

ServDes2018 - Service Design Proof of Concept
Politecnico di Milano
18th-19th-20th, June 2018

Perceived Action Potential: A strong concept in development

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Abstract

Service encompasses multiple interaction processes among many different actors. Comprehending the subtleties of what drives actors resource integration activities could therefore be valuable when designing for service. However, these nuances are not necessarily always captured in early representations such as prototypes of service due to variation in individual interpretation of situations. This paper draws on strong concepts from interaction design as a generative intermediate-level form of knowledge, to conceptualise perceived action potential (PAP) as a strong concept through the use of illustrative examples. PAP refers to the subjective interpretation of an individual's (own) scope of action in new or unforeseen situations. This paper elucidates the implications of PAP for service design and suggests future research opportunities. In introducing strong concepts to service design, it also translates how strong concepts might be identified and subsequently constructed in service design research in order to aid practice.

KEYWORDS: service design, strong concepts, perceived action potential, value co-creation, resource integration

Introduction

Over the past few decades, the understanding of service has undergone a transformation from a predominantly goods dominant logic to a service dominant logic (Vargo & Lusch, 2004). Service has been defined as the application of knowledge and skills for the benefit of another party (ibid). Other conceptualisations refer to services as direct moments of interactions between the user and supplier system (Sangiorgi & Clark, 2004). As active participants of a service, users bring their resources, competences and capacities into these interactions (Sangiorgi & Clark, 2004; Holmlid, 2012; Holmlid, 2017). How actors engage in a service is largely influenced by relationships and their willingness and ability for resource integration (Chandler & Lusch, 2015). Moreover, service encompasses multiple interaction processes among many different actors (Sampson, 2012; Tuunanen & Cassab, 2011; Holmlid

& Björndal, 2016). Actors may be involved in service experiences at varying levels, including, for example, the individual, group, organizational, or societal levels (Chandler & Lusch, 2015; Chandler & Vargo, 2011).

However, interactions may also be indirect implying different forms of value creation, where co-creation is a function of interaction (Grönroos & Voima, 2013). From a service dominant logic perspective, actors integrate resources and engage in service exchange, resulting in value co-creation processes (Vargo & Lusch, 2011, 2016). Systemic conceptualisations position service as dynamic value co-creation configurations of four categories of resources i.e. people, technology, organisations, and shared information (Maglio & Spohrer, 2008, p. 18). In all of these conceptualisations actors (users, suppliers, people) and how they combine resources figure prominently (Holmlid, Wetter-Edman, & Edvardsson, 2017). Thus, trying to comprehend the subtleties of what drives actors' resource integration activities could be valuable when designing for service. Although designing services encompasses the use of static or interactive representations such as customer journey maps, blueprints, enactments or other types of service prototypes to articulate insights (Blomkvist & Segelström, 2014), such nuances are not necessarily always captured as actors are subject to variation in service situations (Rodrigues & Holmlid, 2017). One way of doing this could be abstracting knowledge from particular instances to formulate intermediate level knowledge.

The Marketing Science Institute Research Priorities (2010, p. 10) point to the need for development of 'mid-range' theories and models that draw on constructs from various behavioural domains. The use of integrative research methods that provide a holistic overview of customer experience and behaviour are encouraged (ibid). As such, design-oriented research practices are conducive to more abstract knowledge construction, without aspiring to the level of general theories (Höök & Löwgren, 2012). Thus, specific design situations or collections thereof may be useful in constructing and shaping intermediate-level knowledge to support design research practice. Höök and Löwgren (2012) elaborate on a specific, generative intermediate-level knowledge known as strong concepts. First, this paper briefly introduces the notion of strong concepts using the example of touchpoints in service research. Second, through the use of illustrative examples this paper aims to conceptualise 'perceived action potential' (PAP) as a strong concept in service design research. PAP refers to the subjective interpretation of an individual's (own) scope of action in new or unforeseen situations. Next, based on the examples, the authors analyse what characterizes PAP as a strong concept, and how service design might benefit from such a conceptual tool. Finally, the authors conclude with the implications of constructing strong concepts in service design.

Strong concepts in interaction design

Rooted in the field of interaction design, strong concepts are "design elements abstracted beyond particular instances which have the potential to be appropriated by designers and researchers to extend their repertoires and enable new particulars instantiations" (Höök & Löwgren, 2012, p. 23:5). Abstraction in this conceptualization refers to the applicability in other situations. However, strong concepts claim no universality and are more specific than theories.

Strong concepts have the following properties:

- They are generative
- they convey a core design idea, spanning particular use situations and even application domains;
- they are concerned with interactive behaviour, not static appearance;
- they are design elements and a part of an artifact and,
- they speak of a use practice and behaviour over time;
- and finally, they reside on an abstraction level, above particular instances.

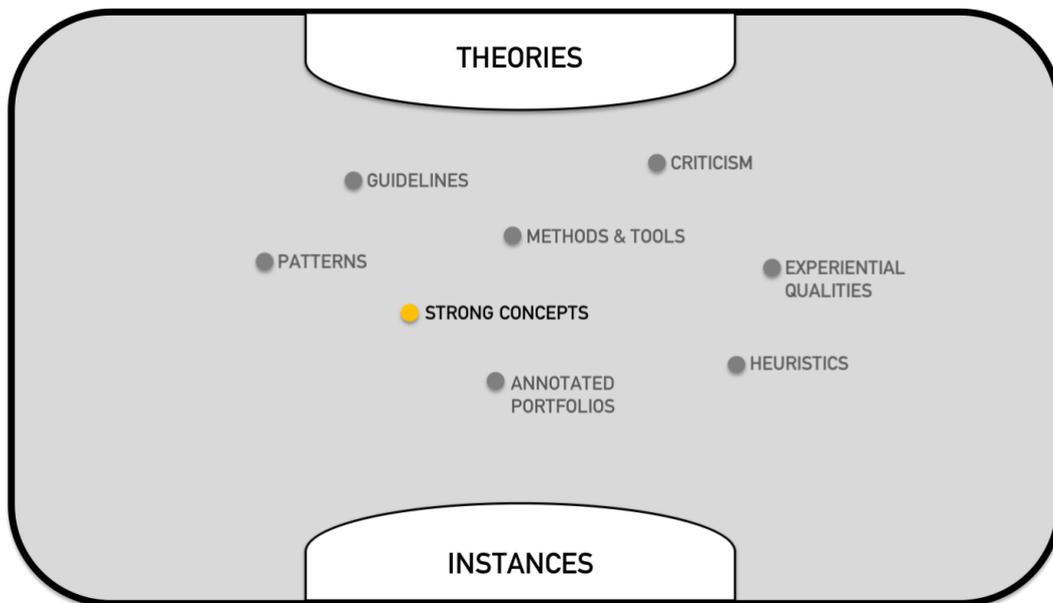


Figure 1: Intermediate level knowledge. Adapted from Höök & Löwgren (2012)

Constructing strong concepts

According to Höök and Löwgren (2012, p. 23:11 – 23:13), construction of a strong concept entails the following steps:

1. A strong concept could originate in instances designed to respond to existing, specific use situations. Instances designed for exploration of a possible use situation, which do not necessarily aim at tackling any existing problem represent another possibility. It could also be instances designed to concretize or instantiate a specific theory of human behaviour. Irrespective of the origins, discovering candidates for strong concepts in a particular instance constitutes pinpointing the elements or principles in the instance that could be valuable in other design situations within the same category or domain as the original instance, or spanning genre/domain boundaries, depending on the abstraction level of the strong concept identified.
2. In order to advance the case for a strong concept into an academic knowledge contribution, the next step is horizontal grounding. Here, it is important to relate the strong concept candidate to other similar, existing concepts, focusing on similarities and differences that can help to understand the range of applicability. This step also serves an additional purpose of assessing the novelty of the potential knowledge contribution.
3. The following step is vertical grounding of the potential strong concept. This requires responding to the following questions:
 - a. Is the strong concept present in other known instances?
 - b. Can we use those other instances as a broadened empirical base upon which to learn more indirectly about the strong concept in use and thus be able to predict more reliably how it can or will affect use?
 - c. What theories is the strong concept an illustration or concretization of? What could the relevant theories say about the strong concept that would help us provide an even more substantial knowledge contribution to other designer-researchers?
 - d. And can the intermediate-level contribution represented by the strong concept inform theoretical development on a more general level?
4. Finally, the preceding steps illustrate that the work of reflection, articulation, and abstraction entails a triangulation of empirical, analytical, and theoretical domains. What is more, validation in the domain of design research is contingent not only on empirical experiments and theoretical grounding but also on the nature of the research process.

Connecting a service concept to a strong concept in design.

Here we introduce what we consider an already established strong concept in service design: the service touchpoint. This illustration is meant to clarify how the notion of strong concepts can be applied from interaction- to service design. From a design perspective, touchpoints are considered an integral component in the conceptualization, and arguably the design, of services (Blomkvist, 2015). The origin of the word touchpoints as it is used in service design remains unclear (Blomkvist, 2015; Clatworthy, 2011). Generally, touchpoints have been described as points of interaction between a customer and service provider, primarily from the perspective of the customer (Clatworthy, 2011; Polaine, Løvlie, & Reason, 2013; Secomandi & Snelders, 2011; Stickdorn, Schneider, Andrews, & Lawrence, 2011). Thus, they are concerned with interactive behaviour, not static appearance. Nonetheless, they differ in the scope of their definition. Touchpoints are a fundamental feature of service design (Clatworthy, 2011), which include material artifacts, environments, interpersonal encounters and more (Secomandi & Snelders, 2011). As strong concepts, they are design elements and encompass artifacts. Parker and Heapy (2006) refer to touchpoints as the places and spaces where people experience services, hinting at their ability to traverse particular use situations and even application domains.

The idea of designing points of contact between a customer and a service provider has also been previously explored in service marketing research. Service blueprinting allows one to visualize and describe service elements and uses the 'line of visibility' to distinguish the interactions between the customer and the provider (Shostack, 1982). In addition, tangible evidence i.e. the setting, graphic materials and other things that define the service style are used by customers to verify the effectiveness of the service (Shostack, 1984). The blueprint lends itself to the creation of a service on paper and can be extended to mock-up a service prototype that provides actionable feedback (Shostack, 1982). In this sense, touchpoint as a concept conveys a core design idea, and acts generatively for design elements. The concept and its instantiations also speak of a use practice and behaviour over time. Finally, the concept resides on an abstraction level above particular instances.

Perceived Action Potential

This section utilizes the steps outlined in the previous section and four instances encompassing real-life and design situations as vertical grounding in the form of illustrative examples to support the construction of Perceived Action Potential (PAP) as a strong concept.

Example 1: waiting room

In a project oriented towards patient-centred care, the project team used insights resulting from interviews with patients and healthcare personnel to develop training videos. The purpose of the videos was to draw attention to uncommon situations in everyday practice and create sensitivity and empathy to the plight of the patients as well as colleagues. One of the videos focuses on the interactions at the reception of the primary healthcare centre¹. In one situation, an elderly lady is at the reception to cancel her appointment. She is informed that she will be charged nonetheless. At the same time, another man arrives at the counter and asks if there is a slot available for the same day. The elderly lady offers to trade in her appointment time with the man, who readily agrees. However, the receptionist intervenes stating that it is not possible to barter appointments and she cannot do anything at this point.

¹ Link to video: <https://bit.ly/2HJ9QnL>
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Figure 2: Screenshot from training video (6:42)

Example 2: grocery store

During the development of a meal planning and delivery service, the project team conducted a pilot test or service walkthrough (Blomkvist, Åberg, & Holmlid, 2012, 2013) to understand the flow of the service as a whole. The new service included an online tool for planning and ordering food from restaurants or grocery stores. This was the first time the whole service was being prototyped with actual customers buying food and having it delivered to their homes. An early version of the online tool was used, and the set up involved a grocery store, a local restaurant and a delivery firm. One of the authors conducted participatory observations at the grocery store, the restaurant and with the delivery firm. Despite rigorous planning with customer journey maps, service blueprints and flow charts, several aspects of the service had not been considered during the previous design efforts. For instance, when it was time for the groceries to be put in bags, there were no instructions about how to keep track of what bag belonged to what order, no instructions about what to do if a specific brand of a product was missing, and no extra hours set aside for staff to bag the orders. In these instances, the staff was unsure how to proceed and what would be the best course of action.

Example 3: hotel

This example is drawn from real-life. At Hotel X, where one of the authors was working at the time, the regular event booking process involved the event sales executive being contacted by the customer via email, telephone or in person. Once the customer has decided on the venue, the details of the event are recorded in the online booking system and a confirmatory email and contract is sent to the customer. In one instance, the sales executive forgot to record the booking, resulting in the service operations team being unprepared for an event that was confirmed to the conference organizer. This proved to be a harrowing experience for the organizer, who arrived to find an unprepared venue and was inadvertently put at risk of losing his job. Furthermore, it was also stressful for the employees who had to come up with a solution there and then, this included re-allocation of staff, setting up the venue and catering to nearly 60 people within 45 minutes. Consequently, the booking process was reviewed and new measures were put into place to prevent similar occurrences.

Example 4: showroom

During the later stages of a two-month innovation process for a new service at a large telecom company a service walkthrough was conducted. Customers from different segments were invited to participate in the walkthrough. Depending on their own predefined journey, they would visit four mock stations in varying order. The stations consisted of a smartphone application prototype, a customer service area, a phone store, and a debrief area. All participants, including the customers, had been given a script. In one instance, one of the customer participants asked about the price of mending a broken smartphone (as part of a scenario). When the person working behind the counter at the store told the customer the price, there was a strong reaction – the customer obviously found the price to be too high. However, as the script did not allow for any debate about this, the customer simply had to agree to the price for the service walkthrough to proceed.



Figure 3: Snapshots from the service walkthrough in the showroom

Forming the strong concept

Unlike strong concepts in interaction design, it is often difficult to identify a specific artefact with material properties to tie strong concepts to in the service context. Instead, reoccurring situations or constellations of people and resources can be identified as a ground for concepts. Each example of PAP in the previous section, has generalisable features when examined as a group. We summarise the common denominators here to illustrate on a more general level how to recognize an instance where PAP can be useful to consider from a design perspective. This is in line with the first step of constructing strong concepts wherein elements that can be meaningful in different situations or genres are identified.

The examples illustrate situations where one or more employees find themselves in a situation outside of the normal everyday routine. In these situations, each person has their own perception of the potential actions and associated resources available to them and possibly others involved in the situation. Identifying several independent occurrences is part of horizontally grounding the concept (Höök & Löwgren, 2012). Each example illustrates a point of interest for service design, considering the far-reaching implications of potential design decisions. However, to be able to treat PAP as an actionable design situation, there needs to be some way to identify where it is relevant. Since one of the main goals of having strong concepts is to be able to pinpoint the elements of instances that are valuable in other

design situations we must look a bit closer at the illustrative examples and consider the options they present for design.

The design elements include:

- Improvised employee actions
- Resources that enable those actions
- Mandate for improvisation and adaptations

Since PAP is experienced by employees and others in a service situation as a set of options, it is up to them to act based on what they perceive that they can do, and sometimes improvise solutions. This is an interesting element of design since the ability to improvise is probably considered to be outside the scope of most design disciplines. Instead, we suggest focusing on preparing and training staff to make decisions on the fly during actual service encounters. Example 1 is a good illustration of this. The waiting room experience exemplifies a novel situation for the employee who is faced with a decision. The employee in the example decides to deny the exchange proposed by the elderly lady. Figure 4 visualizes the involvement of actors in the situation and highlights the lack of an overlap in the PAP of the receptionist with that of the elderly lady and man who were willing to trade appointment times. Another option would have been to ask the man if he would be willing to pay the fee instead of the elderly lady. Yet another option would have been to simply permit the change, contingent on the booking software allowing for such a modification. However, often in situations like these, support systems or other resources available to the employee might not allow improvisation, nor simple adaptations. In addition, regulations, laws and policies are other factors that influence the situation. Thus, actions and resources can both be subjected to design decisions in PAP situations. Another important aspect is the mandate, or division of labour, and its allocation in the service. The possibility to improvise solutions for the benefit of customers is governed partly by a sense of what is right and wrong – is it really ethical and acceptable that someone who can pay to cut in line for healthcare should be allowed to do so?

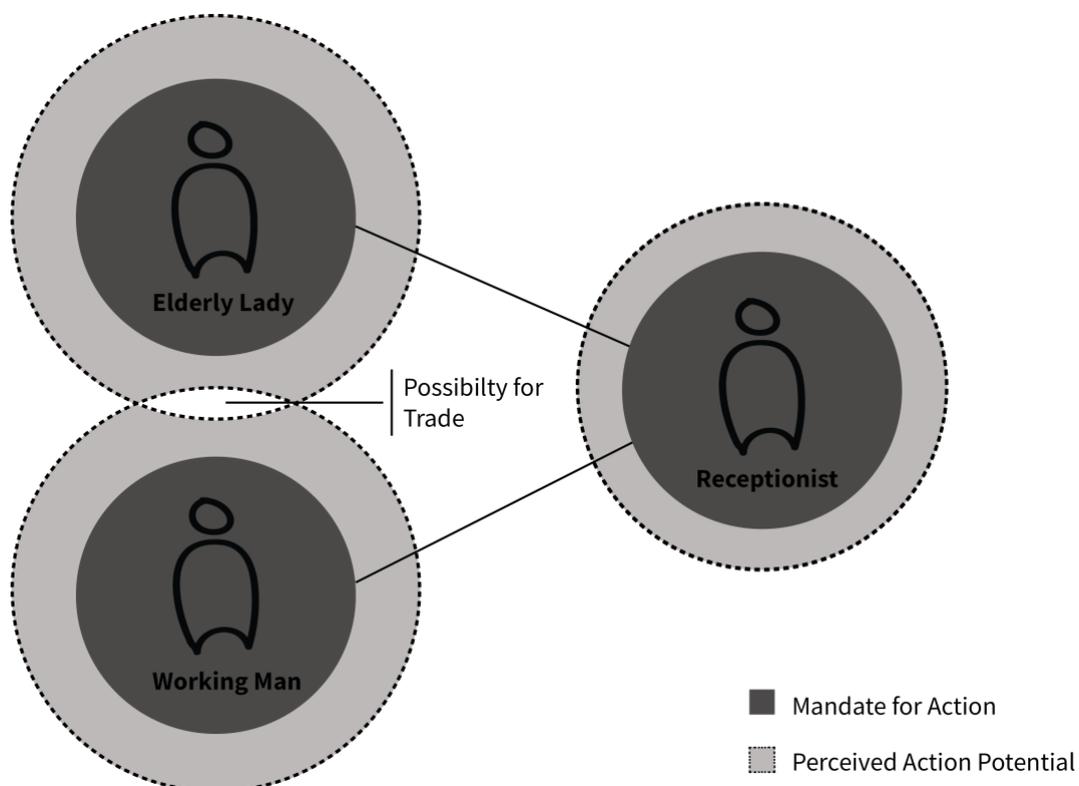


Figure 4: Visualisation of the Perceived Action Potential of actors in Example 1

Example 2 illustrates the PAP of an employee during development time of a food delivery service. In this example, the improvisation is not targeted towards a customer directly but rather the resources that the service should provide for the customer. Consider for instance if the right grocery, e.g. ketchup, is available in the store, but it is not the right brand. As an employee in this situation there are many alternatives to tackling this situation. The option of not packing any ketchup was perfectly viable, as was making the decision to include another brand of ketchup. However, although the service was still in the development stage, the walkthrough involved actual customers who needed to have their groceries delivered to them. Thus, if the decision was to not include any ketchup, this had ramifications beyond the specific situation: should the customer get refunded? And how, if at all, should the customer be informed about the missing grocery? The employee could write a note and include it in the shopping bag, try to inform someone about the issue or simply ignore it. The reason this situation occurred is that the development so far did not take into account this "exception". However, there will always be exceptions and the more general question for design is how to prepare for them.

The hotel example (example 3) shows an active service situation where a previous mistake introduces a novel situation. Once again, denying the customer's expressed wish (as in example 1) was a viable option. However, the employees in this situation chose to quickly readjust and respond to the new situation. The resources required (room, chairs, tables, manpower, etcetera) to accommodate the customer were part of the normal, everyday routine. Thus, the employees felt that they had the possibility to carry out a service recovery. Example 4 shows how the opportunity to improvise can be completely shut down during design time by providing a predefined path for the participants of a service walkthrough. If the walkthrough had allowed the employees to take initiative, for instance by defining the boundaries and then encouraging free enactment, the outcome could have been very valuable. For one, the expectation of price for the service could have been identified, explored and negotiated. Also, the more general question of what happens when a customer feels that a service is overpriced could have been investigated. For instance, is the employee allowed to bargain with the customer? Can the service be manipulated to satisfy both the service provider and the customer? Can individual exceptions be made and who decides the boundaries of such exceptions? This illustrates how choices made during the design process about the elements that influence PAP can have far reaching consequences.

Distinguishing PAP from related concepts

In this section, we focus on the horizontal grounding of PAP by examining similar concepts to shed light on the novelty and applicability of PAP. One commonality through the examples is that it is novel instances or variations in service situations that allow the theoretical concept of PAP to surface. The hotel, waiting room and showroom examples highlight a 'zone of friction' while the grocery example highlights a 'zone of novelty' where PAP reveals itself. Through the examples, elements in particular instances spread across different service situations and contexts are identified. Further, one can distinguish elements of PAP, for instance, where an individual may perceive improvisation as beyond their scope of action and stick to textbook processes. Improvisation has been defined as the temporal convergence of composition and execution (Moorman & Miner, 1998) or as the conception of action as events unfold while drawing on available resources, (Pina e Cunha, Rego, & Kamoche, 2009), implying a bricolage dimension (Cunha, Cunha, & Kamoche, 1999). As such improvisation situates decision making (Pina e Cunha et al., 2009). In the same vein, the conceptualisation of PAP is also linked to the decision-making capacity of an individual in a particular situation. However, since PAP points to the latitude or freedom of action available to an actor, improvisation represents only one facet of PAP. For instance, an actor may exercise her PAP and choose not to improvise despite access to resources. Another concept closely related to PAP is empowerment. Empowerment relates to the ability of employees to use their discretion and actively participate in unusual or unexpected situations (Boshoff & Leong, 1998). While it is not necessary in all situations, as a strategy it can prove to be useful

to successfully deal with unanticipated situations that require imagination or creativity on the part of the employee (ibid). Empowerment is a matter of degree and can be distinguished on four levels (Bowen & Lawler, 1992). The lowest level termed the production-line approach, refers to effectively no empowerment. The next two levels, termed suggestion involvement and job involvement, refer to partial empowerment of employees. The highest level of empowerment promotes a sense of responsibility among the lowest level employees for the entire firm's performance. Thus, from this perspective empowerment can be viewed as a top-down approach. In contrast, the locus of control in the conceptualization of PAP lies with the respective actors and may or may not be influenced by the degree of empowerment. PAP is also differentiated from the agency of individual, wherein one has the capacity and need to act thereby shaping social structures (Giddens, 1984). However, while these distinctions serve as a starting point, developing this as a strong concept calls for more vertical and horizontal grounding. We suggest that Perceived Action Potential could be viewed as a strong concept, precisely because it is an aspect of a suggested future situation of service, is generative in the sense that it provides design possibilities and expresses intermediate knowledge.

Implications for service design

The concept of PAP would be valuable in other design situations to frame the nature and scope of the resources that actors can draw on during service in order to carry out the service to its fulfilment in a meaningful way. It underscores the contextual factors i.e. norms, resources, processes and relationships that an actor orients to thereby affecting PAP. At the hotel, availability of necessary resources and strength of relationships played to the advantage of the hotel staff, enabling them to act and provide the service despite the mix-up. In the waiting room, the patients felt it was not beyond their capacity to simply switch their appointment times but the receptionist saw this as a breach of the system rules and regulations. At the grocery store, employees were ill equipped to carry out certain tasks as they had no precedent and were not in a position to guess what the customer might prefer. In the showroom, the interruption in the service walkthrough went unattended, as it was not part of the script. Thus, it points to the interdependencies between the configuration of resources in a service system and schemas that shape actors during resource integration and value co-creation (Edvardsson & Tronvoll, 2013).

In order to explore these interdependencies and how they might affect the service experience, designers can look toward applying a sandbox approach when prototyping services. This would entail giving participating actors the freedom of action without a stringent linear storyline in order to meet a certain service goal. Loosely defining boundaries and not having to follow a pre-defined script might allow for emergence where actors draw on available resources as the events unfold without feeling stifled. Thus, abstracting the concept of PAP has implications for studying possible improvisation during design time. Designers can then use this knowledge to modify elements and aspects of the service to support better resource integration and better experiences. In addition, designers can swap actor roles and vary the environment and resources being used while conducting walkthroughs to allow actors' working mechanisms, mental models and knowledge on actors' resource integration activities to surface. From a network perspective, attention to PAP can also shed light on the shared understanding and mutual intelligibility of the situation as viewed by the those involved and how it subsequently affects their course of actions. Resourcefulness, as earlier proposed in Holmlid (2012), is related to PAP but is more general, and provides less generative direction. Figure 5 represents some of the ways PAP of actors may intersect. This work responds to the call listed in the Marketing Science research priorities (2010) and lays the foundation for methodological developments related to PAP in service design. Future research could examine how undertaking a collaborative, sandbox approach to prototyping services could benefit designers in enhancing the service experience and subsequent value creation.

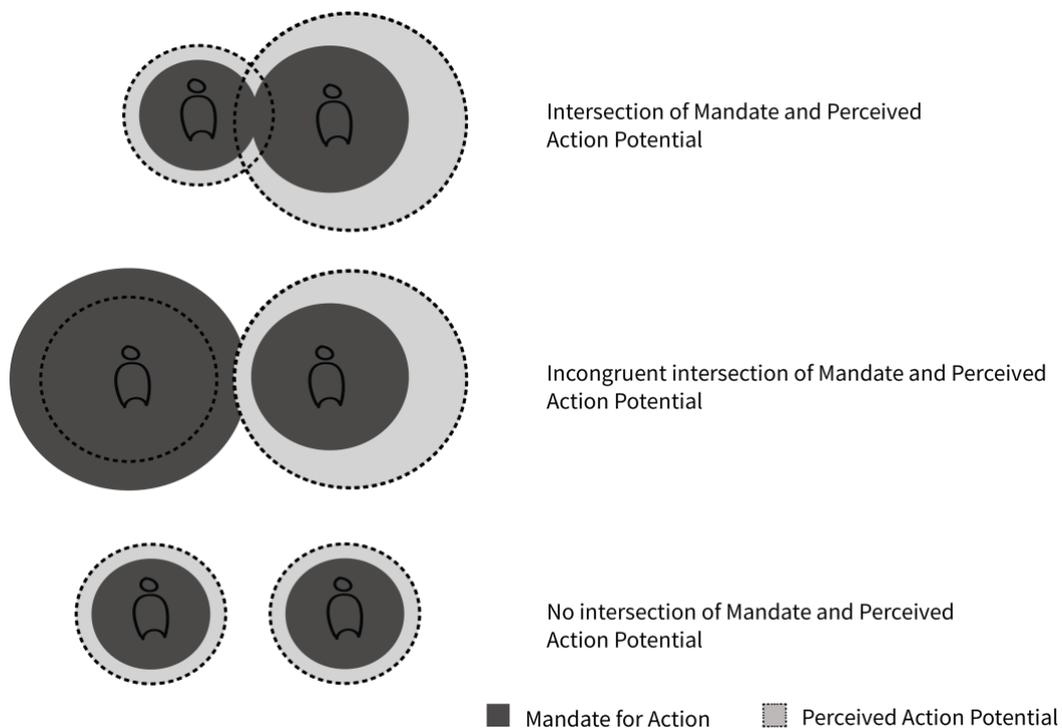


Figure 5: Visualisation of the possible intersections of Perceived Action Potential amongst actors

Working with strong concepts

The intermediate level of knowledge that is embodied by the idea of strong concepts, has been applied in developing PAP. However, in design for service, the articulation of strong concepts based in interaction design, is not enough. Given this, we suggest that strong concepts in design for service could be described as follows:

Table 1. Comparing features of strong concepts in Design for Service & Interaction Design

Strong concept	
In Design for Service	In Interaction Design (Höök & Löwgren, 2012)
the intermediate-level knowledge includes generative strong concepts	the intermediate-level knowledge includes generative strong concepts
Strong concepts are partial ideas, that are <i>aspects</i> of potential design solutions, that can be appropriated by designers and researchers, and used in the creation of new instances	Strong concepts are partial ideas, that is <i>elements</i> of potential design solutions, that can be appropriated by designers and researchers and used in the creation of new instances.
Strong concepts concern the dynamic gestalts of design solutions, that is, <i>situated actions</i> rather than static appearance	Strong concepts concern the dynamic gestalts of design solutions, that is, <i>interactive behaviour</i> rather than static appearance.
Strong concepts reside in <i>co-creation of value</i> : they are potential <i>aspects of service situations and systems</i> , and at the same time, they speak of <i>resource integration practices</i> over time	Strong concepts reside at the <i>interface between technology and people</i> : they are potential <i>parts of artifacts</i> , and at the same time, they speak of <i>use practices</i> over time.
Strong concepts convey a core design idea,	Strong concepts convey a core design idea,

Strong concept	
In Design for Service	In Interaction Design (Höök & Löwgren, 2012)
spanning particular <i>service</i> situations and <i>systems</i> , and even application domains	spanning particular <i>use</i> situations and even application domains
<i>Touchpoints</i> , <i>service phrases</i> and <i>customer journeys</i> are some examples of strong concepts	<i>Social navigation</i> , <i>seamfulness</i> , and <i>trajectories</i> are some examples of strong concepts

It is also reasonable to believe that design for service research can be one route to construct such intermediate knowledge, and that strong concepts are part of discursive knowledge construction across disciplines and practices.

Conclusion

This paper introduces strong concepts from the field of interaction design, as a form of generative, intermediate-level knowledge. The example of touchpoints was presented as a strong concept in service design. The strong concept in formation, perceived action potential was explored as meaningful tool for understanding actors' resource integration and ensuing value co-creation in unusual situations. Roughly described 'perceived action potential' (PAP) refers to the subjective interpretation of an individual's (own) scope of action. In each of the examples mentioned previously, service personnel had to make decisions and propose a course of action or lack thereof in an unusual situation. The more general theoretical notion of PAP manifests itself in concrete everyday as well as enacted design situations. The word 'potential' reflects the latency and future-orientation associated with the actions that one may carry out at any given time in any situation. In bringing strong concepts to service design, this paper translates how strong concepts might be identified and subsequently constructed in service design research to aid practice.

Acknowledgements

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska – Curie grant agreement No 642116. The information and views set out in this article are those of the author(s) and do not necessarily reflect the official opinion of the European Union. Neither the European Union institutions and bodies nor any person acting on their behalf may be held responsible for the use which may be made of the information contained therein.

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