Service Design Visualisations meet Service Theory: Strengths, weaknesses and perspectives

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Abstract

This paper reports on the analysis of service design visualisations performed with a service science perspective. Two perspectives on services emerging from service marketing and management were used as the basis of the analysis; IHIP (intangibility-heterogeneity-inseparability-perishability) and Service Dominant Logic (SD Logic). In total 17 visualisations were collected for analysis, all of them having been developed in live, commissioned service design projects run by service design consultancies. The visualisations were sorted into six different visualisation categories, and conclusions on their character were drawn on the category level. Two judges appraised all visualisations individually before a joint appraisal of the categories was made. The appraisals were made by answering questions representing traits of IHIP and service dominant logic respectively.

It was found that the service visualisations were slightly better at representing the IHIP traits than those of service dominant logic. Moreover, it was found that there were large differences between the various techniques in how good they were at representing service traits, with customer journeys and storyboards standing out as being the best at representing a variety of traits strongly. Not surprisingly the results show that traits which align with the traditional values of user-centred design - such as customer orientation – is where the visualisations as a group fare the best. Finally it is found that personas diverge in an outlier fashion from the other visualisation techniques due to their focus on representing idealised customers rather than the service.

Introduction

As the different service disciplines meet under the umbrella of service science new opportunities and problems arise. Different disciplines have different strengths and weaknesses. Two sub disciplines which on a first glance supplement each other well are service design and service management. Service design mainly concerns itself with the development of new and improvement of existing services, whereas service management mainly focuses on the management of existing services (although research is being conducted on New Service Development – see Edvardsson, Gustafsson, Johnson, & Sandén (2000)).

One of the most prominent features of service design is the use of various visualisation techniques to depict the service being (re-)designed (see Segelström (2010); Kimbell (2009) and Mager (2008) among others). Visualisations as a service design phenomena are described as follows by Segelström (2010, p. 2):

> *"As services cannot be represented as easily as products due to consisting of a chain of actions, one area which has been in focus for the development of new techniques and adaptation of old ones is the representation of a service. These representations are known as visualisations."*

Designers use visualisations as representations of existing or future services during the service development process (in contrast to visualisations for management purposes). In industrial design in general, visualisations share and express features and characteristics of the object, or system, the visualisation it is a representation of. While being representations of a service, these visualisations may have potential of being relevant for the management of services as well, or for the management of new service development. Little is known today about such visualisations in relationship to other service science theories and concepts, e.g. how the usage of visualisations is distributed across a project in time and across competence groups, or how different visualisations express features and characteristics of services.

This study reports on an investigation of some of the most common visualisation techniques in service design and what they communicate, analysed from a service management and service marketing angle. IHIP (Zeithaml, Parasuraman, & Berry, 1985) and Service Dominant Logic (Vargo & Lusch, 2004; 2008a) are the two main frameworks used in service management and marketing to conceptualize service, and therefore were used in the analysis of how the visualisations express these concepts. These two concepts are introduced in more detail in subchapter "Frameworks for thinking about service" in the Background.

The guiding research question for the investigation was how well aligned current service design visualizations are with the leading schools of thought within service marketing and management. If the visualisation techniques are to be adopted within a larger service science context it is important to be aware of what pros and cons they have in regard to existing service frameworks.

Background

The background chapter introduces the use of visualisations within service design. This is followed by a quick review of the two frameworks IHIP and service dominant logic in their historical context.

Service design and visualisations

Designers first started to talk about service design in a structured way in the early 1990s. Early efforts were made in Cologne and Milan, among which Milano had a distinctly more academic profile. The first service design PhDs were presented here. Interestingly both research from Milano and Cologne were strongly influenced by disciplines today seen as a part of service science; service marketing, service management and service engineering in form Product-Service Systems. However, publications were primarily in Italian and German respectively and have thus not been easily accessible for most researchers (an overview of the early Italian research was recently published however; see Pacenti & Sangiorgi (2010)).

As service design became more established the focus was mainly on the design aspects, and arguments for the discipline were formulated rather in terms of "services *can* be designed" than in terms of "service *needs* design" (which, somewhat ironically is the translated title of the very first service design textbook (Erlhoff, Mager, & Manzini, 1997)). The focus on service design as a design discipline meant that the service aspect was left somewhat unexplored whereas the design aspects were highlighted.

An overview of peer reviewed service design research (Blomkvist, Holmlid, & Segelström, 2010) found that the focus of service design research started to shift from arguing for the right to exist for service design to research on service design around 2008. In this shift, the basic traits of service design were identified in a number of publications (such as Kimbell (2009), Mager (2008) and Holmlid (2007)). An excerpt from a dictionary definition of service design introduces these basic traits:

> *"Service designers visualise, formulate, and choreograph solutions to problems that do not necessarily exist today; they observe and interpret requirements and behavioral patterns and transform them into possible future services. This process applies explorative, generative, and evaluative design approaches, and the restructuring of existing services is as much a challenge in service design as the development of innovative new services." (Mager, 2008, p. 355)*

Acknowledgements on the visualisation practices of service designers reoccur in all descriptions of service designer practice, but the practice of visualising still remained academically unexplored. As is often the case in young disciplines, the "knowledge" in the field was based on anecdotes from practitioners on their work, and cases presented online or at conferences. In late 2009 the first three academic publications focusing on visualisation practice in service design were published (see Segelström & Holmlid (2009), Segelström (2009) and Diana, Pacenti, & Tassi (2009)). These three together formed a basis for more detailed research into visualisation practices in service design as they confirmed the importance of visualisations for service designers (Segelström & Holmlid, 2009). Moreover they provided a mapping of service design techniques and the frequency of use of different techniques (Segelström, 2009) as well as creating a framework for characterising different types of visualisations, as related to specific characters of visualisations in service design practice (Diana, Pacenti, & Tassi, 2009).

Frameworks for thinking about service

Management and marketing's interest in services started in earnest during the 1970's, after that the question "Are goods and services different?" was put forward by Johnson in 1969 (Brown, Fisk, & Bitner, 1994). This question was at the heart of service research within management and marketing during the initial period of research when researchers were looking to establish service marketing and management as a field in its own right. This period was aptly dubbed *Crawling out* by Brown, Fisk, & Bitner (1994).

Zeithaml, Parasuraman, & Leonard (1985) reviewed 46 publications from 1963-1983, focusing on the publications define services as different from goods. After having sorted the papers into 26 piles so that each author only represented one data point, without consideration of the number of publications they found the four characteristics to have been mentioned between 10 and 26 times by the original authors:

- **Intangibility** (26/26): The intangibility of services only refers to that services cannot be touched.
- **Heterogeneity** (17/26): Services are delivered by different individuals whose temporary mood fluctuates over time, which leads to the fact that the outcome of a service procedure cannot be standardized in the same way as goods production can be.
- **Inseparability** (23/26): The production of services is inseparable from the consumption thereof.
- **Perishability** (10/26): A service cannot be pre-produced and saved for later use.

These four characteristics together form what is known as the IHIP-framework, which for a long time formed the basis for marketing and management. However, the influence of IHIP has been radically reduced during early years of the 21st century as the view of services as non-goods has been replaced. Important drivers in the change of view of service were articles by Lovelock & Gummesson (2004), Edvardsson, Gustafsson, & Roos (2005) and Vargo & Lusch (2004; 2008a). Vargo & Lusch proposed a paradigm shift from a product dominant logic to service dominant logic. They argue that service is a perspective on all economic transactions and their definition of service differs significantly from the traditional not-goods one:

> *"In [service dominant] logic, service is defined as the application of specialized competences (operant resources—knowledge and skills), through deeds, processes, and performances for the benefit of another entity or the entity itself" (Vargo & Lusch, 2008b, p. 26)*

The basis of service dominant logic is 10 foundational premises (FPs). Four of these are of certain interest from a service design perspective in the development of new or re-design of existing services:

"*FP4. Goods are a distribution mechanism for service provision*
FP6. The customer is always a co-creator of value
FP7. The enterprise cannot deliver value, but only offer value propositions
FP8. A service-centered view is inherently customer oriented and relational"

(Vargo & Lusch, 2008a, p. 7)

The study reported on here takes a service science perspective and evaluates visualisations created by service designers according to the historically and now dominant views on service from service marketing and management. This is extra interesting as service designers in general are trained designers rather than service experts, leading to service designers having been trained to focus on other aspects than most service professionals.

Methodology

The first step if one wants to test the communicative value of visualisations is to create a collection of techniques. To ensure a high degree of validity in the data used, it was decided that only visualisations from real service design projects would be used. Two sourcing strategies were used to collect the sample. First, service design consultancies were contacted and asked whether they had visualisations which they could share for research purposes. It was underlined that the visualisations were for research purposes and that typical examples were the most interesting. Four agencies responded with examples of visualisations from projects they had done with clients. Secondly, additional visualisations were collected from the creative commons licensed website www.servicedesigntools.org. The selection rule used were that only visualisations from real business based projects were included (the site also includes visualisations from research initiatives and student projects). All in all, 17 visualisations were available for analysis.

The first step of the analysis was to sort the 17 visualisations according to which kind of visualisation they were. Six different categories emerged. The categories were compared to the findings of Segelström (2009), which confirmed that all of the most common visualisation techniques were available in the material.

The techniques

Below the visualisation techniques identified in the sorting process are introduced. The basic traits of each visualisation technique are explained and an example of how the technique might look like is shown. All the examples visualise the same service; a university employee buying an ice-cream at an on-campus convenience store. The examples are based on the same simple service to facilitate comparison and are created to highlight the basic characteristic features of each visualisation technique. Descriptions are based on Segelström (2010).

Blueprint

The blueprinting technique was first introduced within service marketing by Lynn Shostack (1982; 1984). The technique was then continuously developed within service marketing and management, so that when service designers started using it there was a solid scientific base behind its development. In Shostack's (1982) original presentation of the idea there were only two sections — frontstage and backstage. Parts of the service which the customer noticed were placed in the frontstage and those she didn't see (such as re-stocking) in the backstage. In the updated model presented by Bitner, Ostrom, & Morgan (2008) there were five sections:

- *Physical Evidence*: A tangible evidence of that the service has been provided.
- *Customer Actions*: Actions by the customer without interacting with the service touchpoints.
- *Onstage*: Interactions between the customer and the service touchpoints.
- *Backstage*: Actions by service employees which aren't directly visible for the customer.
- *Support Processes*: Subcontractors and actions easing other actions, such as scheduling.

As the needs and wishes of service designers differ from those of service marketers, service design quickly started making various adaptations of the technique. Examples of such adaptations can be found in Wreiner et al., (2009) and Aebersold, Polaine, & Schäfer (2010) among others.

Main features: Systematic chart of idealised service flow divided into layers depending on actor.

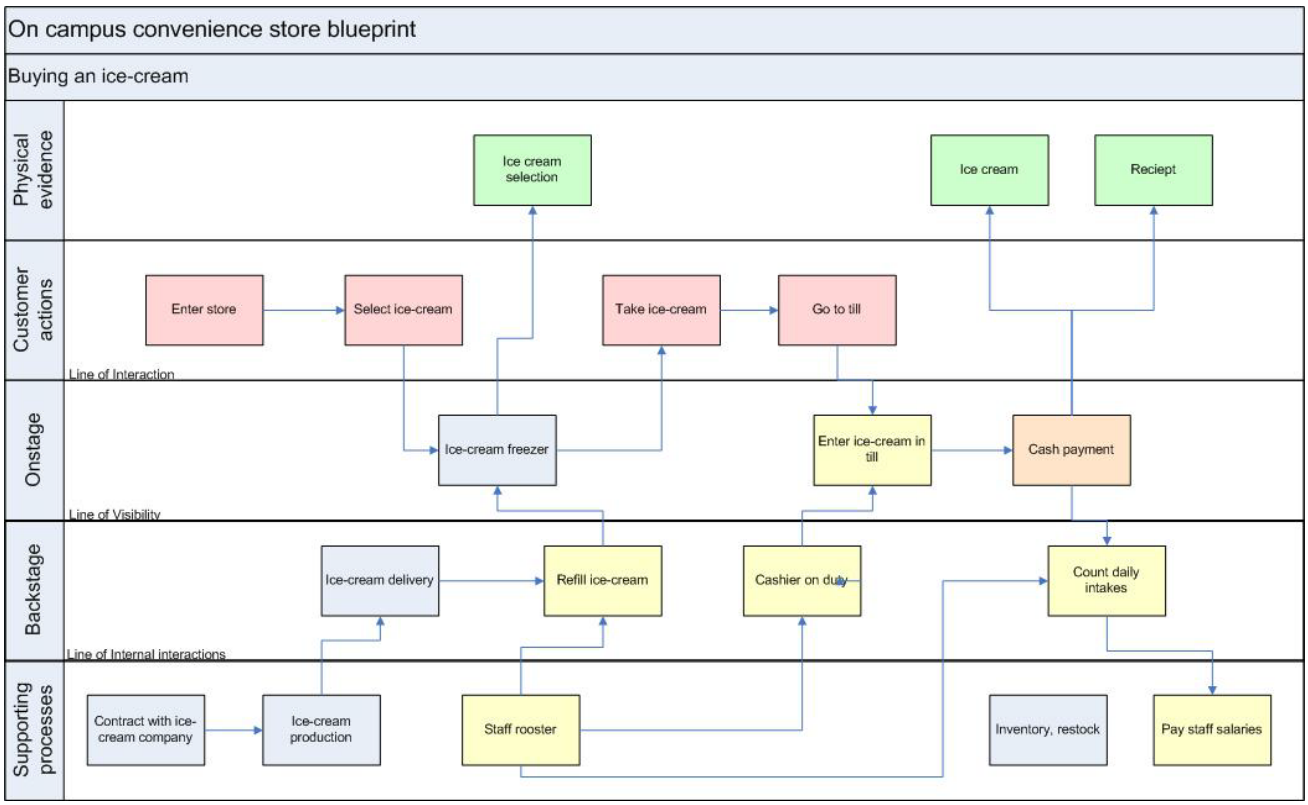


Figure 1 - Example of a Blueprint

Customer Journey

The customer journey follows a customer throughout a service, and often also in the stages before and after the service interaction. Also known as experience journey it focuses on the customer's experience of the service as she/he interacts with the different touchpoints of the service and moves between them. As it depicts the service from the customer's perspective, it focuses on what the customer sees and experiences, which not necessarily are the most important moments to make the service work. Customer journeys (or experience journey or user journey or customer journey map) emerged early in service design, originally with a strong focus on touchpoints (Parker & Heapy, 2006). In spite of this, it is hard to find any publications focusing on customer journeys and the evolution of the technique seems to be based on inspiration and adaptation of other's customer journeys rather than guided efforts.

Customer journeys and blueprints thus complement each other in giving an overview of the service. Customer journeys are ideally created by following and documenting actual customers in the service setting. Elements that are reoccurring in many customer journeys are:

- Time-aspect
- Interactions
- Emotional triggers

Main features: Emotional triggers along a customer's journey through a service with a focus on temporality and interactions.

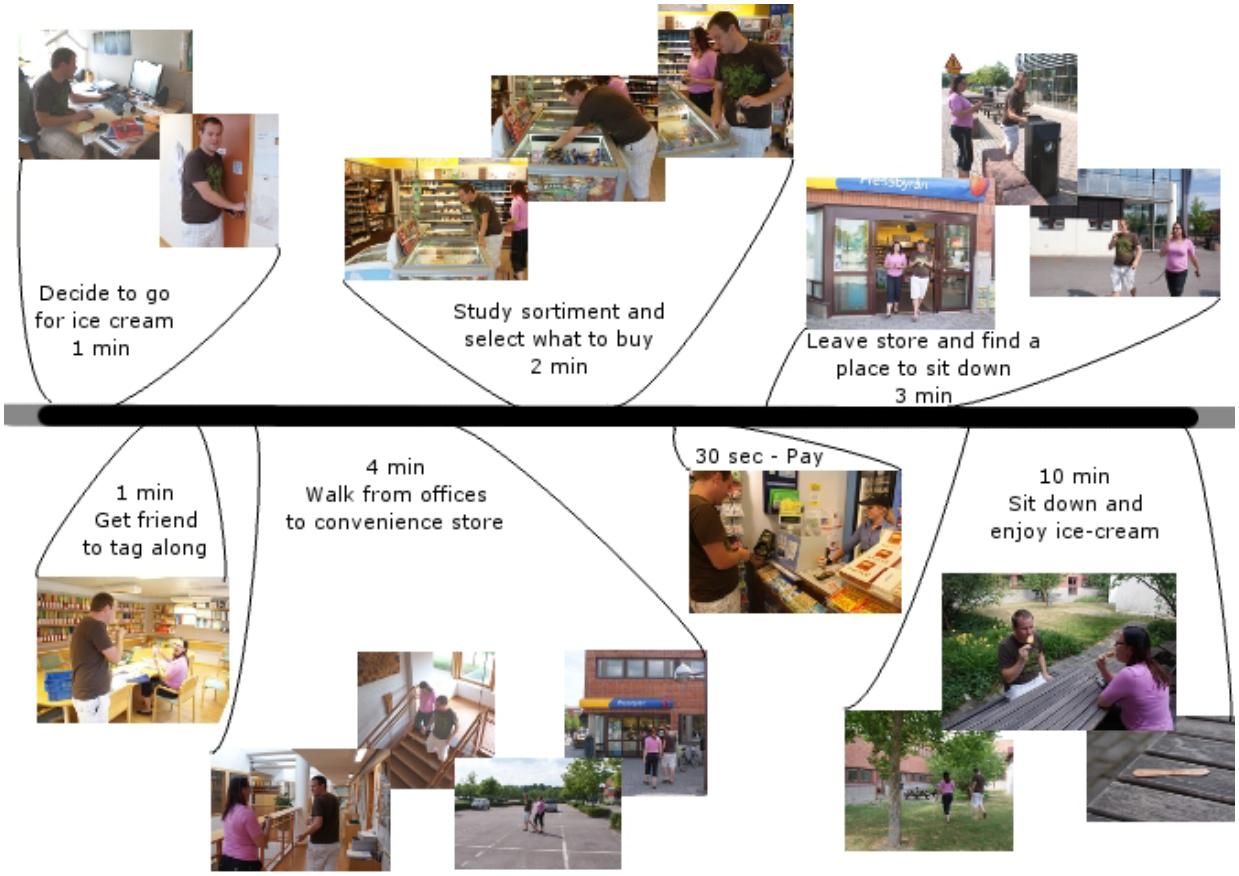


Figure 2 - Example of a Customer Journey

Desktop Walkthrough

Desktop walkthroughs are representations of the service in a small scale. Focus is often put on the humans in the system and small figurines are used to depict their place in the service system. Various kinds of markers are used to depict the tangibles in the service – drawings on the surface or small Lego props are common. The basic setting thus recreates the servicescape[1] and lets the designers enact the service delivery in it for a low cost. They can thus serve both as a visualisation and quick-n-dirty prototyping tool.

Main features: Quick and cheap (re-)creation of the service settings in which flows can be tested.

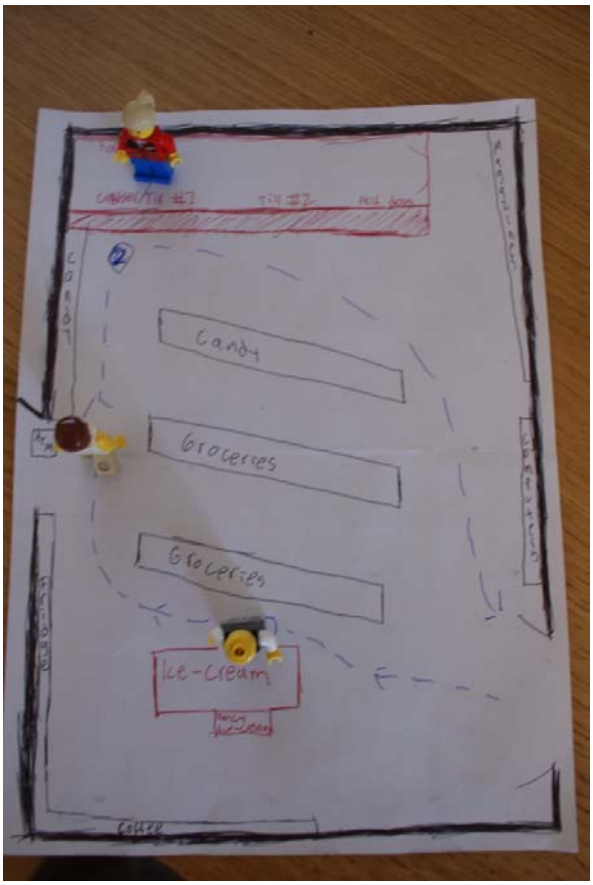
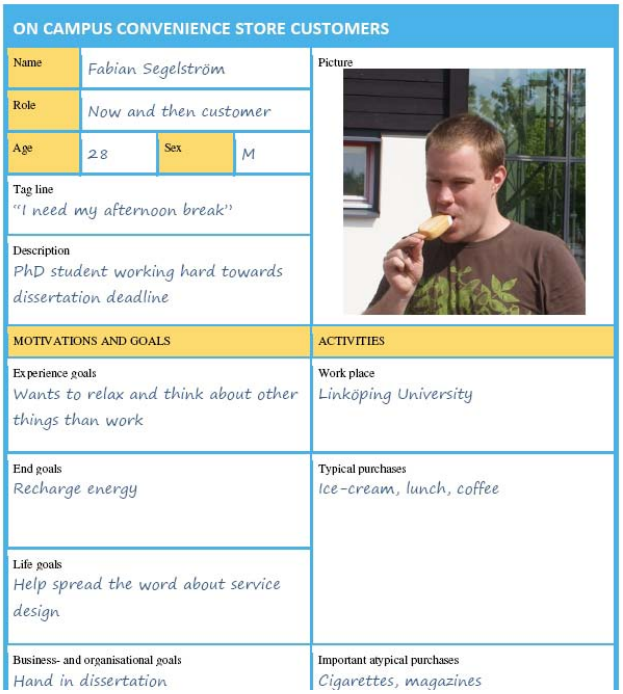


Figure 3 - Example of a Desktop Walkthrough

Persona

A persona is a representation of a customer segment in form of an idealized person. Personas emerged as a technique within interaction design and were first presented by Cooper (1999) and further developed by Pruitt & Adlin (2006). Personas should be based on large scale customer interviews. As the design process continues from the initial user research phase, the personas are used as stand-ins for the actual users of the service to check feasibility of ideas and that any important features aren't missing.

Main features: Idealised version of customer segment.



ON CAMPUS CONVENIENCE STORE CUSTOMERS				
Name	Fabian Segelström			Picture
Role	Now and then customer			
Age	28	Sex	M	
Tag line "I need my afternoon break"				
Description PhD student working hard towards dissertation deadline				
MOTIVATIONS AND GOALS				ACTIVITIES
Experience goals Wants to relax and think about other things than work				Work place Linköping University
End goals Recharge energy				Typical purchases Ice-cream, lunch, coffee
Life goals Help spread the word about service design				
Business- and organisational goals Hand in dissertation				Important atypical purchases Cigarettes, magazines

Figure 4 - Example of a Persona

[1] The servicescape denotes the physical environment in which the service takes place (see Bitner (1992)).

Storyboard

Like the customer journey, the storyboard shows how a service exchange develops over time. Storyboards consist of images or drawings of crucial moments in the service exchange, putting focus on touchpoints and interaction; non-interacting moments are often disregarded. The technique has its origins in the movie industry that adapted the storytelling-style of comic books (McCloud, 1993) to depict the storyline of a movie pre-production (Goodwin, 2009). In service design storyboards are usually used to depict a customer's interaction with the service, but could also be used to show how the service develops for an employee.

Storyboards can be either sketched or built by using photographs. When building the storyboard, the designer should pinpoint the most important aspects of the service and highlight them as the customer interacts with/notices them.

Main features: Interaction and touchpoint focused representation of service delivery.

Figure 5 - Example of a Storyboard

System map

As the name indicates it is all about mapping the components in the system. In contrast to blueprints, the mapping is usually done according to groups rather than stages. Examples from service design include stakeholder mappings in Holmlid & Evenson (2006)and co-design opportunities in Burns & Winhall (2006). System maps are the most diverse group of the visualisation techniques presented here.

Main features: Mapping relationships between stakeholders in the system.

Figure 6 - Example of a System map

Analysis procedure

After the six categories had been identified the next step was to analyse what they communicate. The two frameworks IHIP and service dominant logic were used as a basis for the analysis. A series of questions were formulated to judge the fit between the frameworks and service design visualisations (see below). For each question there were five answer alternatives: Very strong – strong – weak – very weak and not applicable.

The questions were answered independently by the authors of this paper, after having used the first category as a pilot to make sure that questions and concepts were understood in the same way by both judges. Each judge appraised all 17 visualisations.

When both judges independently had made their appraisals a joint analysis session was held, where the judges first presented their individual appraisals, and then decided on a joint appraisal for each category based on their individual appraisals of each visualisation belonging to that technique.

IHIP

The IHIP framework needed to be somewhat adapted for this study; an adaption was made with respect to the possibility to elicit results about the visualisations based on the IHIP framework. It was deemed that it is the nature of the service, rather than the nature of the visualisation that decides if a specific visualisation expresses issues of inseparability. The authors concluded that the inseparability of production and consumption would be omnipresent or non-present; if the service is produced and consumed simultaneously it will be a part of any visualisation and if the production and consumption are separated the visualisation will show this. Inseparability was thus left out of the analysis.

After inseparability had been omitted the remaining three traits were translated into research questions for the analysis. The questions used were formulated as follows:

- To which degree does the visualisation represent and express the **intangible** aspects of the service?
- To which degree does the visualisation represent and express the **heterogeneous** aspects of the service?
- To which degree does the visualisation represent and express the **perishable** aspects of the service?

Service dominant logic

The four FP's highlighted in the background chapter as extra important for new service development were used as the basis for the research questions (Vargo & Lusch,2008a, p.8):

"FP4. Goods are a distribution mechanism for service provision
FP6. The customer is always a co-creator of value
FP7. The enterprise cannot deliver value, but only offer value propositions
FP8. A service-centered view is inherently customer oriented and relational"

For the benefit of clarity in the analysis we argue that the eighth FP actually consists of two values; customer orientation and relation orientation. FP8 was thus split into two questions as they were formulated:

- To what degree is the fact that goods function as distribution mechanisms for service portrayed? [FP4]
- To what degree is the fact that the value is co-produced[2] between service provider and service recipient portrayed? [FP6]
- To what degree is the fact that value is created in use represented? [FP7].
- To what degree is the fact that services are customer oriented portrayed? [FP8]
- To what degree is the fact that services are based on relationships between service recipients and employees represented? [FP8]

Results

The results of the analysis are presented according to which framework they belong to, and within each framework the different research questions are answered independently. A short result discussion accompanies each framework. The tables containing the results are laid out so that an X marks the joint appraisal on the category. Grey squares show how many of the visualizations within that category was judged at a specific level during the individual appraisals, with the darkness of the grey indicating a larger number of answers in that section – see Figure 7. Table 1 below shows the number of visualisations and judgements for each visualisation type.

Table 1- Number of visualisations and judgements for each category

	n visualisations	n judgements
Blueprint	4	8
Customer Journey	3	6
Desktop Walkthrough	2	4
Persona	3	6
Storyboard	2	4
System map	3	6

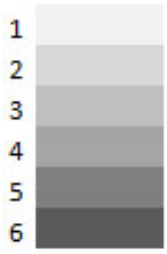


Figure 7 - Grey scale used for denoting number of judgements

As an example, the appraisal of the ability of blueprints in general to show intangibility was “strong” whereas the individual answers during the analysis were “very strong – strong - very weak”. When an X is missing overall appraisal was judged to be not applicable.

IHIP

Below the results from the analysis based on the IHIP framework are presented in Figures 8-10, in the same order as the research questions were presented above.

[2] Vargo & Lusch (2008a) use the word co-creation in FP6, whereas co-production is used here. The two words ‘co-creation’ and ‘co-production’ are used with different connotations in service marketing and service design. The vocabulary of service design was chosen here as it service design visualisations which are being investigated. Somewhat simplified it can be said that what Vargo & Lusch call co-creation, service designers would call co-production and the other way around (e.g. in Parker & Heapy (2006, p. 13)).

Intangibility

	Very strong	Strong	Weak	Very weak	n/a
Blueprint		X			
Customer Journey		X			
Desktop Walkthrough		X			
Persona					X
Storyboard	X				
System map		X			

Figure 8 - Individual judgements in grey and and the category judgement marked by an X for Intangibility

Heterogeneity

	Very strong	Strong	Weak	Very weak	n/a
Blueprint		X			
Customer Journey		X			
Desktop Walkthrough		X			
Persona			X		
Storyboard		X			
System map	X				

Figure 9 - Individual judgements in grey and and the category judgement marked by an X for Heterogeneity

Perishability

	Very strong	Strong	Weak	Very weak	n/a
Blueprint			X		
Customer Journey		X			
Desktop Walkthrough			X		
Persona					X
Storyboard		X			
System map				X	

Figure 10 - Individual judgements in grey and and the category judgement marked by an X for Perishability

Result discussion

The analysis shows that the visualisations made by service designers seem to represent intangibility and heterogeneity well with the exception of personas. On the contrary, a majority of the visualisations represent the perishability of services weakly. That is; service design visualisations seem to represent the fact that services fluctuate over time and do not have a physical object which can be touched but fail to represent that the service cannot be produced at one time and delivered at another.

If one looks at the overall appraisals of the specific visualisation techniques it can be noted that storyboards and customer journeys stand out as the only ones who are strong in expressing all the three traits analysed. At the other hand of the spectrum the persona technique is notable; it is weak in expressing the heterogeneity and could not be appraised in neither intangibility nor perishability.

Service dominant logic

Below the results from the analysis based on the SD Logic framework are presented in Figures 11-15, in the same order as the research questions were presented above.

Goods as distribution mechanism

	Very strong	Strong	Weak	Very weak	n/a
Blueprint		X			
Customer Journey		X			
Desktop Walkthrough			X		
Persona				X	
Storyboard		X			
System map			X		

Figure 11 - Individual judgements in grey and and the category judgement marked by an X for Goods as distribution mechanism

Co-production of service

	Very strong	Strong	Weak	Very weak	n/a
Blueprint			X		
Customer Journey	X				
Desktop Walkthrough		X			
Persona					X
Storyboard		X			
System map			X		

Figure 12 - Individual judgements in grey and and the category judgement marked by an X for Co-production of services

Value in use

	Very strong	Strong	Weak	Very weak	n/a
Blueprint				X	
Customer Journey		X			
Desktop Walkthrough			X		
Persona					X
Storyboard		X			
System map				X	

Figure 13 - Individual judgements in grey and and the category judgement marked by an X for Value in use

Customer orientation

	Very strong	Strong	Weak	Very weak	n/a
Blueprint			X		
Customer Journey	X				
Desktop Walkthrough			X		
Persona		X			
Storyboard		X			
System map		X			

Figure 14- Individual judgements in grey and and the category judgement marked by an X for Customer orientation

Relationships

	Very strong	Strong	Weak	Very weak	n/a
Blueprint			X		
Customer Journey	X				
Desktop Walkthrough	X				
Persona		X			
Storyboard			X		
System map		X			

Figure 15 - Individual judgements in grey and and the category judgement marked by an X for Relationships

Result discussion

When one looks at the patterns in the appraisal of the different service traits as suggested by the service dominant logic one sees that customer orientation and relationships are the only two traits in which a majority of the overall appraisals point to the technique being strong in representing the trait. Since service design belongs to the user-centred design tradition it is not very surprising that the output from service design projects are strong in these aspects.

Worth noting is that the value-in-use trait (which can be described as the heart of the service dominant logic) is not very well represented in the visualisations investigated. The only techniques which are strong in value-in-use are the customer journey and the storyboard. It is also the only trait in which two techniques were appraised as being very weak.

Changing the analysis glasses from traits to techniques one finds that the customer journey and storyboard once again stand out. The customer journey is appraised in expressing all traits (at least) strongly, and the storyboard is seen as strong in all but the relationship aspect.

There are also two techniques which stand out as weak when analysed within a service dominant logic perspective; personas and blueprints. Personas stood out in the IHIP-framework as well and the only aspects in which it is strong are relationships and customer orientation – the ones which are described as design traits above. It is interesting that the blueprinting technique stands out as it was developed within the same parts of service science as service dominant logic (albeit during the IHIP-era). This could be due to that the blueprint was developed under the goods dominant logic period (as the pre-service dominant logic times are called in service dominant logic literature), and thus has the view of service inherent which service dominant logic tries to change.

Discussion

As the result discussions show there are two main perspectives on analysing the data; looking at patterns within the service traits and analysing how the different techniques fare across the various service traits. The discussion will first discuss the service traits and then the visualisation techniques before a conclusion on the relationship between service design visualisations and conceptions of service is made.

The frameworks

Looking at the IHIP framework we find that most visualisations were able to represent the intangibility and heterogeneity of services well, but had problems in expressing the perishability of services. That the intangibility of services is well represented in the visualisations is no surprise as the need to visualise often is argued for in relation to the fact that services can't be touched or

represented in the same simple manner as a product. Heterogeneity is related to how individuals' behaviour changes over time, which means that it is a likely feature to be highlighted by a discipline which puts user-centeredness at the core of its' values.

There are two possible explanations to why the perishability is weak in service design visualisations; the first one is that service design as a field hasn't realised that services are perishable. This explanation is given plausibility by the fact that it was the least identified trait in the literature study by Zeithaml, Parasuraman, & Leonard (1985), and that is not commonly mentioned in service design literature. The other possible explanation is that since visualisations focus on the service delivery the greater context in which services are delivered is missing; for example motivations for service use.

Changing the focus to the service dominant logic we found that the visualisations analysed were strong in communicating the traits of the service dominant logic traditionally associated with user-centred design; customer orientation and relationships between stakeholders. This trend becomes even stronger if one looks at the historic roots of the visualisation techniques used – the only technique which is weak in both customer orientation and in highlighting relationships is blueprinting, which is the only technique in the study inherited from marketing.

However, if one looks at the traits extracted from the FPs of the service dominant logic in general the impression is lowered. Most techniques struggle in communicating the value-in-use and the appraisals on goods as distribution mechanism and co-production of service are mixed. This is surprising as the role of touchpoints (goods in the service flow) as well as the co-production of services have been highlighted repeatedly in service design literature (see Parker & Heapy (2006) and Stickdorn & Schneider (2010) among others). The primary contribution of visualisations as produced in service design to service professionals working with an S-D logic frameset is to help visualise customer orientation and the relationships in the service. The reason for value-in-use trait being weak in most visualisations might be in the fact that service design has put much focus on the experience of the service, possibly to such an extent that the underlying value is missed in the visualisations. The value of the service might be presupposed when the service development has come so far that it is time to start visualising it.

Overall, service design visualisations seem to be somewhat better at expressing service traits according to IHIP notion of services than the service dominant logic notion. This is somewhat surprising considering that the S-D logic has received more attention than IHIP in publications from the service design community (see Kimbell (2010), Han (2010) and Wetter Edman (2009; 2010) for work on integrating service dominant logic with service design). The analysis shows in which areas the service design community needs to improve the visualisations in order to represent services more truthfully (given that one accepts IHIP or the service dominant logic view of services).

Techniques

The analysis of the visualisations highlights that service developers using service design visualisations need to be conscious of which aspects of services they neglect when they choose a particular visualisation technique. Many of the techniques analysed are strong in communicating some service traits and weak in others, which means that the service developer needs to be conscious of which aspects of a service will remain hidden in choosing a specific service. There are some techniques that stand out however; on the positive side customer journey and storyboarding and on the negative personas.

The customer journey and storyboard both fare very well in the analysis – the customer journey portrays all aspects (at least) strongly and the storyboard only portrays relationships weakly. This is due to that interaction between different aspects together forms complex but still easily understandable visualisations. The service flow is represented and customer actions as well as interactions between stakeholders are highlighted throughout the process.

The persona technique is one of the most popular techniques in Segelström's (2009) research but receives low or no appraisals in most service traits presented here. One reason for this dichotomy might be found if we look at the perishability trait again, were most visualisations very appraised as weak (and personas even as not applicable). Personas provide the use context, but little in the persona technique per se has to do with the service the persona is created for. Personas can thus not be judged. This means that from a service perspective the use of personas in isolation seems like a bad decision. Personas need to be used in conjunction with other techniques which can highlight the service characteristics in a better way – personas should be used to show different ways to interact with the service as well as providing the context for the use of the service in the first place.

Personas are a strong reminder that service designers need to be aware of the fact that their traditional design tools need to be adapted to the new environment of services (new from a design perspective that is). However, the persona should not be dismissed as a visualisation tool for the above reasons. Designers need to keep in mind that a persona on its own does not communicate anything about the service, just the user of the service. If a persona is not supported by other visualisations, it requires previous knowledge of the service structure from the person viewing the persona. In contrast, all other visualisation techniques studied in the analysis of the submitted visualisations will give an uninitiated viewer an idea of the structure of the service.

Conclusion

Judging from the appraisals, service design currently sees services as not being goods, rather than following the change of perspective on service which has occurred within service marketing and management and other service science disciplines. The results also shows that the visualisations overall are good at highlighting aspects in which design traditionally has been interested, but struggling in visualising service aspects identified in the service marketing/management literature.

Put together these two conclusions point towards that service design (currently) is a design discipline rather than a service discipline, but it also shows where there are gaps between the two which should be closed if the goal is to include service design in the service science family.

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