

In Julier, G. and Moor, L. (editors) (2009), *Design and Creativity: Policy, Management and Practice*, Oxford: Berg, pp.157-173. Please quote from the published version, not this one.

The turn to service design

Lucy Kimbell

At the close of the 20th century and beginning of the 21st, the already busy category of design saw several new fields emerge, entangled in different ways with the development of new information and communications technologies (ICT) and with the changing role of design in organisational life. Interaction design, experience design, service design and transformation design, to name four, are clusters of ideas and practices around which practitioners have organised themselves, won clients and written manifestos. Of this list, only service design maps directly onto established categories within economics which divide up activities into the extraction of raw materials, manufacturing and services. Pine and Gilmore's (1999) argument that value creation is about creating experiences is not matched by conventional ways of analysing gross national product. Experiences don't feature – yet – as measurable and governable economic outputs, but services do.

The emergence of service design accompanies two developments. The first is the way in which networked media technologies have changed the traditional outputs of design, which now include electronic products but also arrangements of interfaces to distributed devices through which services can be delivered. These include internet-based technologies such as the web, email and chat and resources for collaboration and interaction; mobile and fixed telephony; accessible and affordable resources for the creation and distribution of rich media especially video and high-resolution graphics; the miniaturisation of hardware; and the development of networked connectivity. Services do not necessarily require these technologies in their design and organisation but many do involve them.

The second is the increasing attention paid by management theory and practice to the role of design in organising production and consumption, and in particular to its role in creating new or innovative products and services. Researchers from the fields of design management and innovation studies have recently found empirical examples in which designers and design practices played important roles in creating value for organisations (Bruce and Bessant 2002; Borja de Mozota 2006). One study found that some design consultants were involved in making strategy even while others worked within the bounds of more traditional conceptions of design (Seidel 2000). The involvement of designers in new product development has increasingly been seen as linked with innovation, whether incremental or radical (Perks et al 2005), while another study saw design consultants as catalysing cultural change (Feldman and Boulton 2005).

In these accounts the creative input of designers is observed in three main ways: through their insights into consumers and end users evidenced in their human-centred approach and methods; through their iterative processes of idea generation, modelling

and prototyping, testing and selection, often involving multi-disciplinary teams; and through their competences in working with aesthetics and with visual forms. Whether hired as external consultants or operating internally within an organisation, organised as a stand-alone function or as part of multidisciplinary teams, designers and design managers are seen as making creative contributions that are sometimes formally organised and systematised, but sometimes not. In fact, while design consultancies talk a lot about their routine processes and methods to clients, it is often the case that on closer inspection they also allow considerable space for unexpected outcomes and for surprise (Downs 2006). More generally, it is clear that designers are no longer expected to confine their creative processes to the development of discrete products but can apply their skills and knowledge across a wider range of organisational activities. Overall the role of design can be seen as shifting from being about giving form to or decorating manufactured commodities to locating them within flows in which production and consumption are blurred (Thrift 2008).

Against the background of these developments in technologies and the changing role of design within organisations, this essay will focus on the emergence of service design as a field of practice and as a discipline. During the development of a new area of knowledge, one is unlikely to find formal routines firmly established in practice, nor clear modes of accountability to service providers, users and other stakeholders. As might be expected, the service design consultants discussed here do not show significant evidence of systematization and formalization in their work. However a number of factors external to design consultancies may lead to the profession, or discipline, of service design becoming more formally established. Through the possible incorporation of service design into management and design education curricula, its adoption within a 'services science' promoted by corporations such as IBM, and the dissemination of its methods and processes within clients such as those in the public sector, what is at present novel and tacit may become routine and explicit. Situated against this background, this essay explores what the designers who call themselves service designers do. It reflects on these observations in the light of current thinking about design and considers the consequences of the turn to service design and the prospects for it becoming a discipline.

What is distinctive about services

If one studies the websites of design schools, the pages of design magazines, the catalogues of design fairs and proceedings of conferences, it is clear that service design is not yet an established area of practice or theory. It shows signs of becoming a discourse community (Krippendorff 2006) but even among designers its vocabulary, methods and approaches are not well understood. In everyday conversation the term 'service design' usually needs explaining and has to be illustrated with examples: you call your bank to discuss a mortgage, or receive a text message with your account balances, or transfer funds online, or get cash from an ATM in a shop on the high street, and all of these can be seen as components in the service your bank provides. In many organizations, the arrangement of these interactions with a customer may well be handled by a number of different departments, replicating the conventional divisions in management thinking between operations management, marketing and IT, for example. A service design approach, by contrast, would see all of these interfaces or 'touchpoints' with the customer (or other end users) as something to be

thought of holistically, and it would seek to offer an intentionally-designed experience of the organization.

Services are typically conceived of as what products are not¹. They are seen as intangible, having no physical form, and are distributed in time and space. They cannot be owned, although of course the artefacts involved in delivering services are owned. They cannot be stored or perish. Services are consumed as they are produced and sold, and the customer typically needs to be present for the service to be delivered. Partly because of that customer involvement, services are considered to be heterogeneous, unlike the standardised outputs of manufacturing.

Services are highly varied. To the example of banking, outlined above, we could also add hairdressing, going to a restaurant, taking an aeroplane, or professional services such as accountancy. A brief consideration of each of these throws up the realization that services are diverse in terms of where they happen, the level of skill and organizational complexity involved in designing and delivering them, the extent to which the experience of a service is an important part of the value added, the involvement of people or technologies, and the extent to which a service can be customised and personalised. Services include activities at both the very top and the very bottom of the economic spectrum, offering some of the best and the worst jobs in contemporary economies, from consulting to cleaning (Salter and Tether 2006).

Economically, services are dominant: they account for three-quarters of gross value added in developed economies and are often growing at a faster rate than other parts of these economies (Salter and Tether 2006). Depending on how you distinguish products and services – an area of some considerable debate – some companies such as General Electric, IBM or SAP are now garnering larger revenues from services than from products (Cusumano et al 2006). Indeed services are such a large category, with such internal diversity, that it is questionable whether it is helpful to bundle them together at all. One way of dividing them up distinguishes between traditional services which are often traded locally by small firms, such as construction; systems firms, such as insurance or supermarket retailing with highly developed divisions of labour and reliance on technology; and knowledge-intensive and professional service firms, often undertaking project work with ad hoc organizational structures (Salter and Tether 2006).

Recent awareness of the relative lack of academic knowledge about innovation in services compared to products (Salter and Tether 2006) has prompted questions about how services are designed and how this design process can or should be organised. But before service design practitioners appeared and started to argue that services should be intentionally designed by designers, who has been designing them?

The design of services before service design

A ready answer comes in the phase ‘silent design’ from the field of design management (Gorb and Dumas 1987). This phrase suggests that much of the designing going on within organisations is undertaken by people not educated in design, or not considering themselves to be professional designers. Services may have been designed in-house or with the help of external consultants, perhaps with responsibility for one particular component of a service, such as the design of a call

centre or a website. Since there is not as yet any clearly identifiable service design profession with associated institutions such as professional bodies and few universities teaching service design, it may well be easy to claim that the designing of services going on in organizations must be silent design. But the picture is a little more complicated than that. Within operations management textbooks, for example, there are chapters on how to manage product and service design. Work on new service *development* includes discussions about new service *design* (Fitzsimmons & Fitzsimmons 2000). Examine other literatures that emerge from management faculties and there exist bodies of knowledge within the sub-discipline of services marketing which has generated ideas and methods such as blueprinting (Shostak 1984) or serviscapes (Bitner 1992). Within computing, there is also a literature on how to design services, where the service is enabled by ICT and the approach is informed by science and technology rather than the arts and humanities. Standards bodies have also paid attention to service design, with a British standard first published in 1994 offering a guide to managing the design of services (British Standards Institution 2006). So a profusion of diverse services exist, designed by all sorts of people with range of knowledge and intellectual traditions, but typically not people who have been to design school.

In recent years, however, self-named ‘service designers’ educated in design schools have begun to organise themselves into consultancies offering service design. Some of the first such companies include live|work, a London-based dedicated service design and innovation consultancy founded in 2001 (Løvlie et al 2008), discussed in this chapter; and the international design and innovation consultancy IDEO, which has a service design practice (Jones and Samalionis 2008; Moggridge 2006). They have clients, large and small, established and entrepreneurial, public sector, non-governmental and commercial. They have informal and formal networks through which they exchange ideas (Saco and Gonsalves 2008). Some of them are involved in making public their work through speaking at conferences, teaching and publishing where they connect with academics working in this area including faculty from the Köln International School of Design (Saco and Gonsalves 2008). And some of them at least have a desire to formalise their knowledge, skills and methods into a discipline to build their market (Downs 2006). What is it these practitioners do? What is distinctive about service design as a field of design practice? What are the consequences of the emergence of this field? And what are the prospects for it becoming more systematised and more visible?

Research study

In what follows I address these questions by drawing on an empirical study into the designing of services in science and technology-based enterprises (Kimbell and Seidel 2008). The observations made below are informed by theoretical and empirical literature concerned with how people work and consume, their practices and arrangements, and the artefacts they create and use (Orlikowski 2000; Schatzki et al 2001; Reckwitz 2002; Orlikowski 2007; Shove et al 2007). Briefly, the study involved three service design firms undertaking several days’ paid consultancy for the science- and technology-based enterprises. Five workshops attended by all participants offered opportunities to discuss what the consultancy-enterprise pairs were doing together, and reflect on existing knowledge about the designing of services. Interactions between the pairs were filmed and observed, drawing on ethnographic research methods.

For the purposes of this chapter, one of these three projects will be discussed. This involved the service design and innovation consultancy live|work undertaking a review of a personalised smoking-cessation service being trialled in National Health Service (NHS) pharmacies and making proposals for improving it. The service is based on research originated at Oxford University which found that people respond differently to some medical treatments depending on their genetic profile. At the time of the study, the enterprise was in a growth phase, seeking another round of investment and undertaking a trial in the UK led by the National Institute of Clinical Excellence. The enterprise's core service involved doing a fingerprick blood test of a smoker who wanted to give up to find specific genetic markers. Depending on his or her molecular profile, the smoker would then be advised which dose of nicotine replacement therapy would work best, the research having shown that the right dose was linked to an individual's molecular profile and that taking it would significantly increase the chances of giving up permanently. This test was bundled into a broader smoking cessation service with other components to help the quitter give up and stay off cigarettes including a website with information and chat rooms, a phone service offering personal advice and support, and text messages.

This was an exploratory project and the observations made here about service design practice are not necessarily generalizable although they may be applicable to other types of context². They are that the designers paid detailed attention to both the artefacts and experience of a service; they made artefacts such as the customer journey diagram that rendered the service tangible and visible; they assembled humans and non-humans into sets of relations; and the designers were also involved in considering and proposing business model innovation.

Paying attention to both artefacts and experiences

The service designers' approach to redesigning the smoking cessation service involved observing at first hand how it was currently delivered, in order to generate insights. Following an initial information-gathering meeting with managers from the enterprise, two designers spent a morning at a pharmacy where the service was being trialled and conducted a 'walk-through' with the pharmacy assistant³. In addition they accessed the website through which the service was partly delivered. Enacting a human-centred design approach (Krippendorff 2006), the designers paid considerable attention to the interfaces with which the various stakeholders (the person trying to give up smoking, the pharmacy assistant) engaged with the service – what they called the service 'touchpoints' – and what people did with them. These included a poster in the pharmacy window appealing to would-be non-smokers, the test kit used in the pharmacy to take blood and sputum samples, the website where data were logged by the pharmacist, the letter the quitters received with their test results and recommendations for what treatments to take based on their profiles, and the website, text messages and phone service offering support to smokers while they are giving up. Each of these was scrutinised, documented and criticised.

What was striking was the detailed attention the designers paid to every element of the service, starting before the potential user had even made the decision to quit. For these designers, the service was an assembly of artefacts and experiences which were organized in time and space, operating in a number of locations including the pharmacy and people's own homes. In their work, the designers managed to be

attentive to the design of many different touchpoints as well as holding in mind the service as a whole.

Rendering services as tangible and visible

Typically conceived of as intangible, services are nonetheless experienced by end users through engagement with artefacts that are in fact distinctly material and tangible. These designers used methods which made visible and tangible the service from the point of view of its end users, for example a diagram of the ‘customer journey’. In contrast to the enterprise’s operations diagram of the service, which took the form of a flowchart showing the key steps in delivering and supporting it, the service designers created a more rough-and-ready, human-centred representation of the service incorporating visualizations of its touchpoints and notes about how service users and stakeholders engaged with them.

Assembled in the studio by the two designers, this customer journey covered an entire wall, comprising photos and screenshots showing the designers’ understanding of the pharmacy assistant’s and the smoker’s engagements with the touchpoints over time. When they were joined by a colleague and began their critique of the trial service, this assemblage was added to with comments and suggestions written down on post-it notes. At the end of the session, the designers took photos of this collection of images and text – their annotated representation of the customer journey. Once this diagram was created, it became an important boundary object (Star and Griesemer 1989) in the exchanges between the designers and the enterprise managers and reframing what constituted the design of the service. At this early stage of the project, this visual representation played a distinctive role in articulating what was and was not known about the service (Whyte and Ewenstein 2005/7). In this project, costs did not feature as part of the diagram but in a later interview, live|work’s Ben Reason said the company had subsequently added a line for cost or revenue per user to their customer journey blueprint. This was not data that live|work had gathered, he said, but on some projects they had worked with specialists to include costs and revenues in the diagram.

Assembling sets of relations

In their discussion of the artefacts and practices involved in constituting the service, the designers seemed to view the service as a fluid arrangement of human and non-human artefacts, rather than a fixed intangible entity (Latour 2005). As articulated in their verbal and visual representations, the service could not exist without the social dimension or the material dimension: the touchpoints and the ways stakeholders engaged with them. In their discussions they seemed confident, even forthright, about their views about what users wanted or needed. Yet at the same time they emphasized how partial their knowledge was, how their design proposals had to be tested and iterated in context through methods such as experience prototyping (Buchenau and Suri 2000) and that users and stakeholders were essential parts of conceiving of, and constituting, services. Their ways of thinking about the sociality and materiality of services seemed, in other words, to be guided by both non-routinised tacit knowledge and slightly more formalised processes of user testing and prototype development.

Designing business models

Throughout their engagement with the smoking cessation service trial and the enterprise offering it, the designers repeatedly commented both on the artefacts that

constituted it and the business models underlying it, what they referred to as the ‘(value) proposition’. Discussions about value, business models and strategy became more pronounced when the designers started sketching after having assembled the customer journey. Some sketches suggested improvements to the existing service trial; some proposed an alternate way of conceptualizing the service, in turn implying a different business model for the organisation. In one sketch, the designer proposed a boxed version of the test kit to be sold in pharmacies, which would also include patches to help the smoker give up. Combining the test with patches to be retailed in a box was a new service concept (Goldstein et al 2002), and was seen as a new way of balancing customer needs and organisational intent. But it also implied a new business model. Selling a test to determine the right patch, alongside support for giving up smoking, together with the patches, would require partnering with patch manufacturers; it also implied different customers, and the need to develop a consumer-facing brand, among other things. When the chief executive of the enterprise saw this sketch, he queried where the designers had got the idea. The designer said they had combined knowledge gained from conversations with the managers with their insights gathered from the pharmacy visit.

In producing that sketch, the designers were not advising the chief executive to take a particular path – it was just one of several sketches they brought to that meeting. Nor had the designers systematically thought through the detail of how this service concept might require the enterprise to reorganise itself. Rather, the sketch functioned as a stimulus to help clarify what the service could or should be: what the concept was, who it was for, and what the nature of that experience would be, how usable and how accessible. This research suggests that in their work service designers are deeply concerned with the concept being put to the customer by the organisation and that they are therefore attentive, albeit indirectly, to the business models underlying a service. This observation is consistent with recent research into innovation in experiential services (Voss and Zomerdijk 2007).

Discussion

These observations emerged from an empirical study into what designers from one service design and innovation consultancy did during their short project within a larger study. The next section raises questions about what these findings might mean for current understandings of design.

Recent theory has argued for a semantic turn in design (Krippendorff 2006), arguing that human-centred design must pay attention to meanings ascribed by stakeholders to artefacts in use and in language. Contrasting this kind of design with a more technology-centred design, Krippendorff emphasizes the importance of language within design and the ways that designers and stakeholders create meanings about artefacts during the design process, in use and within a wider ecology. This argument foregrounds the need for designers to be aware that they have competences in working with meaning. In this study, the designers seemed aware that in redesigning the service, or part of it, they would be proposing artefacts which would have meaning for the various users.

Where these designers’ practice challenges conventional ideas about human-centred design is that their work is not so much concerned with designing artefacts, but rather on arranging entities into sets of relations (Latour 2005) and thinking about the

practices of users and stakeholders (Shove et al 2007). Consider the iPod and its success. Since the iMac desktop computer, Apple been considered a company good at manufacturing desirable products that balance functionality and aesthetics (Buxton 2007). Informal discussions about the iPod in its various instantiations often focus on its 'great design' where design means visual and tactile appeal and ease of use. Commentators have pointed out that there were several iterations of its design before sales grew significantly (Buxton *ibid*). The design of the device is typically seen as being a core value for consumers and a contributor to the rise in Apple's stock price. But as Hargadon (2005) has argued, what makes the iPod successful is not just the pleasing and usable design of the tangible artefact, but the intangible network within which it is situated and the venture as a whole. The great design job is the design of the iPod as an assemblage of user-device-software-network, situating the device within a network of practices of non-human (web-based databases, music files, coding for preferences, online purchasing) and human actors (the iPod owners, their friends, other music lovers, executives in music companies, musicians). The iPod can exist and be used without the networked services enabled by iTunes but its value to many owners and users is higher when the free and paid-for web-based services are assembled in relation to the product. The creation of such product-service systems relies on the ability to arrange the assemblage, not the skill in designing an individual artifact.

A possible implication of this is rethinking the roles service designers play in constituting these sets of relations. Callon's (1987) study of engineers designing electric cars described them as engineer-sociologists, emphasizing how their ideas about the potential uses of the vehicles were inscribed into their designs. Building on this, it might be helpful to think of service designers as designer-sociologists, as a way of foregrounding the ways in which designers' assumptions and hypotheses about human and non-human activities together constitute services.

The final section will consider the possibility of service design practice becoming more routinized and more visible and, indeed, forming a discipline. It would be foolish to make concrete predictions, since any attempt to consider the stabilisation and development of service design depends on how the reader understands technology development and innovation. The most relevant actors in the further development of service design are likely to be the designers themselves; managers and entrepreneurs in organizations offering services especially those involved in service management, operations, marketing and innovation; institutions, such as design departments in education, government bodies and policymakers; academics studying services especially those with an interest in design and innovation; service users; and technologies, which may support new arrangements of services and the involvement of users, for example in open innovation. As Henderson (1999) has argued in relation to engineering designers, visual representations play an important role in standardising, codifying and ordering knowledge. It may be that service design as a distinctive area of practice stabilizes over the next few years around concepts and devices such as the customer journey and stakeholder diagrams. Alternatively, its approaches and methods may be diffused through organisations and into the competences of other kinds of professional including managers where they may well be routinised.

There are at least three factors which may impact on these developments. Firstly, the attention paid to design and design management within organisation theory and practice. Recent developments in some business schools demonstrate a growing interest in ‘design thinking’ (Dunne and Martin 2006), ‘designerly ways of knowing’ (Cross 2006) and ‘managing as designing’ (Boland and Collopy 2004) as approaches to problem framing and problem solving, offering tools for managers facing complex, fast-changing markets. Another factor is the wider attention being paid to service innovation by academics and practitioners coming from a range of orientations. For example, the global IT services company IBM includes service design as part of its efforts to construct a ‘services science’, an interdisciplinary approach to the study, design and operation of services systems which it calls Service Science Management and Engineering (SSME) (Spohrer and Maglio, n.d.). This initiative is about precisely the kinds of routinisation, replication and systematisation that the service designers discussed here are only slowly beginning to organise in their work.

A second factor is the context of public services. Service designers have already had an impact on in the UK on public services from education, health, and transport to welfare provision operating nationally, regionally and locally. Manifestos published by a think tank (Parker and Heapy 2006) and a research and development unit of the UK Design Council (Burns et al 2006) have crystallised an ongoing debate about design practice and its relation to social problems and public service provision. Although they have different approaches – the former calling it ‘service design’ and the latter ‘transformation design’ – they share the idea of using designers educated in the design school tradition to be involved *as designers* in tackling social and economic issues. They propose that designers’ skills, methods and user-centred approaches can enable improvements in services so that they become more effective and get closer to people’s day-to-day lives. Furthermore, they argue that design approaches can inspire and generate innovations which offer solutions to problems facing policymakers working in areas such as rural transport or diabetes that span existing institutional structures. Public services in developed economies make up an important area of activity in the UK and many other countries. Driven by political agendas around choice, participation and value (see Moor, and Julier and Moor, in this volume), there may well be opportunities for designers to get much more involved in (re)designing public services. The research cited above involving the smoking cessation trial is one example, even though the starting point was a technology-based enterprise.

A third factor is the exchange of knowledge, methods and tools between designers and their clients. Service designers are already finding themselves facing the opportunity of diffusing their intellectual property, knowledge and skills among their clients. Ben Reason of live|work says that part of the service they offer is in helping clients, especially public sector organisations, to develop a service design capability of their own, by transferring skills and knowledge. Other consultancies also see this as part of their work. For example IDEO has created a ‘transformation design’ practice as one of its core offerings, helping its clients develop human-centred design capabilities internally (IDEO 2008). It is too early to say what the implications might be of helping clients develop service design capabilities in-house. It may lead to the formalisation of service design practices, as organizations seek to systematise and protect their investments in developing this resource. Yet if such developments lead to

consultancies' revenues being cannibalised, this may result in changes within consultancies' approaches to service design itself.

Conclusion

This essay has explored one of the new design fields that have emerged in the past 20 years alongside the rapid development of ICT and the increasing attention paid to the role of design in management practice and theory. A vast area of economic activity, services have not been seen as something to be created by designers educated at design school, although of course they have always been 'designed', at the very least in the sense of someone arranging separate service components, perhaps designed by others. The development of consultancies offering something called service design is a departure from existing traditions that conceptualize design as based on tangible products or interactions with technologies. The service designers discussed here have practices that are recognisable as design, but which also pay attention to both artefacts and users' practices, render intangible services tangible and create arrangements of human and non-human actors. Implicated in their (re)designing of services are discussions of existing services and proposals to create new service propositions, which may in turn require new business models for an organisation.

At this early stage in the development of an area of practice not yet formalised into a discipline, which lacks the associated institutions that typically govern professions, these designers are reflexive about their need to develop vocabularies and methods and for a discourse community to stabilise. While service design consultancies are niche, and their practices dependent on informal, tacit knowledge, their profession may remain emergent. But their practices and methods may stabilise or diffuse depending on the influence of at least three factors: the attention paid by management theory and practice, such as the IBM services science initiative; investment in design by public services; and the transfer of knowledge, methods and tools between service designers and their clients. All of these may lead to increased systematisation, professionalization and routinization in service design practice. If so, just as product design is closely associated with industrialisation, then service design may turn out to be the current century's emblematic set of design practices.

References

- Bitner, M.J. (1992), 'Servicescapes: The Impact of Physical Surroundings on Customers and Employees', *Journal of Marketing*, 56 (2): 57-71.
- Boland, R. and Collopy, F. (eds) (2004), *Managing as Designing*, Palo Alto, CA: Stanford Business Books.
- Borja de Mozota, B. (2006), 'The Four Powers of Design: A Value Model in Design Management', *Design Management Review*, 17, 2: 44-53.
- Bruce, M. and Bessant, J. (2002), *Design in Business: Strategic Innovation through Design*, Harlow: Pearson.
- British Standards Institution. (2006), *BS 7000-3: Guide to Managing the Design of Services*. London.
- Buchenau, M. and Suri, J.F. (2000), 'Experience prototyping', Conference on Designing Interactive Systems: Processes, Practices, Methods, and Techniques (DIS2000), New York, NY: ACM Press: 424-433.

- Burns, C., Cottam, H., Vanstone, C. and Winhall, J. (2006), *RED paper 02: Transformation Design*, London: Design Council.
- Buxton, B. (2007), *Sketching User Experiences: Getting the design right and the right design*, San Francisco: Elsevier.
- Callon, M. (1987), 'Society in the Making: The study of Technology as Tool for Sociological Analysis' in W. Bijker, T. Hughes and T. Pinch (eds), *The Social Construction of Technological Systems*, Cambridge, MA: MIT Press.
- Cross, N. (2006), *Designerly Ways of Knowing*, London: Springer.
- Cusumano, M., Kahl, S. and Suarez, F. (2006), *Product, Process, and Service: A New Industry Lifecycle Model*, Background paper for Advanced Institute of Management (AIM) Research's Grand Challenge on Service Science, Oxford: Saïd Business School.
- Downs, C. (2006), Unpublished interview from workshop held at Saïd Business School, University of Oxford.
- Dunne, D. and Martin, R. (2006), 'Design Thinking and How It Will Change Management Education: An Interview and Discussion', *Academy of Management Learning & Education*, 5 (4): 512-523.
- Feldman, J. and Boulton, J. (2005), 'Third-Generation Design Consultancies: Designing Culture for Innovation', *Design Management Review*, 16, 1: 40-47.
- Fitzsimmons, J. and Fitzsimmons, M. (2000), *New Service Development: Creating Memorable Experiences*, Thousand Oaks, CA: Sage.
- Goldstein, S., Johnston, R., Duffy, J. and Rao, J. (2002), 'The Service Concept: The Missing Link in Service Design Research?', *Journal of Operations Management*, 20, 2: 121-134.
- Gorb, P. and Dumas, A. (1987) 'Silent Design', *Design Studies*, 8: 150-156
- Hargadon, A. (2005), 'Leading with Vision: The Design of New Ventures', *Design Management Review*, 33-39.
- Henderson, K. (1999), *On Line and On Paper: Visual Representations, Visual Culture, and Computer Graphics in Design Engineering*, Cambridge MA: MIT Press.
- IDEO (2008). Transformation design offering [Online]. Available at <http://www.ideo.com/about/offering/info.asp?x=6> [accessed 10 July 2008].
- Jones, M. and Samalionis, F. (2008), 'From Small Ideas to Radical Service Innovation', *Design Management Review*, 19, 1: 20-27.
- Kimbell, L. and Seidel, V.P. (eds) (2008), *Designing for Services in Science and Technology-based Enterprises*, Oxford: Saïd Business School.
- Krippendorff, K. (2006), *The Semantic Turn: A New Foundation for Design*, Boca Raton: CRC Press.
- Latour, B. (2005), *Reassembling the Social: An Introduction to Actor-Network-Theory*, Oxford: Oxford University Press.
- Løvlie, L., Downs, C. and Reason, B. (2008), 'Bottom-line Experiences: Measuring the Value of Design in Service', *Design Management Review*, 19, 1: 73-79.
- Moggridge, B. (2006), *Designing Interactions*, Cambridge, MA: MIT Press.
- Orlikowski, W. J. (2000), 'Using Technology and Constituting Structures: A Practice Lens for Studying Technology in Organizations.' *Organization Science*, 11(4): 404-42.
- Orlikowski, W.J. (2007), 'Sociomaterial Practices: Exploring Technology at Work', *Organization Studies*, 28 (9): 1435-1448.
- Parker, S. and Heapy, J. (2006), 'The Journey to the Interface: How Public Service Design Can Connect Users to Reform', London: Demos.
- Perks, H., Cooper, R. and Jones, C., (2005), 'Characterizing the Role of Design in

- New Product Development', *The Journal of Product Innovation Management*, 22: 111–127.
- Pine, B. J. and Gilmore, J. H. (1999), *The Experience Economy*, Harvard, MA: Harvard Business School Press.
- Reckwitz, A. (2002), 'Towards a Theory of Social Practices: A Development in Culturalist Theorizing', *European Journal of Social Theory*, 5(2): 243–63.
- Saco, R. and Gonsalves, A. (2008), 'Service Design: An Appraisal', *Design Management Journal*, 19, 1: 10-19.
- Salter, A. and Tether, B. (2006), *Innovation in Services: Through the Looking Glass of Innovation Studies*, Background paper for Advanced Institute of Management (AIM) Research's Grand Challenge on Service Science, Oxford: Saïd Business School.
- Schatzki, T.R., Knorr-Cetina, K. and von Savigny, E. (eds) (2001), *The Practice Turn in Contemporary Theory*, London: Routledge.
- Seidel, V. (2000), 'Moving from design to strategy: The four roles of design-led strategy consulting', *Design Management Journal*, 11(2).
- Shostack, G.L. (1984), 'Designing Services that Deliver', *Harvard Business Review*, 62 (1): 133-139.
- Shove, E., Watson, M., Hand, M. and Ingram, J. (2007), *The Design of Everyday Life*, Oxford: Berg.
- Spohrer, J. and Maglio, P. (n.d.), *The Emergence of Service Science: Toward systematic service innovations to accelerate co-creation of value*, Almaden, CA: IBM Almaden Research Center.
- Star, S. L. and Griesemer, J. R. (1989), 'Institutional Ecology, "Translations" and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39', *Social Studies of Science*, 19, 387-420.
- Thrift, N. (2008), *Non-Representational Theory*, Abingdon: Routledge.
- Voss, C. and Zomerdijk, L. (2007), 'Innovation in Experiential Services – An Empirical View', In: DTI (ed). *Innovation in Services*. London: DTI.
- Whyte, J. and Ewenstein, B. (2005/07), *Do You See? Visual Representations as 'Artefacts of Knowing'*, EBK Working Paper.

Notes

1. The distinction between products and services is an area of considerable debate. The standard features of a service are briefly introduced here without qualification, but those interested in a critique of the definition of services as being not like products are referred to Vargo, S.L and Lusch, R.F. (2004), 'The Four Service Marketing Myths: Remnants of a Goods-Based Manufacturing Model', *Journal of Service Research*, 6 (4): 324-335.
2. In the time it had available to undertake the project and its artificial nature (driven by a research agenda rather than a client's), the consultancy was not able to undertake the full range of activities it normally would such as creating prototypes or a service specification. Secondly, this particular study focussed on services in science- and technology-based enterprises including business-to-business services rather than consumer or public sector services.
3. The designers also planned to observe and interview smokers who wanted to give up engaging with the service but this was not possible with the resources available.