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Service design for behavioural change - current state of the discipline and practice in India

Ravi Mahamuni^{1,2}, Pramod Khambete¹, Ravi Mokashi-Punekar²
ravi.mahamuni@tcs.com

¹Tata Research Development and Design Center, Tata Consultancy Services, Pune, India, ²Indian Institute of Technology Guwahati, Guwahati, India

Abstract

We investigated the current picture of appreciation, state of relevant knowledge and skills, and practice among the Indian design professionals regarding service design and design for behaviour change. Inter alia, the current scenario regarding the embeddedness and maturity path of service design in academic institutes and industry were studied. Indian society and businesses are facing challenges that are wicked, deep and complex due to the diversity of social, cultural, and economic conditions. They could benefit from a synthesis of service design and design for behavioural change. This study is exploratory in nature. However, it is a significant initial step to emphasize the need of and gaps in the aspects pertaining to effective service design for behavioural change practice in India and suggests indicative interventions. With these interventions, Indian professionals could achieve maturity and be in a position to address the wicked problem India faces.

KEYWORDS: service design, design for behaviour change, design in India, design practitioners in India, design education in India, wicked problem

Introduction

Design touches all spheres of human experience (Buchanan, 1992). With increasing technological complexity and business environments, living up to experiential aspirations of customers is more demanding (Kolko, 2015). Design Thinking (Brown, 2009) (Martin, 2009), or Designerly Thinking (Hassi & Laakso, 2011) comprising a set of methods, mind-sets and practices can address the challenges through human-centric, integrative, holistic interventions that balance the needs of several stakeholders. This mode is critical to address the complex and ‘wicked’ problems faced by society.

Designed products and services shape culture, behaviours, attitudes, environments, and even values and priorities, as they inter alia “design”, that is facilitate or hinder certain activities and actions (Kolko, 2012, p. 18) (Stanton & Baber, 1998). It is not feasible though to

segregate “behaviour” as a discrete component, as a user’s experience during the life cycle engagement with products and services and behaviours co-evolve (Kolko, 2010).

The Service Design discipline has matured now and attained a distinct identity. An emerging discipline is Design for Behaviour Change, which aims at influencing without coercion - the behaviours of individuals and groups for a better personal life and the world. It draws on fields like Psychology, Sociology, and Behavioural Economics among others. Governments, social organisations and businesses are leveraging its potential. A significant congruence in these two disciplines rests on the commonality in attention to long temporality of design interventions, offering opportunities of synthesis to leverage their synergy.

Services contribute to over 60% of India’s Gross Domestic Product (Reserve Bank of India, 2017). India also faces a plethora of developmental challenges. At the same time, the stable economy, enabling technology infrastructure and supportive government policies offer a great opportunity to enhance the pace of the development agenda. Therefore, the Indian society and businesses could benefit from a synthesis of service design and design for behavioural change. The thought motivated us to undertake the current exploratory study.

Design for Behaviour Change and Service Design: Alignment and Differences

Service Design

Service Design encompasses designing interactions, experiences, and relationships (Meroni & Sangiorgi, 2011). Well-designed, coherent Touch Points¹ and Touch Point Ecosystems, supporting backend systems, processes, and policies create service experiences. The users and a harmonised Touch Point Ecosystem interact to fulfil the users’ utilitarian and experiential goals over the span of service relationship through several service encounters. The temporal, cumulative build-up of experience was framed as momentary (“An Experience”), (Forlizzi & Battarbee, 2004)), episodic and cumulative (Roto, Law, Vermeeren, & Hoonhout, 2011; Karapanos, John Zimmerman, Forlizzi, & Martens, 2009). The cumulative experience that emerges through sense making, interpretation, reflection, and appropriation influences the users’ behaviours and attitudes (McCarthy & Write, 2004). The design of service environments, “Servicescapes” (Bitner, 1992) also affects the experiential outcomes. To conclude, Service design is user-centric, adopts micro as well as a holistic perspective, and is concerned with the coherence of experience in the user-service provider interactions in both short and long temporal relationships span.

Service providers co-opt users as collaborators to co-create value (Pralhad & Ramaswamy, 2004). The user’s motivations and behavioural dispositions are at once inputs to and outcomes of the value creation process. Services as ‘action platforms’ (Manzini, 2011) support or impede certain behaviours, but must do so without compromising the user’s freedom. Mindful Service Design therefore empowers the users and facilitates co-creation of outcomes desirable to them. Service Design in this perspective becomes an approach to evolve new methods and processes to align to the value expectations and roles of stakeholders (Yu & Sangiorgi, 2014).

¹ “Touch Points are the entities with which a customer interacts to commence or progress with a service encounter. They can be human (for example, a health worker), or non-human (for example, a portal). A Touch Point Ecosystem is a network of Touch Points that operates coherently to provide desirable service experience”.

Design for Behaviour Change

The need to influence and change a user's behaviour or that of the society to meet social challenges is now well-recognised. Behavioural change interventions occur at various levels – products, services, and moving up to public policy. An illustrative list of theories and approaches that have been used to guide the interventions is:

- **Disciplinary orientation: Psychology**
Learning, knowledge absorption, processing and retention; relations between attitudes, behavioural intentions and behaviours; behavioural changes over time and the attributes of the changed states (Learning Theories (Simandan, 2013), Theory of Planned Behaviour (Ajzen, 1991), Theories of Reasoned Action (Madden, Ellen, & Ajzen, 1992), Social Cognitive Theory (Bandura, 1986), (Prochaska & Velicer, 1997))
- **Disciplinary orientation: Psychology or Persuasive design using technology**
Role of Motivation, Ability, and Triggers in shaping behaviours, types of behaviour targets and appropriate interventions (Fogg B. J., 2009), (Fogg & Hreha, 2010)
- **Disciplinary orientation: Sociology**
The role of society and social processes in influencing behaviours and behaviour change; concerned with these in relation to individuals and groups (Granovetter, 1978), (Rogers, 2003)
- **Disciplinary orientation: Cognitive Psychology**
Role of beliefs, practices, norms, knowledge, and other such factors, along with their inter-relations in influencing behaviours. (Rosenstock, 1974), (Reckwitz, 2002)
- **Disciplinary orientation: Behavioural Economics**
Nudge (Leonard, 2008), Choice Architecture (Thaler & Sunstein, 2008), System 1 and System 2 thinking (Kahneman, 2011):
- **Disciplinary orientation: Multidisciplinary**
Behaviour influence and change frameworks that synthesise several theories to guide micro and macro design interventions (“4 E’s” model (HM GOVERNMENT, 2005), (DEFRA, 2008) Behaviour Change Wheel (Michie, Stralen, & West, 2011)), MINDSPACE (Dolan, Hallsworth, Halpern, King, & Vlaev, 2010), C-R-E-A-T-E Action Funnel (Wendel, 2013), Design with Intent (Lockton, 2010)

The alignment of and differences between Service Design and Behavioural Change is summarized in Table 1.

Aspects	Service Design	Design for Behaviour Change	Elaboration
Human Centricity	Focus on individual. Off late, factoring the concerns society	Individual, groups, and society	Aimed at individuals, embedded in the social fabric.
Locus of Value Creation	Commercial as well as for individual wellbeing and societal objectives	Mainly individual and societal wellbeing objectives. Also used in commercial settings.	Increasingly social ventures are service organizations aiming for behaviour changes.
Temporality	Short (Service Encounter) to long (Relationship)	Short (one-time change in behaviour) to long (sustained behaviour change)	Recognise that value is created through engagement over an extended time span.
Co-creation of Value	User and service provider have mutually agreed roles	Agency of change rests with the user, facilitated by other stakeholders.	Co-creation of value is critical to maximize the benefits.
Stakeholders	Primary: Service User, Service Provider. Allied:	Primary: Individual Allied: Change facilitators (government,	Harmonizing the activities of the stakeholders towards

Aspects	Service Design	Design for Behaviour Change	Elaboration
	Community, partner firms	organisations, community)	The individual's goals is critical
Contributing disciplines	Multidisciplinary	Multidisciplinary	Disciplines play a role depending on the needs
Role of Technology	Enabler	Enabler	Technology is increasingly an important component

Table 1 – An abridged overview of the alignment and differences of Service Design and Design for Behaviour Change

The affinity and congruence between these two fields is noteworthy in terms of the concern for value creation over long duration, dynamic usage contexts, and accounting for diversity of users, with the recognition of the individual situated in a social context as the locus of change. Therefore, opportunities for integration of Service Design and Design for Behaviour Change can be leveraged by designers for meaningful value creation for the users.

Relevance of Integrated Competencies in Service Design and Design for Behaviour Change

With the advances in technology, a networked world and concerns such as, sustainability, human welfare is now a dominant theme for governments and businesses. Early advocacy of designers' societal responsibilities and sustainable design came from Schumacher (1973) and Papanek (1971). Social design (Armstrong, Bailey, Julier, & Kimbell, 2014), social innovation (Manzini, 2007) and Transition Design (Irwin, 2015) are recent themes. New or reframed methods have been proposed (Murray, Caulier-Grice, & Mulgan, 2010; Manzini, 2015), that are human centric, and fulfil the goals of social upliftment and sustainability. Such approaches call for an inclusive perspective when products and services are designed to alter the users' behaviours at micro level leading to macro changes (Brown, 2009), Brown (2010). Numerous commercial design firms as well as social organizations undertake projects aimed at changing people's behaviours for their betterment – be it encouraging washing hands to reduce infections (IDEO, 2013; Hulland, et al., 2013) to socio-technical design to improve compliance to medication (U.S. Patent No. Patent No. 5,646,912, 1997), and managing diabetes (Burns, Cottam, Vanstone, & Winhall, 2006), to cite a few examples.

Wicked problems (Rittel & Webber, 1973) rooted in ambiguity, contradictory, ever changing requirements and complex inter-dependencies of stakeholders abound in societal situations. Though it might appear that radically different design approaches are necessary, Margolin & Margolin (2002) suggested that “Social Model” of design and “Market Model”, are two ends of a spectrum. The former tackles complex problems, while the later might be adequate for complicated problems. Rittel's (2010) suggestions too resonate with established design practices. Therefore, it appears that the conventional methods and practices of designers could be successfully adapted for addressing ill-structured or wicked problems, particularly in a multidisciplinary or trans-disciplinary and participatory paradigm. The concept ‘responsive design’ (Burns, Cottam, Vanstone, & Winhall, 2006) suggested elements of such a paradigm: iterative refinement of the brief, interdisciplinary collaboration, participatory design methods and techniques, building capacities of people and organisations to continually ‘redesign’ to emergent contexts, and aiming for fundamental change through design interventions. Capabilities arising from a synthesis of Service Design and Design for Behavioural change could be important, may be critical component of such a paradigm.

To adopt and adapt the paradigm in the Indian context, it is necessary to understand the challenges that are wicked, deep, and complex due to the diversity of the social, cultural, and economic conditions. Design education has to perform the foundational role to enable designers to tackle the challenges.

The Emerging Indian Context and Design Scenario

The Contexts and Trends in the Societal, Technology and Business Environment in India

Effort to solve a wicked problem reveal additional problems, create new problems, or at times, result in unanticipated benefits as well, including the changes in peoples' behaviours. Two examples from India are illustrative. A cornerstone of the Government of India financial inclusion drive in 2014, was Jan Dhan ("People's Wealth") accounts. The "nudge" came through opening full-service bank accounts with a "zero balance" requirements for the poor, many who had not seen the inside of a bank branch. Over 300 million accounts were opened in the subsequent year (Mission-FI, Department of Financial Services, Government of India, n.d.). The social benefits received in cash previously, were credited directly to the accounts of the beneficiaries. Positive behavioural changes noticed were, increased likelihood to save and reduced alcohol and tobacco addiction (Gupta, 2016). Another instance is the controversial "demonetisation", in November 2016 invalidating large value currency notes. The intent was to attack the undercover, "black" economy and tax evasion. A concurrent drive, "Digital India", was launched, supported by a secure, robust digital transaction infrastructure (Unified Payment Interface). A mobile app for person-to-person as well as person-to-business money transfer was a key touch point of the service system. Some of its "design" elements are noteworthy. It was named "Bharat Interface for Money (BHIM)", a term with mythological connotations of strength, and a modern connotation of social empowerment. The app was developed and deployed by the government to instil trust. Privacy was assured as there was no requirement to reveal identity or personal details to the other party. The transaction was designed to be as simple as sending an email. There was large scale promotion through media and incentives for use. After a year, there were five million active users (Forbes India, 2017). These cases demonstrate the power of Designerly systemic interventions comprising coherent multi-tiered, interlinked components at policy to micro level that led to behaviour change at scale.

Along with the challenges, there are several enablers as well. India is a global leader in mobile internet usage (85% of 355 million Internet users). The number is about twice that in the US. (Meeker, 2017). Widespread mobile connectivity and continually lowering data costs (Approximately USD 2 per month for 60 GB data of 4G speeds) offer a leverage for innovative services that can effect positive behavioural change. Challenges such as number of languages (22 official languages, each with over 1 million active users), large rural population, and socio-political diversity can be converted to opportunities through the power of design to imagine services that align to the end users and make a difference. There is a growing, widespread appreciation in India that designers can play a vital role in betterment of and innovations in public services for meeting the social challenges (Confederation of Indian Industry (CII), 2015).

The Landscape of Design and Design Education in India – Institutional, Formal, and Informal

A National Design Policy (Government of India, 2007) was formulated a decade ago to promote design profession and education. Design Council of India, a government backed body was formed comprising eminent designers, academicians, industry leaders, and policy makers. Though the policy focusses on increasing the competitiveness of businesses, it recognises the crucial, wider role of design as a differentiator. Government services, businesses as well social enterprises² are increasingly services focussed and have leveraged

² We recognise the pitfalls in naming specific ventures with a range with varied objectives and services models. The following names are illustrative, with no intention to diminish the credit to other significant change makers. Examples: Arvind Eye Care System (<http://www.arvind.org/default/Index/default>), Hasirudala (<http://hasirudala.in/>), Akshaya Patra

Designerly ways. However, a mere redesign of existing products, physical or digital is insufficient to create scalable value and positive behaviour change in all sectors, for wide variety of customers and citizens. Thoughtful service design blended with design for behaviour change may turn out to be essential for the reimagined, innovative solutions. It appears though that the stakeholders lack adequate comprehension of the contribution Service Design could make to businesses as well as societal initiatives. For instance, Service Design or Design for Behaviour Change does not feature in the CII report (2015).

Two premier government backed design schools (National Institute of Design, and Industrial Design Center, IIT Bombay) were founded six decades ago. The number of state funded as well as private design schools has gone up significantly since then. Research and professional conferences such as ICORD, India HCI, and UXINDIA have been held since over a decade. The spread and depth of the disciplines taught has increased vastly to encompass Product Design, HCI, User Experience Design, Visual Communication, and others. However, the correct estimate of the number of schools or designers is difficult, since India does not have a standard definition of “professional designer”. A large number of “designers” might not be formally trained (British Council, 2016). The report estimated approximately 7,000 qualified designers and 5,000 students in various design schools. A contemporary estimate was 35,000 design professionals (Confederation of Indian Industry (CII), 2015)! Regardless, a large body of practicing “designers”³ can be safely assumed. Despite the apparent absence of any institute that offers education in Service Design, a large number of designers might be self-educated, taking advantage of a range of online options, short courses conducted by design schools as well as training provided by their employers.

Worldwide calls for making changes in the curriculum and focus of design education have been voiced. It was suggested that design education programs have not evolved to suit the changes in the world (Kolko, 2010). As a result, students learn traditional and irrelevant methods and techniques. Norman and Klemmer (2014) argued that the present design education approaches lack a solid foundation of knowledge essential to tackle the complexities of today’s world. They stressed the need to incorporate in design education the societal issues, persuasion (or behaviour change, in a broader sense), and understanding of complex and interdependent systems. A balance of generalist design skills and in-depth specialisations, Service Design being one of them, was advocated. Similar ideas were expressed elsewhere (McCullagh, 2010), and in India too (De Parker, 2013). Besides, there was emphasis on building ‘T shaped designers’, that is, the designers who have wider set of knowledge and skills, as well as strong capabilities in their specialisation (Fleischmann, 2014). It appears, specialised, relevant knowledge and skills, need to be blended with broader capabilities that enable trans-disciplinary collaboration to address the challenges in the Indian context.

To meet the challenges such as education for all, livelihood creation, sustainability, smart cities, clean India, Digital India and effectively delivering public services, India needs a large number of designers that can synthesise several disciplines. Service design and design for behaviour change would be important constituents of the blend. The first step towards meaningful action by educational institutions and other stakeholders, is to assess the current state of readiness of the designer community in India. It appears such an attempt has not been done yet. The study reported here is probably the first exploratory step.

(<https://www.akshayapatra.org/>), Goonj (<http://goonj.org/>), Rang De (<https://www.rangde.org/>), Meghashala (<http://www.meghashala.com>).

³ A rough estimate of the designers formally trained in National Institute of Design and Industrial Design Center (IIT-Bombay) alone is in the range of 5000 to 7000.

Objective of the Study

India Design Report (2015) recognised the demand for services and service design in India. However, there does not seem to be any research regarding the extent to which design professionals in India perceive the relevance of and practice service design. The objective was to carry out an exploratory study to obtain the current picture of appreciation, state of relevant knowledge and skills, and practice among the design professionals regarding service design and design for behaviour change. Being an exploratory study, a corollary aim was to identify directions for future research, and hopefully suggest some indicative actions.

Methodology

This research is based on a mix of qualitative and quantitative data. A survey questionnaire was developed and administered among Indian designers. Some of the key details sought were: view on service design and service design practice oriented towards behavioural change, nature of the organization where they work, their current role. In order to understand the various dimensions of the current state of the service design practice in India and design for behaviour change, aspects such as customer demand, the design process, the influence of organisation contexts and the outcomes were included. The questions were mix of multiple choice and free text format.

We adopted the four steps for survey questionnaire design (Cooper, Schindler, & Sun, 2006).
Step 1: Research questions (RQ) that articulate the research objectives in the form of interrogative sentences

Step 2: Investigative questions (IQ): The questions that elaborate the research questions to bring out the aspects that would be investigated

Step 3: Measurement questions (MQ): The analysable questions linked to the Investigative questions

Step 4: Survey questions (SQ): The exact form and content of the questionnaire

The scope of the survey encompassed:

RQ: To what extent do the practitioners understand distinctiveness of service design?

RQ2: Do their clients understand the need for behaviour change?

RQ3: To what extent practitioners have the knowledge of behavioural change theories?

RQ4: To what extent practitioners understand behavioural change practices?

Table 2 illustrates the hierarchy and linkage to survey questions for RQ1.

Research Question	(One of the) Investigation Question	(One of the) Measurement Question	Final Survey Question (measurement through a Likert Scale)
To what extent the practitioners understand distinctiveness of service design?	What do we mean by understanding? What do we mean by extent? What do we mean by distinctiveness ?	<i>Do practitioners understand that service design and UX design are different?</i> - scope - user research methods - design concepts - design detailing - design validation	<i>I believe service design and UX design are different on the following aspects</i> - Scope - User Research Methods - Design Concepts - Design Detailing - Design Validation

Table 2 – Hierarchy and linkage to survey questions

Table 2 depicts the measurement question pertains to the *distinctiveness* aspect of investigative question. The *extent* aspect was covered through the Likert scale (*Significantly different, Moderately different Almost Identical, Identical, I don't know*). Other questions in the questionnaire followed a similar hierarchical linkage.

A pilot study (N=5) was conducted to identify issues in the content, articulation and administrative aspects (time required to fill the questionnaire, ease of online answering ...). The survey questionnaire was revised based on the results of the pilot study. The complete questionnaire is available at <https://goo.gl/forms/UDH5RTngiNKyO6e23>

The sample comprised designers who were likely to be working in services organizations or for clients in services business. Anecdotal and informal data suggests the designers in India, particularly those from UXD are moving towards service design practice. Convenience and snowball sampling targeted this set of designers. Designers with minimum two years of experience were identified through industry contacts, as we wanted participants with adequate exposure to industry and design practice. The link to the online questionnaire along with a covering note were sent to them, along with a request to forward the questionnaire to other designers who match the criteria. Respondent anonymity was ensured throughout. The questionnaire reached 100 plus designers and we received 33 fully completed responses. Nine respondents voluntarily provided additional information over email and phone, which was analysed subsequently.

Analysis and Interpretation

Understanding of Service Design and its Practice

Service design discipline in India appears to have moved from a nascent stage in the consciousness of practitioners. The practitioners seem to be familiar with the domain and are working towards maturity by acquiring additional knowledge and its application.

65% respondents believed that scope of service design and UX design are different and 85% respondents were aware that the User research methods are similar for service design and UX design. As indicated in the figure 1, close to 40% respondents were aware of the key service design methods and concepts, but they lacked a comprehensive awareness. Therefore, it appears that the awareness of service design and interest is growing and practitioners might be on the path of maturity.

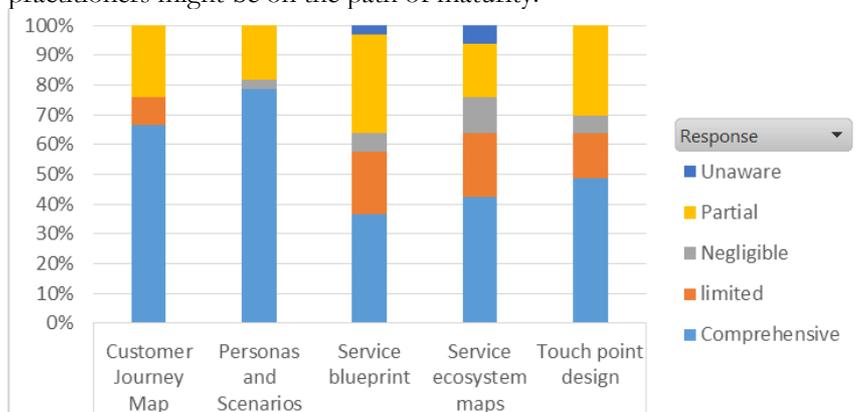


Figure 1 – Practitioners knowledge of service design methods and techniques

A significant proportion (50% respondents) is getting opportunities to apply their knowledge of service design processes, methods, and techniques. However only 6% respondents indicated Service Design as their primary expertise, which means that the practitioners were probably trying to acquire necessary knowledge and skills in service design on their own. It is a positive sign for the future maturity of the field in India.

Understanding of Behavioural Change Aspects

The responses pointed to several contradictions which indicates a significant lack of understanding, misunderstanding and limited or low level of knowledge about Design for Behavioural Change.

Interestingly, 36% respondents indicated that design briefs for their projects explicitly specified the behavioural change outcomes. It indicates that there is a demand for the service design for behavioural change, but they are not able to access the brief appropriately. Awareness, education seems to be one narration in which intervention is required.

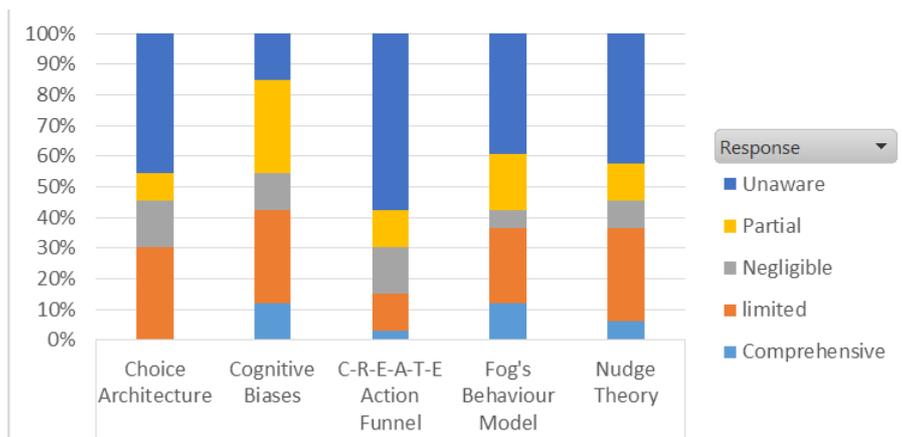


Figure 2 – Practitioners knowledge of the theories related to influencing behaviour

More than 50% respondents are unaware of the knowledge of well-known behavioural theories and models as shown in figure 2. About 5% claimed to have comprehensive knowledge of some of them and only 6% respondents had seen theories related to influencing behaviour applied in practice. It correlates with the lack of awareness about it. Cognitive biases seem to be relatively better known since 40% respondents were aware of it. However, 40% respondents indicated that they had to modify the generic way of designing services that successfully influenced user behaviour during last two years. The implied claim that they were able to assess the need and act on it seems contradictory to their level of knowledge.

52% respondents indicated that their user research team was not keen at looking for the information relevant to influencing user behaviour. However, 33% respondents believe that they have the capability to uncover the aspects related to influencing behaviour. 40% respondents occasionally validate their service design solutions from perspective of influencing user behaviour. The claim though cannot be taken at face value, as we cannot be sure what is being validated in view of the widespread lack of knowledge and understanding of behavioural theories and models. Additional in-depth assessment is needed to throw more light.

Challenges in an Organizational Setting

It was clear from the responses that generic service design processes need to be adapted to suite the organizational settings. It also pointed out the improvement areas such as creating the predefined design success criteria and ascertaining the success of the design solution after it goes live.

Organizational settings demand collaboration between multidisciplinary teams that might not be collocated. Therefore, it was not surprising that 42% respondents had to modify the generic design processes to suite their own setting. 40% respondents made trade-off in primary user research and 30-40% respondents have done trade-off in all aspects of design life cycle. In order to draw meaningful conclusions, these aspects need further investigation to ascertain whether it is a widespread phenomenon or confined to certain kind of organizations or design situations or business demands.

A significant proportion (37%) of respondents stated that they do not ascertain the success of the design solution after it goes live. An alarming revelation is that 73% designers rarely, if ever use any predefined design success criteria.

Most of the respondents (73%) were employed by IT Product or Services Companies. Interaction design emerged as the most common design expertise with 82% respondents stating it as their primary expertise. Interestingly, 6% respondents indicated the service design as their primary expertise which suggests the growing interest in spite of lack of formal educational opportunities in service design.

Insights from Qualitative Data

Qualitative data provided triangulation and enriched the insights such as knowledge gaps in relation to as well as ignorance of certain concepts and practices as well as the current organizational challenges in implementing service design and design for behaviour change.

Apart from the survey data, nine respondents reached out voluntarily through email and over the phone to share their reflections upon the experience of answering the questionnaire.

Three of them acknowledged that the survey helped them to realize their own inadequate knowledge and even a lack of awareness of certain concepts and practices. Their expressions were "... I enjoyed answering the questions. It was enriching learning experience..." An experience designer expressed their inability to execute the service design projects as, "Since the number of projects with service design scope in our context are quite a few, in most projects it was up to us to stretch it. ...". It is a positive sign that designers are willing to learn and apply the service design practices wherever possible.

However, six respondents who had not completed the survey expressed their inability to complete the survey and shared multiple reasons. One of them said, "I have not completed the survey because the questions are difficult for me to understand (because of my lack of knowledge) and to provide correct responses... I may be the dumbest of the lot to whom you circulated the questionnaire..." Another designer said, "Lot of terms look new to me and hence I am not able to answer the questionnaire". A passionate designer called us and said, "I tried filling this survey but a lot of questions did not make sense to me (that is, I was not even aware of the topic of the question)." Interestingly, a designer reflected on their own understanding of the term "service design": "Started filling the survey questionnaire, but I had never come across most of these concepts. Is it really relevant for service design?" After interacting with them, it came out that it was not the articulation of the questionnaire which was bothering them, but the content which was not matching with their understanding of service design. It clearly shows intervention is required to educate designers about service design. In addition, a designer expressed the organizational challenges in a detailed email. The gist of it was - "... the truth of the matter is, in my professional orgs they are still struggling to implement Usability/UX as a practice. They end up doing some bits and pieces of service design in the sense of multi-channel UX ...". However disheartening, arguably the quote broadly characterises the current state of affairs regarding the service design practice in India.

Conclusions and Discussion

Design profession has matured in India and the disciplines such as product design, usability, and UX design are contributing to businesses and society. However, Service Design as well as Design for Behaviour Change as disciplines and practices have made only modest progress on the path of maturity. Prima facie, wider adoption of service design in India has a range of issues. It seems design practitioners and businesses do not yet have appreciation and understanding of the significant role service design and behavioural change can play in addressing the current opportunities and challenges. A key gap is the inadequate attention and efforts of educational institutes, organisations and professionals towards attaining maturity in Service Design and design for Behavioural Change. However, due to factors such as, awareness and initial forays in practice, the professionals are positioned to build on the base of maturity of related disciplines and contribute in addressing wicked problems of behaviour change in social as well as organisational context, if the momentum of the progress is maintained. This calls for appropriate interventions by several kinds of stakeholders, industry, education institutes, fellow professionals, associations and governments. To sum up, *Service Design appears to be in a nascent stage and Design for Behaviour Change is also in a similar state. Because of the maturity of the design disciplines and practice in general, the foundation for the professionals to venture into Service Design for Behaviour Change is in place.*

This study helped to understand the knowledge gap in Indian design professionals regarding service design and design for behavioural change, albeit in a broad and indicative manner. It revealed the need for comprehensive service design education including focus on behaviour change. The growing Indian service economy has created various opportunities for businesses. India also faces a plethora of wicked problems such as tackling corruption, traffic and transportation problems, slum settlements. Together, these present exciting and meaningful opportunities for service design professionals to make a difference. It seems several facilitating conditions such as Government enablers, maturity of design education, and presence of supportive industry and professional bodies are in place.

There were limitations in terms of the nature and size of the sample. To overcome the limitations to an extent, the survey data was triangulated with qualitative inputs from respondents as well as with informal inputs from educators and practitioners. This provided a relatively sound ground to the conclusions. Since we did not explore all kinds of design practitioners, as well as varied settings (for example, it did not include those in social impact ventures), it is recommended that future studies may encompass a larger and diverse designer population. Future in-depth investigations could focus on the causes, constraints and enabling factors which could help designers in India to successfully address the issues and opportunities uncovered. As well, future studies could focus on the problems and businesses where service design is applied, and behaviour change play a greater role in it. In this regard, social ventures might deserve special attention. It is expected that as time passes the practice and research in service design in India will mature. Therefore, periodic studies to access the directions in which the field is evolving in India and identifying the interventions needed to strengthen the maturity process would be beneficial.

The study emphasized the various implications for the practitioners, industry, and educators in India. Positive signs and contradictions in relation to service design knowledge and practice were uncovered. As human behaviour plays a crucial role in service design, practitioners need to have sufficient knowledge about the various behavioural change models and theories. Practitioners seem to be learning on their own and they could access material available online. Currently, there are very few formal avenues to access to this knowledge though and hence actions to enhance that are required. Industry and professional bodies can play enabling role in creating formal avenues for practitioners to gain the required knowledge. Incidentally, most of survey respondents (73%) were employed by the large organization like IT Product or Services companies. Several such organisations and those from other sectors have in-house learning and development (L&D) departments which can take the lead to develop service design expertise. Several educational institutes as well offer learning opportunities to working professionals, which can play a significant role.

Indian educators need to play a crucial role in helping practitioners and industry to develop these skills in a systematic manner. Preparing the design students to meet new challenges and tackle the complex problems in a holistic manner is also a pressing requirement. Teaching design students the relevance and application of behaviour change and service design would be a key component of such a program. Collaborative efforts involving industry experts in designing the service design course as well as established institutes which are matured in service design could make the programs effective. These are the required ingredients to address the wicked problems in the Indian context.

The industry will benefit by recognising the need and urgency of service design to solve the wicked problems and develop these skills in their organizations. Encouraging designers to work on societal issues that provide the opportunity to hone skills may benefit the organizations to institutionalise the knowledge and apply in their business situations. The legal mandate that organisations must spend a part of their profits to fulfil Corporate Social Responsibility (CSR) could be a good avenue. Previously several Indian businesses were catering to customers from other countries. Thus, the design professional had limited or even no access to the end users. However, businesses are increasingly catering to the Indian

market, which provides easy access to the end users. This is a significant enabling situation. Instead of focusing only on the fragments of problems, now the industry can solve holistic problems. Such a push from the industry will help to expedite the maturity of service design practice in India.

Indian society and businesses are facing challenges and are in front of opportunities that could benefit from a synthesis of service design and design for behavioural change. This study opens the discussion about the Indian landscape of the appreciation, actions, and practice of service design.

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