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# Constructing an approach to identify service design narratives: The findings of an automated text analysis

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## Abstract

Over the last two decades, service design has steadily attracted adopters from both practitioner and academic realms. The diverse origins of these adopters pose challenges for the further advancement of the discipline. To address one of those challenges, this text investigates the use of an automated text analysis technique to explore the possibility to identify discursive elements of service design practitioners' narrative to address organizational change. The author presents results of an automated text analysis of textual responses to a survey that reveal the main topics associated with 9 service design practitioners' approaches to 5 different scenarios. These findings identify three basins of meaning in the discursive construction of the survey respondents: STORIES, TEAM, and IMPLEMENTING. It also shed light on a possible framework for apprehending the social reality of service design practices through discursive elements.

**KEYWORDS:** service design, discourse, research, automated text analysis

## Introduction

Over the last two decades, service design has steadily attracted adopters from both practitioner and academic realms. Even though evidences demonstrate a significant progression of the academic and practitioner communities of service design (Manhães, Oertzen, Mager, & Tanghe, 2016), many challenges remain and restrict a further advancement of the discipline. The diverse origins of these adopters present opportunities and challenges for the further advancement of the discipline. To address one of the challenges posed by having a diverse community, this text focuses on the identification of common discursive elements in order to characterize a specific social reality through historically situated discursive elements (Alvesson & Kärreman, 2000, p. 1126). In that sense, it focuses on identifying a proto-discourse aiming at contributing for the future construction of a discourse for the service design community. In this context, the research on a proto-discourse means "being relatively sensitive to language use in context but

interested in finding broader patterns and going beyond the details of the text and generalizing to similar local contexts” (Alvesson & Kärreman, 2000, p. 1133). By analysing and synthesizing the results of three research phases and relate them to the available literature and understandings about service design, the author proposes an approach to identify a proto-discourse about service design. A proto-discourse can be described as a “call of conscience arising from a world already meaningful, but not yet language” (Ropp, 2002). In order to identify this potential meaningful world of service design, the below described path was constructed.

## Constructing an approach

The path constructed during the present study to investigate the characteristics of a service design discourse is divided into three phases, and used a multitude of methods as a triangulation strategy, “not in order to zoom in the truth through different methods, but in order to create a richer picture” (Alvesson, 2003, p. 172). The first phase was based on the results of a research on how service design practitioners describe their approach to complex projects (Basore, Dhawan, Dong, Moore, & Sin, 2017). This phase can be defined as “emergent-spontaneous” (Alvesson, 2003) and/or “opportunistic” (Riemer, 1977). As an insider, the researcher took advantage of familiar situations or convenient events that are *known* rather than *known about* (Riemer, 1977). The second consisted of clustering (Koller, 2005) the data and results obtained by the aforementioned research in order to investigate the possibilities of using an automated text analysis technique to identifying discursive patterns. This was done in order to reduce the possible effects “of being too close, and thereby, not attaining the distance and objectivity deemed to be necessary for valid research” (Brannick & Coghlan, 2007, p. 60). Although this study is based on the understanding “that there is no objective or single knowable external reality and that the researcher is an integral part of the research process, not separate from it” (Brannick & Coghlan, 2007, p. 63), the automated text analysis was used as an attempt to instil notions of “reliability, validity, and accurate measurement before research outcomes can contribute to knowledge” (Brannick & Coghlan, 2007, p. 63). As a third phase, the focus was on proposing a proto-discourse about service design by analysing and synthesizing the results of the previous phases and relate them to the available literature and the author understandings about service design. This phase is structured on the understanding that the greater interest of “the empirical material is what the researcher-author may do with it” (Alvesson, 2003, p. 183). The results of previous phases were worked in different “ratios” in terms of the intrinsic/instrumental value to produce and inspire interpretations aimed to be informative and revealing for the production of a more abstract and conceptual contribution to the service design community (Alvesson, 2003).

As a retrospective perception of this study’s path, it seems acceptable to categorize it as a reflexive methodology research (Alvesson & Sköldbberg, 2009). More precisely, it could be defined as self-ethnography, as it implies a mindset to some extent in opposition to a more technocratic-bureaucratic approach in which procedures, rules and techniques define and legitimize the scientific project (Alvesson, 2003, p. 190).

This methodology focus on the researcher’s intention to understand “what goes around” himself by “breaking out” from a particular framework to create knowledge “through trying to interpret the acts, words and materia” (Alvesson, 2003, p. 176) used by himself and his fellow service design practitioners. And, to do so, it was employed a “variety of different ways of creating and doing something with the empirical material: from a planned-systematic kind of “data collection” to an emergent-spontaneous approach” (Alvesson, 2003, p. 181), as it is described in the following pages.

## Phase 1 – Service design approach

Due to a non-related agenda to this particular text, during the Fall Quarter of 2016, the first phase began with a literature review to identify issues faced by organisational change efforts. After identifying over 200 different issues related to these efforts, an affinitization process narrowed them down to 88 common issues. Following this, eight corporate employees with

roles related to organizational change completed a survey where they were asked to rank the 88 issues based on the perceived importance. Results from the survey identified five main issues related to organizational change. From these issues, five scenarios were created as project briefings and each one was sent to 8 service design practitioners, in a total of 40 professionals identified.

The five scenarios were all focused on the theme of organizational change, which can represent one of the most challenging topics in the field of service design. The group of Master of Fine Arts' candidates from the Service Design program of the Savannah College of Art and Design (SCAD), based on an extensive research, created and submitted the following scenarios:

- Scenario 1: “Company teams across the globe vary in size, specialty, location, etc. When it comes to innovation, each team and team member has their own understanding and approach. This makes it hard to promote and implement innovation at a broader level. Based on your experience, how do you think Service Design can help create and maintain a general consensus on the meaning of innovation within the organization?”
- Scenario 2: “The incumbent company has had the same set of company culture policies in place for its entire existence. Top management doesn’t see the value in updating the policies. They see it as, “if everything is working fine - why change things?” Eventually, a significant external change forces the company to have to make changes internally. Because this was so sudden, adapting to the new changes was difficult for the company. How would you help them understand that, without intermittent cultural change, they will not be able to adapt to significant changes they will eventually face in the future?”
- Scenario 3: “The company just announced they were partnering with another well-known company. This came as a big surprise to employees, who weren’t given any notice about the new partnership. With the new partnership, came a new company mission, values, re-org, amongst other changes... A number of the employees were angered by the surprise change, especially because the partnership was with a company whose values didn’t align with their own. Many argued that they refused to abide by some of the new changes, because they didn’t morally agree with them. How would you create alignment amongst the company considering that some employees are able to justify NOT aligning with the cultural change efforts?”
- Scenario 4: Uncontrollable external forces are causing the incumbent company to have to make changes internally in order to survive in the industry. Many employees struggle to understand why they need to adapt to these new changes. Essentially, they see no incentive or payoff from the cultural change effort. How would you approach this situation?
- Scenario 5: The incumbent company has had the same set of company culture policies in place for its entire existence. Top management doesn’t see the value in updating the policies. They see it as, “if everything is working fine- why change things?” In the past, change within the company has always been unexpected and forceful, and sporadic. How would you help the company understand the value of and implement continuous, intermittent change so that they are able to adapt to change, overall, easily?

The 10 questions submitted for these 40 practitioners were: Q1: As a Service Design practitioner, have you ever worked on a situation like this before? (A: Yes/No); Q2: On a scale of 1-6, how worthy of the company's effort is solving this problem? (Scale: Not worthy at all – 1, 2, 3, 4, 5, 6 - Extremely worthy); Q3: Which members of the company should be involved? Check all that apply. (Multiple-choice: Top management; Middle management; Team members directly affected; Team members indirectly affected; Other); Q4: Which members of your team would be involved? Please list their roles. (A: Text); Q5: What methods would you use? (A: Text); Q6: What tools would you use? (A: Text); Q7: Explain the sequence of events you would take. (A: Text); Q8: How much time would be needed?

(A: 0-3 months, 3-6 months, 6-9 months, 9-12 months, 1 year +); Q9: What risks would you expect to face? (A: Text); Q10: What would be the final deliverables? (A: Text).

After a two weeks period, 13 service design practitioners responded (see Table 1) responded the survey on how they would approach the scenarios they were assigned to. Although the sample size can be perceived as small from a quantitative research paradigm, this perception can be considered simplistic and misleading (Onwuegbuzie & Collins, 2007). The reflection made by the author, based on the crisis faced by mixed method researchers (Representation, Legitimation, Integration, and Politics), lead to the justified true belief that the sample size allowed the author “to address simultaneously the four aforementioned crises as adequately as possible” (Onwuegbuzie & Collins, 2007, p. 304).

While there were similarities in approaches, and it was possible to achieve informational redundancy (Onwuegbuzie & Collins, 2007), there was clearly not one standard structured approach to tackle the proposed scenarios amongst the respondents. Nevertheless, based on that sample size, it was possible to identify a common theme around understanding the specific contexts as the key factor to help the respondents to make sense (Weber & Glynn, 2006) and to set a solid foundation for their approaches. As concluded by the students:

*A deep understanding of the context of the issue at hand will create a ‘space’ in which stakeholders can work towards a resolution. A significant part of this process is research.* (Dhawan, Sin, Basore, Moore, & Dong, 2016, p. 47)

At the end, the students’ research proposed a framework to support both organisations and internal or external service design consultancies to better interact throughout cultural change efforts. In brief, the proposed framework for Designing Organizational Cultural Change Efforts is structured around supporting the necessary internal and external conversations and actions around the following themes: Context, Research, Sequence, Deliverables, and Risks.

#	Respondent	Scenarios	Location	Company	Position
1	R4/S1	S1	USA	Consultancy	Experience Design Lead
2	R5/S1	S1	USA	Consultancy	Senior Art Director
3	R7/S1	S1	Canada	University	Organizational Psychologist in Training
4	R2/S2	S2	UK	Company	Senior Consultant and Design Director
5	R4/S2	S2	USA	Consultancy	Founder and Service Design Consultant
6	R5/S2	S2	USA	Company	Experience Designer
7	R1/S3	S3	USA	Company	Design Director
8	R2/S3	S3	USA	Consultancy	Lead Service Designer
9	R3/S3	S3	Germany	Company	Founder, Service Design Consultant and Author
10	R1/S4	S4	USA	Company	Service Designer
11	R2/S4	S4	China	Consultancy	Innovation Consultant
12	R2/S5	S5	Hong Kong	Consultancy	Senior Design Research Consultant
13	R5/S5	S5	Germany	Independent consultant	User Driven Innovation, Research and Strategy Consultant

Table 1 – Information about the Respondents of Phase 1

Phase 1 happened during the months of September, October and November of 2016. For more details about the specific outcomes of the original research, see Basore, Dhawan, Dong, Moore, & Sin (2017).

## Phase 2 – Topics from the different approaches

Based on the same 13 responses to the 10 questions survey, the author developed a second phase of research consisting of investigating the possibilities of designing knowledge structures from that body of data and results.

This time, instead of analysing the responses with the particular focus of tackling organizational change, the author sought for clustering information with the aim of constructing knowledge structures (Cole, 1994). For the purpose of this research phase, ‘cluster’ means “both the co-occurrence of metaphoric expressions from various domains and the semantic overlaps between those domains” (Koller, 2005, p. 220), and ‘information’ is understood as the constituent parts of a knowledge structure, which is a subjective or objective “structure of concepts linked by their relations” (Brookes, 1980).

In order to construct the intended knowledge structures, the following steps were taken:

- Step 1: from the 10 original questions, only the contents of 7 were used for clustering. The questions 1 (As a Service Design practitioner, have you ever worked on a situation like this before? Yes / No), 2 (On a scale of 1-6, how worthy of the company's effort is solving this problem? Not worthy at all – 1, 2, 3, 4, 5, 6 - Extremely worthy), and 8 (How much time would be needed? 0-3 months, 3-6 months, 6-9 months, 9-12 months, 1 year +) were understood as to present no decisive discursive content for the intended objective.
- Step 2: the contents produced by respondents R4/S2, R5/S2, R1/S3, R2/S3, and R2/S5 were considered questionable due to the fact that they responded ‘No’ to the Question 2. These contents were not discarded, only were used as a secondary source in case they supported the content produced by the other 9 respondents.

After analyzing the responses, it was decided to conduct a clustering process by applying an automated computerized text analysis technique using the QDA Miner and WordStat software (Mitrani, 2017; Provalis, 2014). The construction of a professional discourse based on most used words by a certain group of experts on a specific field is supported by an accumulating body of research that shows that

*(stereotypical) expectations play a major role in the way information about persons and group members is processed [...], what information is preferentially retrieved from memory [...] and the way these expectations affect impressions and judgments [...].* (Dijksterhuis, van Knippenberg, Kruglanski, & Schaper, 1996, pp. 254–255)

This approach is also supported by the understanding that, in a distributed memory model consisting of three processing modules (the orthographic, phonological, and meaning codes for a set of words),

*the activation or retrieval of a known concept entails establishing a specific pattern of activation across a set of processing units that represent various semantic features and that constitute a meaning module.* (Masson, 1995, p. 4)

By identifying these meaning modules present on the texts of the responses, it may be possible to infer knowledge structures that support the action of the respondent group. The texts of the responses, divided in 5 files (Q5, Q6, Q7, Q9, and Q10) were imported to the software (n=5). For the purpose of the intended analysis of a discursive construction for service design, and due to the small number of respondents (N=13), no pre-processing procedures were employed like stemming or lemmatization. It is important to note that the above-mentioned software uses a different definition to the concept of ‘cluster.’ While for the present text, the meaning of ‘cluster’ is as presented above, the software makes a distinction between at least two options of methods for finding patterns and groupings data:

topic modeling, and cluster analysis. The software's algorithm clusters documents into different groups based on a similarity measure between words: it applies a similarity measure to the numeric vectors to group the data. Its alternative is the feature 'Topic Extraction,' which can be defined by a set of keywords with each keyword in the set having a probability of occurrence for the subject topic. In brief,

*[w]hile in hierarchical cluster analysis, a word may only appear in one cluster, topic modelling using factor analysis may result in a word being associated with more than one factor, a characteristic that more realistically represents the polysemous nature of some words as well as the multiplicity of context of word usages. (Provalis, 2014, p. 45)*

Therefore, the Topic Extraction feature was applied (Segmentation: by paragraph; No. topics: 3; Loading: 0.30) to the responses provided by 9 participants (Question 1: Yes) to 5 of the 10 original questions. The resulting topics and keywords can be seen on Table 2. The eigenvalue represents the strength of the co-occurrence of the words in the topics, the percentage of cases indicates how commonly used that group of word is in the analysed documents.

The keywords are listed meeting the factor loading cutoff criteria (0.30) in descending order of factor loading. As an example, the Topic 1 group has an order factor loading of 8.41 (Eigenvalue), and the specific keywords 'STORIES' and 'WORKING' have the highest and the lowest individual factor loading of this group, respectively.

No	Keywords	Eigenvalue	% Var	Freq.	Cases	% Cases
1	STORIES; SERVICE; PROJECTS; MAPS; IMPACT; PHASE; WORK; INTERNAL; PROTOTYPES; INNOVATION; JOURNEY; MAPPING; METHODS; DESIGN; WORKING	8.41	16.97	62	5	100.00%
2	TEAM; DATA; INTERVENTION; IMPORTANT; ORGANIZATION; EMPLOYEES; CULTURE; WORKING; CHANGE; BUY-IN; MANAGEMENT; PROJECTS	3.69	15.33	59	5	100.00%
3	IMPLEMENTING; CO-CREATE; PEOPLE; BUY-IN; UPPER; MANAGEMENT; PROTOTYPES	2.79	10.27	29	4	80.00%

**Table 2 – Topics extraction from 9 respondents of phase 1**

Illustratively, as can be seen at Table 3, concerning Topic 1, it can be said that the combination of terms 'STORIES' and 'SERVICE' better describes Topic 1 then combining 'DESIGN' and 'WORKING.' It's interesting to note that the word 'PROTOTYPES' is shared by the Topics 1 (STORIES) and 3 (IMPLEMENTING), 'MANAGEMENT' by 2 (TEAM) and 3 (IMPLEMENTING), and 'WORKING' by 1 (STORIES) and 2 (TEAM).

No	Topic 1	Topic 2	Topic 3
1	<b>STORIES;</b>	<b>TEAM;</b>	<b>IMPLEMENTING;</b>
2	SERVICE;	DATA;	CO-CREATE;
3	PROJECTS;	INTERVENTION;	PEOPLE;
4	MAPS;	IMPORTANT;	BUY-IN;
5	IMPACT;	ORGANIZATION;	UPPER;
6	PHASE;	EMPLOYEES;	MANAGEMENT;
7	WORK;	CULTURE;	PROTOTYPES
8	INTERNAL;	WORKING;	
9	PROTOTYPES;	CHANGE;	
10	INNOVATION;	BUY-IN;	

11	JOURNEY;	MANAGEMENT;	
12	MAPPING;	PROJECTS	
13	METHODS;		
14	DESIGN;		
15	WORKING		

**Table 3 – Words listing by topics from 9 respondents of phase 1**

As a support for the analysis on Phase 3, the same process was applied to the responses provided by all 13 participants to 5 of the 10 original questions. The resulting topics and keywords can be seen on Table 4.

No	Keywords	Eigenvalue	% Var	Freq.	Cases	% Cases
1	STORIES; MAPS; MAPPING; STAKEHOLDER; INTERVIEWS; PROTOTYPES; JOURNEY; SERVICE; IMPACT; RESEARCH; INNOVATION; WORKSHOPS; PHASE; SCALE	9.45	10.47	89	5	100.00%
2	TEAM; BUY-IN; DATA; INTERVENTION; CULTURE; IMPORTANT; ORGANIZATION; PEOPLE; IMPLEMENTING; WORKING; CHANGE; EMPLOYEES; CO-CREATE; LEADERSHIP; UPPER	4.10	11.60	104	5	100.00%
3	CONDUCT; PROJECTS; MAKE; SMALL; INTERNAL; MANAGEMENT; TRAINING; ANALYSIS; COMPETITIVE; PHASE; STORIES; EMPLOYEES; WORK; WORKING; IMPACT	3.20	12.12	42	5	100.00%

**Table 4 – Topics extraction from 13 respondents of phase 1**

At Table 5, out of a total of 20 different words, it is possible to verify that 9 words are present on both topic extraction processes. It is also worth noting that both share the same first word listed in descending order of factor loading: ‘STORIES.’

To provide the reader with some context on how these words were used, two excerpts of the responses for each topic's first word will be presented. For the Topic 1 - ‘STORIES,’ the excerpts are:

- Q6 – R2 / S2: “Opportunity STORIES, [...]. User STORIES (Epic, Themes and STORIES) [...].”
- Q7 – R3 / S3: “Keep on communicating both success as well as failure STORIES.”

No	9 Respondents	13 Respondents
1	STORIES;	STORIES;
2	SERVICE;	MAPS;
3	PROJECTS;	MAPPING;
4	MAPS;	STAKEHOLDER;
5	IMPACT;	INTERVIEWS;
6	PHASE;	PROTOTYPES;
7	WORK;	JOURNEY;
8	INTERNAL;	SERVICE;
9	PROTOTYPES;	IMPACT;
10	INNOVATION;	RESEARCH;

11	JOURNEY;	INNOVATION;
12	MAPPING;	WORKSHOPS;
13	METHODS;	PHASE;
14	DESIGN;	SCALE
15	WORKING	

**Table 5 – Comparison of words for topic 1 (9 and 13 respondents of phase 1)**

For Topic 2, from a total of 17 different words as presented by the Table 6, the first 10 words found in the 9 respondents version are also present at the 13 respondents' one.

No	9 Respondents	13 Respondents
1	<b>TEAM;</b>	<b>TEAM;</b>
2	DATA;	BUY-IN;
3	INTERVENTION;	DATA;
4	IMPORTANT;	INTERVENTION;
5	ORGANIZATION;	CULTURE;
6	EMPLOYEES;	IMPORTANT;
7	CULTURE;	ORGANIZATION;
8	WORKING;	PEOPLE;
9	CHANGE;	IMPLEMENTING;
10	BUY-IN;	WORKING;
11	MANAGEMENT;	CHANGE;
12	PROJECTS	EMPLOYEES;
13		CO-CREATE;
14		LEADERSHIP;
15		UPPER

**Table 6 – Comparison of words for topic 2 (9 and 13 respondents of phase 1)**

As excerpts for the Topic 2 - 'TEAM,' the following are provided:

- Q7 – R7 / S1: “After the large group intervention, the TEAM would meet to consider next steps.”
- Q7 – R3 / S3: “Create a formal internal TEAM (or council) or service design experts [...].”

Topic 3 present the biggest disparities in terms of word groups. Although it seems possible to draw inferences on the similarities between contextual meanings of the words 'IMPLEMENTING' and 'CONDUCT,' the fact is that only the word 'MANAGEMENT' is share by both extractions out of a total of 20 words, as can be seen at Table 7.

No	9 Respondents	13 Respondents
1	<b>IMPLEMENTING;</b>	CONDUCT;
2	CO-CREATE;	PROJECTS;
3	PEOPLE;	MAKE;
4	BUY-IN;	SMALL;
5	UPPER;	INTERNAL;
6	MANAGEMENT;	MANAGEMENT;

7	PROTOTYPES	TRAINING;
8		ANALYSIS;
9		COMPETITIVE;
10		PHASE;
11		STORIES;
12		EMPLOYEES;
13		WORK;
14		WORKING;
15		IMPACT

**Table 7 – Comparison of words for topic 3 (9 and 13 respondents of phase 1)**

The selected excerpts for Topic 3 - 'IMPLEMENTING' are the following ones:

- Q5 – R7 / S1: “Collect this qualitative data from customers and employees to get a pulse on the overall buy-in of the organization on a potential change initiative before IMPLEMENTING anything.”
- Q7 – R1 / S1: “[...] absolutely has to be co-create with the people that will be IMPLEMENTING changes [...]”

As a result of Phase 2, it was possible to infer that there are three main topics or discursive clusters supporting the service design discourse of these 9 respondents. In a descending order of factor loading, these clusters could be named: Stories, Team, and Implementing. The meaning of each one of these names cannot be derived by a simple etymological assessment. It is the context in which they are used that will support constructing an understanding about them. In that sense, each topic can be understood as a dynamic system, as a basin of attraction, where its “name” (the first word of each cluster) can be seen as the minima of the basin, the point where the “system comes to rest” (Masson, 1995, p. 5). In order to be able to be understood as a network of professionals, service design must be “located in just a few large basins of attraction, so networks tend to converge toward one of a relatively few attractors” (Lansing, 2003, p. 190).

### Phase 3 – Proto-discourse about service design

The third phase is focused on proposing a proto-discourse about service design by analysing and synthesizing the results of the previous phases and relate them to the available literature and understandings about service design. The word ‘discourse’ seems to have two main and different meanings when concerning organization studies:

*the study of the social text (talk and written text in its social action contexts) and the study of social reality as discursively constructed and maintained (the shaping of social reality through language). The former approach highlights the ‘talked’ and ‘textual’ nature of everyday interaction in organization. The latter focuses on the determination of social reality through historically situated discursive moves (Alvesson & Karreman, 2000, p. 1126).*

This phase intent was on determining some sort of social reality through historically situated discursive moves. In that sense, focuses on identifying a proto-discourse aiming at a contributing to the future construction of a discourse (Alvesson & Karreman, 2000). Besides the results of Phases 1 and 2 described above, this third phase also included a comprehensive literature review that spans from 1984 to 2017, similar to the one performed by Antons and Breidbach (2018).

A non-exhaustive description of these analysis and synthesis for each one of the identified topics is presented below.

#### Topic 1: Stories

The analysis and synthesis of Topic 1 (9 Responses: STORIES; SERVICE; PROJECTS; MAPS; IMPACT; PHASE; WORK; INTERNAL; PROTOTYPES; INNOVATION; JOURNEY; MAPPING; METHODS; DESIGN; WORKING) enables to understand service design efforts as a social process of identifying and communicating strategic decisions related to enhancing organizational performance (Wiltbank, Dew, Read, & Sarasvathy, 2006). These efforts are based on a DESIGN approach, “which combines the objective and subjective self-formative process of the human species” (Dilnot, 2017, p. 5).

The DESIGN of innovative SERVICE propositions demands crafting and telling the right kind of practical and emancipatory STORIES (Alvesson & Karreman, 2000; Feldman & Sköldbberg, 2004) to the right audiences at the right PHASE. These stories are about new “activities emanating from specialized knowledge and abilities that people do for themselves and others (i.e., service, applied abilities) and the activities they want done for them” (Vargo & Lusch, 2017, p. 47). The connection between STORIES and SERVICE INNOVATION can be supported by the fact that “narrative has played an important adaptive function in human evolution because it offers a way to simulate an experience” (Adornetti, 2014, p. 234).

Stories enable organizations to simulate new service propositions, helping specific social contexts to make sense (Weber & Glynn, 2006) of what is or not WORKING and to define PROJECTS that can positively IMPACT the real world. Researchers suggest that “service design plays a key role in service innovation” (Patrício, Gustafsson, & Fisk, 2017).

Understanding SERVICE INNOVATION dynamics implies having a clear perception not only of the constant external renewal of value flows, but also of what occurs at the INTERNAL contexts of organisations due to the corresponding potential new configurations demanded by new service offerings. This systemic perspective on service design requires iterative METHODS for MAPPING JOURNEYS and creating PROTOTYPES (Blomkvist & Holmlid, 2010, 2011) to enable the identification of patterns, “because relationships and processes cannot be measured in the traditional sense due to their emerging properties” (Vargo et al., 2017, p. 4).

As a last remark about Topic 1, it is important to keep in mind that this is the topic with the highest order factor loading (8.41) of the three automatically extracted. This number cannot be taken in absolute, but only in relation to the other topics values. The larger the Eigenvalue, as compared with the other topics, the stronger the evidence that the measured variables represent the underlying constructs (Doll, Xia, & Torkezadeh, 1994). This suggests that Topic 1 is the most well-structured discourse basin.

## Topic 2: Team

The analysis and synthesis of Topic 2 (9 Responses: TEAM; DATA; INTERVENTION; IMPORTANT; ORGANIZATION; EMPLOYEES; CULTURE; WORKING; CHANGE; BUY-IN; MANAGEMENT; PROJECTS), with an order of factor loading of 3.69, suggests that service design efforts have a basin of attractors focused on processes of developing and communicating a holistic yet detailed analysis of specific social contexts (Basore et al., 2017) in which an organisation “lives” by analysing its relationships with current and prospective stakeholders (ORGANIZATION; CULTURE), as well as the nature and the role of said stakeholders (EMPLOYEES; TEAM; MANAGEMENT). To understand stakeholders’ contexts most IMPORTANT (prioritizing) aspects, service design relies on producing valid DATA. Which is obtained by the application of qualitative and quantitative research methodologies, methods and tools. The produced data, interpreted through design and co-creation practices, is the foundation to define INTERVENTION PROJECTS to drive CHANGE. Consistent data, in instrumental, practical, and emancipatory forms (Habermas, 2005), is decisive to apprehend and implement changes in social reality.

The words identified for Topic 2 are mostly related to internal elements of an organization. Although the proposed scenarios were focused on organizational change, the author believes that the discourse should include references to external elements. Which leads the author to infer that the collective perception amongst service design practitioners has an emphasis on “internal stakeholders” and a lack of “complex systems” discursive elements.

As academic service research suggests, the lack of consistent apprehension of social reality leads to failure in strategy and “can play a role in theorizing about how to develop more effective strategy implementation” (Vargo & Lusch, 2017, p. 60).

Besides direct customers and suppliers, service design efforts would also need to designate broader networks of actors that can support an organisation throughout its innovation efforts. Those actors can be researchers, experts, inventors, entrepreneurs, managers, designers, sponsors, project teams, R&D groups, firms, universities, R&D labs, incubators, government, public funding agencies, associations, virtual organisations, clusters, and technological parks (Pacheco et al., 2017).

### Topic 3: Implementing

Topic 3 (9 Responses: IMPLEMENTING; CO-CREATE; PEOPLE; BUY-IN; UPPER; MANAGEMENT; PROTOTYPES), with an order of factor loading of 2.79, has the least amount of words identified and the lowest Eigenvalue. These results lead the author to infer that the collective perception amongst service design practitioners presents a lack of “implementation” discursive elements.

The words identified for Topic 3 and the literature reviewed suggest third basin for service design that seems to revolve around developing and communicating a constantly-updated understanding of the trends and factors that influence and contribute to IMPLEMENTING organizational change. In order to do that, service design efforts should CO-CREATE an understanding in middle and lower MANAGEMENT, and then obtain UPPER MANAGEMENT BUY-IN.

Understanding the systemic nature of social change – at a micro, meso, and macro aggregation levels (Vargo & Lusch, 2017) – may contribute to effectively encouraging and supporting organizational transitions into preferred futures (Simon, 1996). The literature review points towards the concept of institutions (Vargo, Wieland, Archpru, & Akaka, 2015; Weber & Glynn, 2006) and institutional transformation (Sarasvathy & Dew, 2005) as a broad socio-historic, as well as economic perspective, that requires the development and communication of a constantly-updated understanding of possible effective actions that can support organisations and social contexts to adopt and implement innovative opportunities, i.e. strategic decisions related to enhancing organizational performance (Wiltbank et al., 2006).

### Preliminary considerations and future directions

As preliminary considerations, it seems that the three phases approach - with the use of an automated text analysis technique - to identify service design narratives used to address organizational challenges may be effective. The approach would start with constructing organizational challenge scenarios and obtaining service design narratives to address them; the obtained narratives would be submitted to an automated text analysis technique to identify topics and discursive elements; these discursive elements would be critically analysed and considerations about the presence or lack of specific words would be constructed under the light of pertinent literature review. Further research with a larger sample of respondents and different scenarios should yield more precise discursive elements groups.

This text suggests that Topic 1 is the most well-structured discourse basin in relation to Topics 2 and 3. Which leads the author to infer, based on the present study results, the need for further research on the collective perception amongst service design academics and practitioners on three directions: 1) the over-emphasis on “stories / service / projects / maps” discourse; 2) the emphasis on “internal stakeholders” and the lack of “complex systems” discourse, and 3) the lack of “implementation” discourse in the related community. Service design, as a practitioners’ field of activity, can be defined in many ways and related to myriad diverse human characteristics and professional capabilities. From a reflexive research perspective, the identification of discursive elements, their presence and consistency or lack of them, based on how practitioners describe their approaches, followed by an automated analysis of their texts, and adding theoretical elements from the pertinent literature, seems to make sense. From a critical standpoint, rather than identifying specific human characteristics

or practices, the identification of discourses elements that can be adopted by all sorts of organizations and individuals, frees the service design community from defining specific tools, practices, personalities, professional skills and capabilities.

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