domestic kitchen. The way designers working in manufacturing approach it is to ask: How can we design a better toaster? How can we differentiate this toaster from other toasters? How can we create an amazing toasting experience?

Design management tries to work out how to use design to help the firm answer questions such as: How can we use design to sell more toasters? How can we increase profits from toasters? How can we innovate in toasters? Over the last quarter of the 20th century, we saw a shift in design from believing that the heroic designer knew what the market wanted from toasters, to doing market research to inform design, to user-centred design which aimed at creating a better toasting experience by understanding the needs of people making toast. So far, so familiar.



But here's another way of looking at the toaster. This involves thinking about the toaster in terms of what sociologists call an actor-network¹¹. In this approach, toasters are not individual items with clear boundaries. Instead, we can look at toasters as objects that are connected to other kinds of object through the everyday practices of people. The toaster on its own is nothing. The toaster needs bread and it needs electricity. These two requirements spiral us out into many other kinds of activities which mean that there is bread that has particular qualities from the type of grains that are grown and the flour that is used so that when baked, it is easy to slice, and has the right kind of crust and texture so as to be toasted well. There are networks that result in bread being sold in toaster-friendly sizes and pre-sliced if that's easier. The toaster requires electricity so that means that kitchens need to have an extra socket so you can plug it in and it needs space in the kitchen so that people can access it easily and that changes how the kitchen is organized. And then there's the stuff that you put on the toast, when it's ready – butter, jam, marmalade, peanut butter, those sprinkles that Dutch people put on toast, all of which are shaped by what bread and other foods mean to a particular cultural group.

If you use this approach to analysing a toaster, there is no toaster. Rather, as sociologist Harvey Molotch¹² has pointed out, people enrol in the toaster project. And this involves all of these different artefacts and practices in making toast, with layers of meaning in making and eating toast, as a child, as young person, as an adult, with others, on your own, with your own children, or not being able to have toast if you are on holiday in country where they don't eat it. This approach sees the toaster as one artefact in many networks that together give meaning to our lives.

If we use this analysis, the questions for a design manager shift from designing a better toaster, a more user-centred toaster, or a differentiated toaster, to *designing a toaster project* in which the toaster is connected to all these other bits of culture.

A business-focussed design manager will quickly point out that these other activities are not something that the typical manufacturer is involved with or has much control over. This design manager will argue that the toaster project, with its network that involves everything from grain production, to electricity, to culturally-specific breakfast practices, to sugar and where it's grown, is not the manufacturer's problem. This manager will stick with the first approach because it just focuses on the toaster and the interactions a user can have with it, and what a customer might pay for it, presenting a relatively well-bounded toaster to design.

Why would anyone try to design a toaster project rather than a toaster? To answer this involves understanding the value that might be created and go beyond the economic paradigm that we have inherited from Adam Smith and others. The first approach is based on an idea of value-in-exchange that allows us to bracket out things that we don't want to think about – climate change, inequalities, child labour in chocolate production, and so on. The second approach opens us up to an enquiry into value and says the toast-making, however mundane, is connected to many other things and if we bracket out the bits we don't want to think about, then we have an impoverished view of what it means to be human and what it is we value.

I chose the toaster because it's an iconic 20th century device but one that is so everyday that it is mundane, at least in developed countries. I'm now going to pick another iconic 20th century object – the personal motor car – and show how the value-in-use approach is being explored in a number of projects, offering a vision for what designing for service might look like.

¹¹ A starting points for exploring this further is Latour, B. (2005) *Reassembling the Social: An Introduction to Actor-Network-Theory*, Oxford University Press.

¹² Molotch, Harvey (2003) *Where Stuff Comes From*. London: Routledge.

The first example is Streetcar¹³ which is a pay-as-you-go car club. Service design and innovation consultancy live|work were involved in helping Streetcar conceptualise and design this offering, inspired by their own interest in people using things, not owning them. Instead of access to a car, Streetcar gives you access to a whole network of cars, located in lots of different places – which, if the venture scales sufficiently – will be near where you might need one. Streetcar makes a point of focussing not just on individual drivers but also local councils, who want to reduce carbon emissions and congestion in their areas, and also property developers, whose schemes might be approved if they include such services. There are now 80,000 Streetcar members and cars in around 1,100 locations in the UK¹⁴.

A second example of designing for service being applied to the personal car is Riversimple¹⁵. This start-up enterprise is aiming to design not just a new hydrogen car, but a new service ecology. In this ecology what you will pay for is a service which includes use of the car in exchange for fees and monthly fuel and repair costs. As a venture, Riversimple aims to make higher margins on more expensive cars by getting service users to use them for longer than manufacturers typically want them to. The intention is to challenge the existing leasing model in which fleets of cars are regularly replaced with no incentive for them to be fuel-efficient. Instead, Riversimple is creating a service that leases reliable vehicles which are highly efficient, use less fuel and last longer. One of the important steps Riversimple has taken is the decision to open-source its designs so that car manufacturers can use the technology they have developed on a small scale in local plants. Riversimple is trialling the service in Leicester in 2012¹⁶.

A third example is RelayRides¹⁷, a person-to-person car sharing service venture, recently launched in Cambridge, MA. How it works is that I can make my own car available to others, using the web, at times I choose and at rates I set, with around 15% going to RelayRides. As a car owner, the service offers me ways to get more value from my car. In exchange I can earn money, if that's my priority, or I can feel like I'm making a contribution to tackling climate change through reduced pollution and fewer cars on the roads. As someone wanting to hire a car, I have access to a potentially huge network of cars, assuming the venture scales.

In each of these examples we see that what is being designed is the car project, not just the car. Traditional business models that build relationships between individuals and car ownership are disrupted by drawing a wider set of actors into the value constellation. Instead of the 20th century vision of design management, in which design is concerned with creating a better car or driving experience, underpinned by value-in-exchange, these enterprises redesign the value relations at the heart of the service. Instead of an emphasis on value-in-exchange which leaves the car owner with a depreciating asset, and many others affected in different ways by that car, these services expand value-in-use by extending relationality to a larger group of people, enabled by networked technologies over an extended time frame, underpinned by a wider set of accountabilities to other people and contexts.

Designing for service

The distinction I have made here is between an idea of design that focuses on the user and their interactions with things, that serves firms and markets, and an idea of design that is about exchanging service for service which has a wider set of accountabilities. The first is

¹³ <http://www.streetcar.co.uk/>

¹⁴ <http://www.streetcar.co.uk/media.aspx> accessed 6 September 2010

¹⁵ live|work have also worked with Riversimple.

¹⁶ <http://www.riversimple.com/Content.aspx?mode=blog&key=20a8c17e-066f-4a90-8e4d-f460e592f377> accessed 6 September 2010

¹⁷ <http://relayrides.com/>

rooted in the design professions that emerged to serve a production and consumption economy that emphasized value-in-exchange. The second – visible in emerging practices in design and the car-ecology examples – is shaped by enquiries into value-in-use.

User-centred design asks how can we design a better toaster. Designing for service explores what meaning and what value toast-making has.

User-centred design zooms in on one object – such as the car, and the interactions the driver has it with. Designing for service examines the networks the car is part of and refuses to bracket out the mining, steelmaking and plastic production, the fuel consumption, the climate change effects, the local pollution and traffic congestion.

User-centred design focuses on the relation between the firm, the customer and the object, and sees this as the locus of value-creation. Designing for service enrolls many different people and objects in its projects and sees value as co-created in practice giving access to different kinds of tools, platforms and, yes, products.

User-centred design proposes what value the toaster has for the person using it and tries to balance what he or she will pay, with what profit the firm wants to make. Designing for service asks who is accountable to whom, for what, in the structures and practices that shape cost and price.

User-centred design attends to the toaster's usefulness, usability and desirability – judgements often made about an object or about interactions with it as a user tries to complete a task. Designing for service negotiates relationality, temporality and accountability in the toaster project. Quick value judgements are avoided and, instead, these three terms open up an enquiry into value.

User-centred design	Designing for service
Value-in-exchange	Value-in-use
Production and consumption	Enquiries into value
Value chains	Value constellations
Designing a toaster	Designing a toaster project
Desirability, usability, usefulness	Relationality, temporality and accountability

Implications

What I've done here today is try to persuade you that service is an important organising concept for how we think about what organisations do, but that the distinction between goods and services does not matter much. Objects do matter, but in the 21st century, the designing of the service constellation or ecology and the objects, platforms and tools within them raises questions for design and design management. Rather than discussing things we already think of as services such as having your hair cut, I've described a different way of looking at toasters and cars, which sees these ordinary objects as connected to, and dependent on, all sorts of other networks of objects and people. Looking at objects through this lens opens up enquiries about value. Instead of being concerned with an object's value-in-exchange in which the locus of value is between the object, the customer and the firm, this approach

forces us to ask questions about how an object and a person relate to other objects and people, over what time frame, and what kinds of accountabilities are inscribed in these relations.

There are several implications for the roles that design managers and leaders can play in organizations and ventures. The most important is a shift away from design being a function that helps deliver strategic goals based on a value-in-exchange paradigm towards one that constructs new kinds of value relation. Instead of design serving management, there is potential here for design to take a leadership position that is centrally concerned with how organizations go about creating value. Closer to an R&D function, the expanded role of design in the organization might be to help leaders and managers explore how to understand, communicate and enact the value created in service, as customers and others engage with offerings arranged over time and space.

Secondly, managers will need to develop in design teams the knowledge and skills to understand more explicitly the relations between people and objects, tools and platforms. For example to develop low-carbon service models, designers can engage with researchers working in “true cost” economics, which attempts to include the things economists have previously thought of as externalities, and with cultural geographers who have been exploring transitions to low-carbon societies. Thirdly, as shapers of the conversation about design, design managers can ask their teams to create new kinds of boundary object, around which different specialists and wider networks of stakeholders can have conversations, collaborate and experiment, for example creating the next generation of customer journey diagrams that visually and dynamically represent value from the perspectives of different stakeholders, or testing new kinds of service configuration. These are just three examples but I hope it is clear that the idea of design can play a strategic role here of the kind that design management as a field has often hoped for.

To conclude. A number of developments in both management and in design over the past decade have seen increasing interest in exploring how design can contribute to service. However rather than focussing on service design as a specialist subfield that inherits the conventional distinction between products and services, rooted in an idea of value-in-exchange, I have proposed an idea of designing for service that focuses on value-in-use which has as significant dimensions temporality, relationality and accountability. The next decades present a challenging and exciting time for those involved in design and design management which can play a key part in making change happen. Designing for service offers a new way to think about what role design plays in organizations and markets and I look forward to having an opportunity to discussing it further with you.

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This is a working paper so if you plan to cite it, please contact me first on lucy.kimbell@sbs.ox.ac.uk

Further reading

<http://www.service-design-network.org/>
<http://www.servicedesignresearch.com/>
<http://www.servdes.org/>
<http://www.servicesystems.group.cam.ac.uk/>
<http://www.cerog.org/lalondeCB/>
<http://www.rhsmith.umd.edu/ces/frontiersconference.aspx>

<https://twitter.com/#search?q=%23servicedesign>
<http://designforservice.wordpress.com/>
<http://servicedesigntools.org/>
<http://www.guardian.co.uk/service-design>
<http://www.creativewaves-coten.com/>
<http://www.sdlogic.net/>
<http://www.designersaccord.org/>

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