PAPER: Speedplay, Managing the Other Edge of Innovation

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ABSTRACT

In this paper we introduce *Speedplay*, an interdisciplinary management approach for digital and social innovation research devised to negotiate the challenges of working in partnership with hard-to-reach communities in fast-paced project environments. By introducing two case studies, we illustrate how the approach has emerged and how it has been applied.

Categories and Subject Descriptors

H.5.2 [**User Interfaces**]: Theory and methods; Prototyping.

General Terms

Management, Design, Human Factors.

Keywords

Social Innovation; Digital Innovation; Hard-to-Reach Groups

1. INTRODUCTION

Much digital innovation research in the UK is funded through EPRSC programmes. In the last few years such programmes have emphasised the need not only for interdisciplinary collaboration but also for evidence of social impact. This funding framework is having a deep effect on innovation research as it stretches the boundaries of interdisciplinary research and of public engagement by establishing community-university partnerships [5] that jointly define their research agenda [17]. We argue that such a funding framework combined with the current economic climate of austerity, makes it more likely for researchers to become engaged with communities who, hardly-reached by public services, seek for help outside traditional support streams. As far as innovation research is concerned, this is posing unprecedented challenges in at least three key areas: the way research methods are conceived and applied [8], how research values are negotiated [12] and how success is measured [2]. We argue that the combination of these challenges calls for deep changes in the way innovation research is managed and negotiated.

The aim of this paper is to introduce Speedplay, a management method for digital and social innovation research that we devised whilst negotiating with such challenges. Speedplay is an interdisciplinary method in that it applies PRINCE2 management principles [10] to a design & innovation process [6] by using Participatory Action Research (PAR) [11], Co-design techniques [12] and Agile/Iterative Prototyping development methods (A-IP) [7]. We argue that on their own, the above methods are not suited for an innovation environment which, shaped by the current socio-economic context and research framework, aims to deliver a) working digital prototypes of social and technology innovation impact, b) within a short time frame and c) in partnership with hard-to-reach groups. We also argue that Speedplay is not a mere combination of methods [8], nor their

simple sum, but an innovation management approach that, differently from others, *pace*s change through self-directed goals and adaptive techniques, instead of controlling it (PRINCE2), responding to it (A-IP) or participating to it (PAR). In this paper, we first introduce two case studies, #Patchworks and Access ASD (AASD) to outline the context from which Speedplay developed. We then introduce the Speedplay approach, how it differs from other approaches and how it has been applied to #Patchworks and AASD.

2. SPEEDPLAY IN CONTEXT

#Patchworks and AASD are two relatively short research sub-projects, part of Catalyst[1]. #Patchworks was an eight-month partnership between an interdisciplinary team of academics, homeless people, charity volunteers and DIY-bio scientists. The resulting technology was #Pat (Figure 1), a prototype for an RFID personal appointment reminder system [16]. AASD is a nine-month research effort, ending in July 2013, bringing together academics, statutory and charity organisations, including the National Autistic Society, Lancashire County Council and the NHS, working with people on the Autism Spectrum Disorder (ASD). We are currently working through the final prototype version of *Clasp*, an anxiety management system which uses haptic technology and an open-source social network platform[2] for peer-support and self-feedback (Figure 1). Homeless people and ASD adults are groups with complex needs [3], hardly reached by public services [1] and on the *other* edge [4] of social engagement efforts. In order to carry out meaningful innovative research along this edge, the team had to negotiate with the following features, their opportunities (*O*) and challenges (*C*):

a) *Digital Technology Output:* the team must work towards the delivery of a functioning digital technology prototype. *O*=> Sense of purpose, joint effort, motivation. *C*=> Pressure to deliver; fear of failure; management of expectations.

b) *Short Timeframe:* 8-9 month projects. *O* => Easier to plan & schedule, quick results increase motivation. *C*=> difficulties in keeping-up the pace, changes happen rapidly.

c) *Hard-to-reach groups:* complex and hidden needs, hard to engage and keep engaged. *O*=> different world-views, bias-breaker, shared learning opportunities, values are brought to the fore. *C*=> Volatility; high risks; uncertainties; trust-building, impact on team well-being, ethics.

Speedplay negotiates with each of these features by leveraging on methodologies from three different disciplines: a) PRINCE2, an output-driven project management method; b) A-IP, a fast-paced iterative software development approach; c) PAR a participatory research approach. Combined, these three approaches form the

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[1] http://www.catalystproject.org.uk

[2] http://diasporaproject.org/

foundations of Speedplay, a management method for digital and social innovation.

2.1 The Speedplay Metaphor

Speedplay is the English translation of the Swedish word *fartlek*, a training technique coined by Swedish running coach Holmér Gösta. The essence of this training method consists of packing into relatively short sessions a mix of sprints, jogs and middle-distance bursts. The aim is to build both speed and endurance, whilst limiting fatigue and boredom through self-directed changes of pace. We find that this metaphor aptly describes our approach in that Speedplay leverages on change of pace, self-directed goals and a sense of 'play'. Section 3 outlines Speedplay approach by highlighting both the similarities and differences between Speedplay and the three other methods and by including practical examples from our case studies.

3. SPEEDPLAY 4-STEP APPROACH

Inspired by Kelley five-step innovation methodology [6], our process is divided into four steps (Prepare, Co-Design, Build, and Sustain) of similar duration and broadly overlapping (Figure 2). Each step has a high-level deliverable (Training/Design Brief, Focal Point, Prototype Selection; Final Prototype). The Preparation phase is a period of trust-building, up-skilling and knowledge sharing. The Co-Design phase ends with the selection of a possible prototype; incremental versions of the prototype are then developed during the Build stage in collaboration with a core user group (CUG). Key to the Preparation phase is the focal point [14] usually scheduled within the first 10 weeks of the project. The focal point is usually an event open to the general public and to external researchers, requiring the team to collaboratively produce a tangible output. The focal points for #Patchworks and AASD were, respectively, FutureEverything[3] and Tireetechwave[4]. Such events were selected to maximise opportunities for connecting with people with complementary skills, interests and expertise. The focal point serves the purpose of ramping up the pace of the up-skilling and trust-building process: at this point, prototype ideas start emerging and are visualised (Co-design step). This step then leads to the selection of the prototype that will be iteratively and collaboratively developed during the Build stage. Finally, the Sustain step aims to support longevity of the project through knowledge sharing and ownership transfer to the community.

3.1 Methods' Similarities and Differences

Speedplay addresses the challenges of new emergent innovation environments by applying and yet transcending management and research principles drawn from PRINCE2, A/IP and PAR. Table 1 provides a synopsis of the key similarities and differences between Speedplay and the other three methods. Broadly speaking, the four-step approach share many similarities with IDEO innovation process as described by Kelley [6], however it also differs in at least two fundamental ways: firstly [6] is primarily a user-centred design method whereas ours is a co-design effort [12]; secondly, our last step focuses on knowledge and ownership transfer instead of commercialisation and implementation. In the case of #Patchworks, for example, #Pat was re-purposed as a treasure-hunt for Manchester Science Festival[5] and used by over 120 children and their families to

sensitize a broader public to the cause. In addition, a bid that included a wider roll-out of #Pat was submitted by Lancaster City Council to the Big Lottery Fund and has been successfully awarded. With regards to AASD knowledge transfer activities may include code-briefing session for the CUG and a cohort of ASD IT graduate students wishing to develop the system further.

Speedplay also lays its foundations in five PRINCE2 principles: firstly, it divides projects into chunks, our steps; secondly, it is output driven, for each step there is a deliverable; third, it uses a workplan to map the process, our roadmap; fourth, it sets interim milestones as check points; finally, it uses regular reporting mechanism for dealing with issues and emerging risks. The provision of a clear roadmap (Figure 2) with easy to communicate check-points has been particularly important for AASD, since people on the spectrum find it particularly difficult to a deal with uncertainties [1] typical of fast-paced innovation environments with yet-to-be-defined technology outputs. However, there are many differences between PRINCE2 and Speedplay, most notably PRINCE2 almost exclusively focuses on outputs and tightly *controls* changes via strict reporting, hard deadlines and clear-cut dependencies. Such an approach would have proved unworkable in uncertain and volatile innovation environments like #Patchworks and AASD. Instead, Speedplay *paces* change through self-direction, by seizing emergent opportunities and allowing each step to broadly overlap. However, one may ask the reason why we did not use A-IP from the very start, given that pace, customer engagement and self-direction are A-IP defining features. For at least one reason: to start working with vulnerable groups in a fast-pace environment from cold without a deep grounded knowledge of their group-dynamics can be disastrous and has deep ethical implications.

On this respect, PAR research approach has been key for understanding group dynamics, building trust and engaging with the hard to reach. However, the timelines required by traditional PAR approaches can make the delivery of a working prototype very difficult within our tight deadlines. For this, participatory activities must have a hands-on quality, be geared towards the delivery of the prototype and be paced through concrete learning activities and technology outputs. In the case of #Patchworks, for example, twelve up-skilling workshops on topics that ranged from microbe laboratories to DYI electronics were organised. The emphasis was on making things together and building trust through learning and play. Similarly with AASD to make the recruitment of CUG for the Build phase possible, the team engaged in ASD socially activities, organised hand-on workshops on technology related topics (e.g. how to set up a blog for an ASD social club) and arranged show & tells of early prototype versions of *Clasp* for ASD people and their support.

4. CONCLUSIONS

The current context of innovation research is creating new roles and responsibilities from the ground-up: researchers are becoming *practitioners* of social-change not just observers or drivers. It is notoriously difficult for practitioners to communicate how they do things since much is learned through practice, intuition [15] and overspills [9]. By introducing Speedplay, we attempt to distil what, from the management perspective, we have learned by working in an emergent innovation research environment at the other edge of innovation and on the ground.

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[3] http://futureeverything.org/

[4] http://tireetechwave.org/

[5] http://www.manchestersciencefestival.com/

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Table 1: Methods Comparison

Context Features	Traditional Method, similarities (=) and differences (≠) with SP	Speedplay (SP)
Digital Mandate	**PRINCE2** Project Management domain Controls Change = Clear steps and milestones, tangible outputs; well defined start and end of project ≠ hard deadlines, established roles, dependencies, document-heavy	Steps feed into each other trough broad overlaps with no hard dependencies; Focal points are self-directed and emergent; reporting is regular (every month) but kept to minimum.
Short Timeframe	**A-IP** Software dev. domain Responds to change = fast delivery, core users involvement, reflective; ≠ corporate environments, clients pay for development	Community environment, core user group (CUG) is recruited trough engagement process, learning and social engagement key to CUG motivation,
Hard-to-Reach Groups	**PAR-Co-d** Social Research domain Participates to change = Egalitarian, sensitive to people values, trust building; ≠ longer timescales; deep involvement in community life trough time	Incremental CUG engagement, researchers participate to AND pace change. Similarly co-design methods are used but specialist knowledge (e.g. software development) is required to translate users' needs into a technology prototype

Figure 1: #Pat and *Clasp* Prototypes
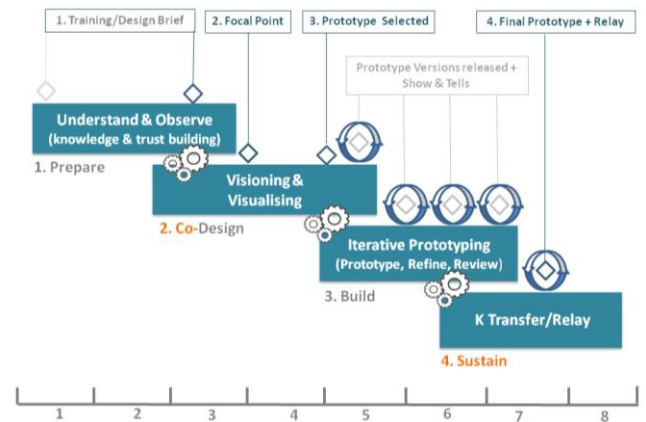
Figure 2: Speedplay 4-Step Approach