Bottom-line Experiences: Measuring the Value of Design in Service

by Lavrans Løvlie, Chris Downs, and Ben Reason

Hard numbers on quality and return on investment are important feedback for strategic decision-making and the allocation of resources. In the arena of service design, Lavrans Løvlie, Chris Downs, and Ben Reason detail "gross value added," "the triple bottom line," and "the service usability index" as techniques they use to assess the impact and success of their work.

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It is a well-documented fact that businesses that invest in design outperform the competition. The UK Design Council reported in its annual report for 2005 to 2006 that for every £100 a business invested in design, revenues increased by £225.[1] However, particularly in the case of the service sector, it's unclear how the value of design can be measured.

In this article, we will share some of our experience in measuring the value of our work at service innovation and design consultancy live|work. Even within the complex workings of a service organization, we believe we can explain the value of design with precision.

What is service design?

In order to show clearly how we validate our work, we first need to describe the emerging field of service design.

When the three of us founded live|work, we shared a background as the first generation of designers who went straight into Internet consultancies after graduation in the mid '90s. We had strong foundations in the values that formed industrial design as a human-centered discipline aiming to improve the material lives of ordinary people. At the same time, our engage-

1. Design Council, "Design in Britain 2005-06," www.designcouncil.org.uk.

ment with networked media changed our notion of what constitutes a design object.

The design process we were taught focused on reducing the complexity of the design problem and achieving ultimate control of form, but subsequently we saw that we could design immaterial experiences that constantly change and that reach people through multiple touch-points. A bank account, for example, changes content and functionality continually, and will be experienced through paper statements, online interfaces, people, call centers, ATM machines, and the like.

We knew we would need to embrace the complexity of services and think more about how an experience would flow across channels rather than how we could create one perfect interface. We came to a definition of the new discipline of service design as "design for experiences that reach people through many different touch-points and that happen over time."[2]

Since we started in 2001, we have had some fantastic opportunities to develop our methods and techniques with some of the most ambitious service organizations in the world, ranging from telecoms companies, such as Orange and manufacturers such as Sony Ericsson, to financial service companies, such as Norwich Union (the UK's largest insurer), and public service providers, including the UK government. We have also worked with design schools across Europe.

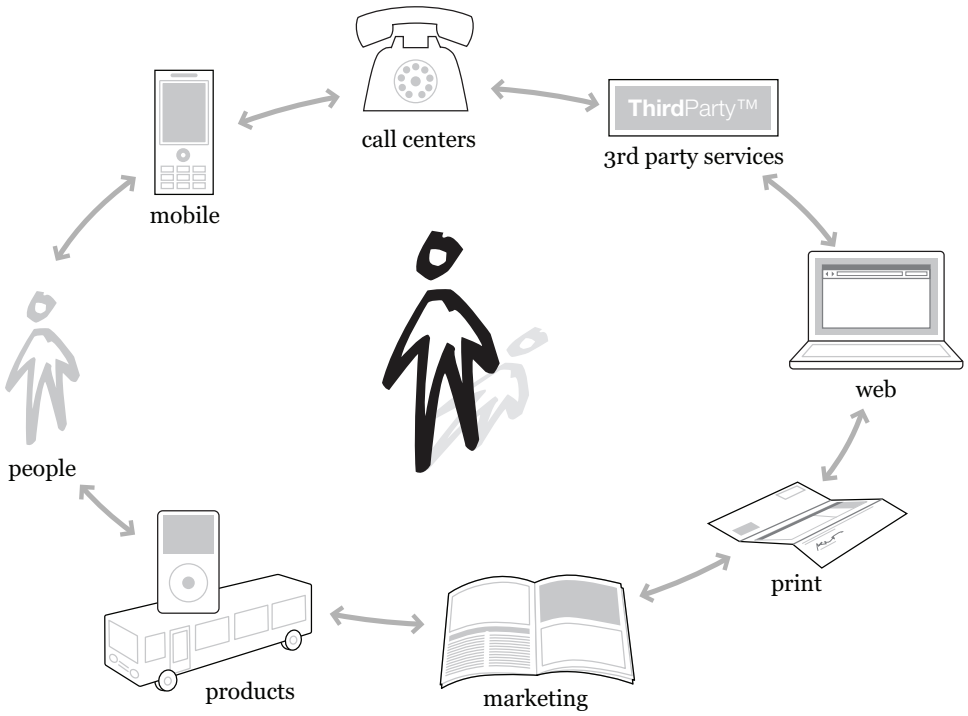
During our first years, our focus was on developing methods that were appropriate to the design of services. Lately, however, we have also begun to look at ways to document how design provides value and return on investment (ROI) in the service sector.

How to validate quality in the design of services

Managing design quality in the service sector is the art of matching people's expectations with an experience that is consistent across all the touch-points that make up the service. What makes this complicated is that a service is "manufactured" at the point of consumption and is often created by a mix of digital information, products, and people—including staff and customers.[3] For instance, the experience of train travel is composed of interactions with timetable information, ticket machines, stations, trains, conductors, and a range of other touch-points.

2. www.servicedesign.org.

3. Gillian Hollins, Bill Hollins, *Total Design: Managing the Design Process in the Service Sector* (London: Trans-Atlantic Publications, 1991).



The key to the design of services is the attention to how an experience flows across touch-points rather than the quality of an interface in isolation.

The best way to ensure quality within this sort of complexity is to put the people who are going to use the service, rather than the design object, at the heart of the design process.

When users are made part of the design team, the focus shifts from the perfection of each touch-point to the journeys of use people go through when they interact with the service. Therefore, we work with potential users from the definition of the brief through to launch in order to validate the quality of our design work. In the end, our customer-centric measure of success is how much people love the service and are happy to make it part of their lives. However, this is usually too subjective a measure for the people that commission projects from us.

Even though we as designers accept user satisfaction as proof of quality, this alone is rarely sufficient to justify the expense of design for our clients.

Return on investment

Even though we as designers accept user satisfaction as proof of quality, this alone is rarely sufficient to justify the expense of design for our clients. They have other metrics that drive their activity, perhaps profit or value for money. They need tangible indicators to measure the performance of the service and to be able to demonstrate return on investment. They also need to know how to improve their service to keep ahead of competition.

Below, we present three approaches we have used in recent years to validate quality. In two instances, we have calculated the return on investment on the design work. In the last case, we show how we boil the measure of the service design down to a single number.

1. Gross Value Added (GVA)

One-third of our projects at live|work are in the public sector. In public service design and innovation, success can't be measured by competitive advantage, but rather by the value it brings to society. This is hard to measure, particularly in the multifaceted network of a community.

One method the public sector uses to measure its achievements is gross value added (GVA). Like gross national product (GNP), this is an economic measure used to estimate the value of goods and services produced in an economy.

Our work with services for unemployed people in the northeast of England presented a challenge in demonstrating GVA. The work was for the regional development agency ONE North East and the Newcastle-based Design Innovation Education Centre (DIEC).[4] Over the past four years, in an ambitious drive to improve the economy of the region, they have engaged with a series of public agencies to stimulate growth through better design of their services. One of the projects, sponsored by a local authority, Sunderland City Council, aimed to improve services for people who have been on long-term incapacity benefits and to help them get back to work.

Over a three-month period, we undertook research and co-design work with 12 of these clients and a wide range of stakeholders engaged in providing services to help them back to work. This first discovery phase of work culminated in a project brief and an early iteration of service concepts. In addition, the project sponsors needed estimates that could prove that the results would justify the investment.

According to UK national statistics, GVA measures the contribution to the economy of each individual producer, industry, or sector in the United Kingdom. Beyond calculating that getting even a small percentage of people back to work would return massive savings, we found it virtually impossible to produce validated numbers for an initiative the size of a typical design project.

Our solution was to estimate numbers based on the effects on a small prototype community. At live|work, we always try to involve potential users in the design and live prototyping of the service. Since the "manufacture" of a service is in the delivery, we create a live prototype where we actually deliver a "hand-made" version of the service to a limited number of people to find its weaknesses and opportunities and define the design detail.

4. www.diec.co.uk

There isn't a specific number for how much one workless person costs society, but we were able to find that the state spends between £10,000 and £40,000 per person out of work per year in benefits and other social costs. We know the rates of worklessness in Sunderland currently and are able to calculate the uplift created by our service design by prototyping it with a small prototype community. We now had a metric for calculating the value of our design intervention. When the uplift overtakes our investment, we will have a positive ROI for Sunderland.

Another system for measuring the value of design is the triple bottom line.

By showing return on investment at a project level, we could also demonstrate that the project would add to GVA and that, if scaled up, the benefits would be massive—one hundred people in work creates a minimum £1m savings per annum. In the public sector, where the networks of value exchange are too complex to accurately measure the full impact of a design initiative, we have found ROI on project level to be a practical and useful tool for making value tangible.

Sunderland City Council believed in the potential defined by this initial project and, on the back of it, we shared our insights and concepts in workshops with more than 200 operational council employees to enable them to improve their services. The project is currently in the pilot phase, where existing services are being reworked to apply the new service design, and the effectiveness of the model is being measured in parallel. Our goal is that for every £1 invested, there will be a £2 saving to the public purse—a 200 percent ROI.

2. Triple Bottom Line

Another system for measuring the value of design is the triple bottom line. This concept came out of the sustainability movement during the '90s and captures the idea that organizational success should be measured as the sum of the economic, environmental, and social effects of an activity.[5] It reflects the idea that corporate social responsibility should be for anyone who is affected by what the organization does, not just customers, employees, and shareholders.

Sustainability is a key issue that live|work believes service design can address, and we try to apply the triple bottom line to all our projects. Our collaboration with London-based car-sharing company Streetcar gave us a chance to apply our skills to a service that represented our values and our ultimate design challenge—shifting desirability from ownership to use.

Streetcar offers members self-service cars for rent by the hour, day, week, or month. The vehicles are parked in a dense network of dedicated spaces in several UK cities and can be booked for as little as 30 minutes or as long as six months, and members receive monthly bills for their car usage.

When we contacted Streetcar in 2004, we found them the most promising of a series of similar services that catered to particular groups of people with narrowly defined needs. We shared an ambition with the company to move the concept of car sharing into the mass market and, together with them, came to the conclusion that we had to elevate the experience of car-sharing to a level where it would compete with the experience of car ownership. It was an obvious instance in which design could deliver economic, environmental, and social return on investment.

In order to achieve this, we analyzed the whole user journey, from joining Streetcar for the first time to paying the bills. The major bar-

5. John Elkington, *Cannibals with Forks: The Triple Bottom Line of 21st Century Business* (Capstone Publishing Ltd; New Ed edition, 1999).

Studies show car sharing significantly reduces the number of cars on the road. Every shared car resulted, on average, in six fewer private cars on the road.

rier to growth for Streetcar was that the car was too difficult for new customers to use because they had to input a PIN code in an in-car computer in order to start it. We also discovered that people couldn't compare the Streetcar service to anything they had used before, which made it difficult to manage their expectations.

We blueprinted the entire service journey and redesigned the complete range of touch-points involved, from the joining process to the printed information, including the manual, as well as the website and car booking interface. From this first iteration, our role has been to provide continual design input as the service grows.

In the years since it launched in 2004, Streetcar has achieved its ambitious goal of taking car sharing into the mass market. The company's commitment to delivering a consistent experience across its touch-points has distinguished it from the competition, and it is now the largest club of its kind in the UK, with more than 25,000 members and more than 600 cars in six cities.

In order for us to measure the impact of Streetcar and to evaluate our contribution, we created a triple bottom line overview taking in both Streetcar's and the customer's perspective.

Although this way of reporting value is hard to use for comparison since it incorporates both soft and hard measurements, we believe it gives a good overall picture of the value of the service. It also allows us to incorporate aspects of design that can't be broken down into numbers—such as self-expression, status, and new patterns of behavior.

After Streetcar, we embarked on a transport project in which we tried to push the triple bottom line one step further, estimating economic benefits across all three areas—economic, environmental, and social. In collaboration with the Design Innovation Education Centre, we worked on making innovations to public transport in the rural county of Northumberland in the North East of England.

Local government is under obligation to provide transport to citizens ranging from schoolchildren to the elderly. This has resulted in a multitude of transportation services, from taxis to ambulances to school buses, and they are poorly coordinated, if at all. At the same time, the people and organizations that need transport have few ways to coordinate their needs.

Our work focused on designing ways to integrate provision and needs better through easily accessible touch-points. The key concept was a new organization that would enable better overview and a more dynamic marketplace for offering and requesting transport. This organization, called RAMP (Rural Access and Mobility Project), would aim to reduce costs for public bodies, create better revenue for providers, and improve quality of service for those who needed transport.

As with our unemployment project, we decided to legitimize the concept and inspire the client to take action by showing value at a proj-

	Economic	Environmental	Social
Streetcar	Profitable within 18 months, the company plans to go public during 2008. Largest club of its kind in the UK.	Has taken more than 3,000 privately owned cars off the road. Users drive 69% less.	Expands mobility options for individuals and connectivity between transport modes. Reduces congestion and local pollution.
Member	Car owner spends on average £2,749 per year vs. Streetcar = £707 per year, (UK Automobile Association figures)	63.5% of car club members either give up their cars or don't buy a private vehicle. Streetcar will prevent 2,000,000 kg CO2 emissions over the next 2 years.	Rethinks a behavioral norm (hassle-free mobility). Creates a sense of community.

Streetcar is the UK's largest car sharing club, with more than 25,000 members. livelwork saw the Streetcar project as an instance in which design could deliver economic, environmental, and social ROI.

ect level. With the help of transport economists, we were able to demonstrate potential return on investment on the economic, as well as on the environmental and social, level.

Our calculation showed that for every £1 currently spent, the county could expect a future return from the proposed service worth £1.65, based on the following breakdown (based on approved metrics used by the UK Department of Transport).

£1.25 (76%) = Financial return	Money saved on reduced numbers of miles driven to fulfill transport needs, as well as reduced management costs
£0.12 (7%) = Environmental return	Costs saved on reduced number of vehicles, congestion, and emissions
£0.28 (17%) = Social return	Value created by providing people with the ability to travel to alternatives to day-care and other costly community services

Our calculations across the triple bottom line showed that the design project would pay itself back to society in four years, and that the new service would break even during operational year two.

Northumberland County Council is currently tendering for an operational supplier to deliver the new model based on the RAMP project, and the work has caught the attention of Oppland county managers in Norway, which faces similar challenges. They have now brought in live|work to help design new integrated transport propositions for their rural citizens.

3. The Service Usability Index

The value of design does not have to be measured in terms of money to be of use to our clients. What they really need from us is to understand design quality well enough to implement improvements that release value.

The third method for measuring the value of design in the service sector is one we have designed ourselves, called service usability (SU). This method was a direct response to the lack of a quality testing method appropriate to service experiences. Service usability isn't a way to qualify ROI, but rather a system that measures the quality of a service experience in concrete terms and enables organizations to take action to improve their designs.

Whereas there are a multitude of methods for testing particular touch-points such as websites, printed material, and products, we couldn't find one single system for addressing service experiences that are made up of multiple touch-points and that take time into account. For example, when we think about health services we need to take into consideration how the relationship between the person and the service changes over an entire lifetime.

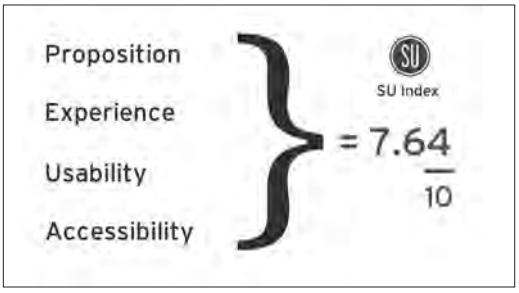
Customer satisfaction ratings go part of the way in terms of validating complete service experiences, but fall down on providing actionable results. It is good to know whether customers like a service or not, but what an organization really needs to know is what is wrong, why, and how it affects the experience. We built SU to address these questions, focusing on finding a way to create actionable insights into service quality that could be applied from boardroom to the front desk. Our starting point was a combination of classic service marketing theory and recent developments in web usability testing.

At the most abstract level of measurement, we created the SU index, which rates the quality of the service with a number between 0 and 10. We define the number by four key parameters:

- *Proposition*. Do people understand the value proposition of the service?
- *Experience*. Do people feel good about the service?
- *Usability*. Can people easily use the service?
- *Accessibility*. Is the service universally usable for everyone?

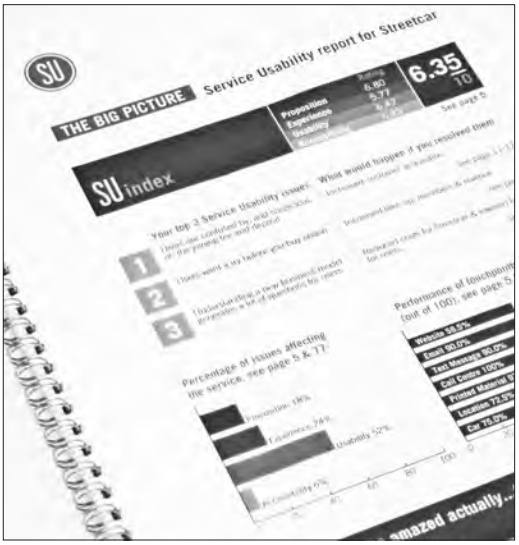
We arrive at the final number through in-depth interviews and by shadowing users as they use the service in their own environment and time.

An SU report is a detailed document that



The service usability (SU) index rates the quality of a service through in-depth interviews with users and gives it a number between 0 and 10. The Streetcar project, for instance, achieved 7.64, which is a fairly average rating.

describes all major issues that affect the experience and recommendations about how to fix them. For boardrooms, we synthesize reports into one page that lists the top three issues that affect the service, as well as how many issues affect the four key parameters and, finally, how well each service touch-point performs.



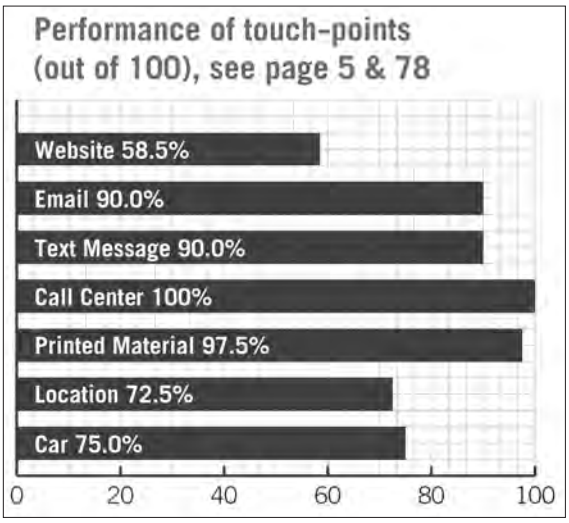
The boardroom version of the SU report provides a quick overview of how well the service performs and what can be done to improve it.

Another feature of SU that our clients appreciate is our two top-10 lists: "Issues that prevent you from making money" and "Quick fixes," things that are easy to fix to improve the quality of the service.

We SU-tested Streetcar after our first design iteration to reveal how it could make its service experience even better, and found that the joining fee was a major barrier to use. People felt a need to try this new type of service before they could fully commit to it. We also found that people didn't have a clear mental model of the process of using Streetcar, and this made it difficult to meet their expectations.

Our 10 recommendations therefore included dropping the joining fee and providing a simple explanation of the Streetcar experience.

Typical of Streetcar's commitment to creating a great service experience, the company implemented all SU top-10 recommendations. The results have been impressive. For example, Streetcar embraced the fact that people need to try before they buy and dropped the joining fee as we had suggested. This resulted in a rapid increase in new members. To clarify and explain the way in which the service worked, Streetcar added simple step-by-step explanations that



People who called Streetcar had a great experience, but the website and in-car computer presented usability problems. Surprisingly, many people also had difficulties finding the cars.

immediately reduced the number of questions typically asked about how the service works, creating efficiencies for Streetcar and making users more confident.

We have now used SU to test the services of a number of organizations, from mobile operator Vodafone to Danish train operator DSB—even the English Parliament.

Conclusions

Meaningful measurement of design depends on the context of the service and the provider.

In the public sector, we have found it useful to estimate ROI on a project level, and we use this to argue contribution to the economy in general (GVA). We have also found this to be a productive tool in the concept phase of the design process to motivate further investment.

Since the operation of services involves more people and touch-points than products, we find the triple bottom line system particularly relevant to the service sector because it addresses a broad range of issues affected by the activity. We also believe the method is useful in the context of measuring design, because it allows a mix of hard and soft measures that is appropriate to understanding what an experience is.

The third measure we use, service usability, shows that it is possible to assess the quality of design in the service sector and that the detailed investigation of a customer's journey through the service provides actionable results that lead to a better user experience. ■

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