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Using an Action Research Approach to Embed Service Design in a Higher Education Institution

Universities suffer from tired structures, heavy bureaucracy and little incentives for innovative approaches. Can Design Thinking and Service Design help create a more innovative culture?

ABSTRACT

Design Thinking can address the political and cultural divides in higher education and improve the focus on student experience. The challenge is reshaping a traditional organisation into a more modern one and at the same time creating an environment that is favourable towards change brought about by design-led thinking.

In one higher education institution, almost two years into the journey and despite some challenges along the way, Service Design methods are demonstrating their capacity to change the processes and procedures that support the delivery of student services in higher education. An action research approach is currently being used to assess how the tools of Design Thinking are applied to real organisational problems and the consequences of design-led action. This research introduces a new set of tools and techniques to an organisation and analyses the effects of this fresh approach on the organisation via a number of action research cycles. There are many stages on the road to introduce Design Thinking as a bottom-up approach to changing an organisation into a more innovative, progressive, efficient and user-centred one.

Introduction

Cork Institute of Technology (CIT) is a publicly funded higher education provider. It is the largest of Ireland's network of thirteen Institutes of Technology and currently has in the region of 15,000 registered students. CIT, like many higher education institutions, faces many challenges that come with the day-to-day running of a large organisation. Bringing cross-functional teams together to define problems, brainstorm and design solutions is not always an easy task because of the academic calendar and its cycles

of demanding administrative processing. In higher education institutions, things happen because "we have always done it this way" and it can be difficult to introduce a new approach to solving problems.

Service Design is an approach that CIT are investigating to foster creativity among existing employees and teams by allowing more participation in co-creation and co-design workshops. Service Design can help to examine the underlying causes of many existing process bottlenecks which are often a symptom of poor communication, information silos and manual paper-based tasks.

Service Design can also help to tackle some of the more traditional barriers to change such as top-down support, complex processes and risk aversion.

As indicated by Parker and Parker (2007) there is not much incentive to adopt innovative approaches in the public sector and few managers are motivated to keep up best practice or make savings.

It can be argued that many of the problems that exist in public sector organisations are associated with their tiered structure, bureaucratic nature and management style (Basadur, 2004; Claver et al., 1999) which leads to inaction, rigid methods and a lack of new ideas. Service Design offers the potential to address these problems and this paper seeks to articulate the value of a design-led approach to innovation. Service Design can overcome existing barriers by establishing trust and building relationships, encouraging a culture of openness and developing a shared understanding of the current situation (Yee et al., 2015).

The collaborative process of co-design immerses participants in new ways of thinking and encourages prototyping, taking risks, trying out ideas and making mistakes. Experimentation and failure are welcome in the design process.

At present, in the public sector, Bailey et al., (2014) have found that a great deal of Service Design happens without any professional or practical design input, which is what needs addressing. Some examples of how Design Thinking has been used to solve problems in the public sector include Lewisham Council where a learn-by-doing approach was used and front-line staff were equipped with tools and techniques in order to discover and fix real problems (Design Council, 2013). The cultural change was significant and proved that utilizing co-design to engage staff can make them more empathetic with customers. The Alberta CoLab are a team of public servants striving to promote innovation inside a large public sector organisation, Canada's Department of Energy, and believe that by demonstrating to subordinates about what to do and why, will eventually be a means to overcome bureaucracy (Ryan, 2016). Significantly one that has to be mentioned, as it was the inspiration for research at CIT, is the JISC Enrolment Project in conjunction with University of Derby. They used a Service Design approach to improve the student experience from pre-entry to 'readiness for learning'. Baranova et al., (2010) discovered that rather than assuming they knew what the student wanted, they 'actively sought their input as end-user designers and co-producers of their own student experience'.

The aim of this research as part of a larger Professional Doctorate is to assess if Design Thinking can be used as an approach to analyse and improve services at each stage of the student lifecycle and embed this approach as a long-term sustainable change enabler in the higher education service system.

The action research cycles documented in this paper aim to answer the following questions:

1. How can Design Thinking influence existing culture?
2. How can leadership support, or hinder, the design process as a new way of working?
3. In what ways can Service Design tools and techniques help an organisation be collaborative and innovative?

Theoretical Framework

In any organisation, open conversation and communication can often be the essential small strides towards bigger change. Design Thinking can help organisations to innovate; enabling people to think outside the box and become more creative in solving everyday problems. The crux of this research is to discover how to embed a new way of thinking and doing while meeting resistance and challenges. In this paper some of the reasons behind this resistance are un-

covered while trying to encourage people to collaborate towards a better student and staff experience and leave organisational politics to one side.

Design Thinking is a common set of design practices that applies across many disciplines including product design, industrial design, information design and of course service design. Design Thinking is an approach to problem solving that requires a natural sense of curiosity, discovery and questioning. It is human-centred and empathetic and the end-users are always involved in the design process. Service Design is a set of tools and techniques that may be appropriate in some design contexts. It is a different application of Design Thinking that

focuses on the customer experience of a service within an organisation. There is an area of overlap between Design Thinking and Service Design; both require thinking like a designer and translating ideas into reality.

In the context of this research, Design Thinking will be used to describe a general bottom-up approach to innovation and transformation with the goal

of solving problems. Service Design will refer to the set of tools and techniques, such as Service Blueprinting and Customer Journey Mapping, which will help to solve those problems by making the services delivered more useful, usable, efficient and student-centred. There are a number of challenges with introducing a new methodology and Service Design does not happen in isolation. It involves changing mind-set, reframing problems, changing existing work practices, encouraging more collaborative cross-functional activities and ultimately cultivating

a more human-centred creative culture. Traditional improvement methodolo-

gies such as Lean, Systems Thinking and Nudge, are more focused on operational improvement while uniquely Service Design involves the user in any embedded innovation. Whicher et al (2013) indicate the high-level differences between these different methods where Service Design occurs at the 'interface with the user' and Lean and Co-production focus on more efficient operations. Snook (2012) emphasise the key differences as process driven versus experience driven. The involvement of the user in the design process is also a fundamental difference and Carr (2012) argues that Lean is too systematic and unfeeling, focused on eliminating waste and cutting disparity.

Fear of Design

The problem with Service Design seems

to be the difficulty in selling it to the organisation and designers themselves find it difficult to explain what Service Design really is. Brown (2009) observed that he spent far more time explaining and justifying to clients what design was rather than really doing it. Kimbell (2011) acknowledges that even those that support the application of Design Thinking have difficulty explaining it. Non-designers feel uncomfortable with the flexible non-linear approach that Service Design brings (Marino, 2011). Martin (2007) maintains that many business leaders find the lack of structure and predictable outcomes hard to deal with and they have difficulty understanding the

language of design. The word design can often bring a sense of mystery to a process and the challenge then is to encourage employees not to be afraid of design and eliminate the perception that they have to be highly creative people to use design tools and techniques. Bailey (2012) questions whether a service designer is required to be design trained and argues that the tools and methods available are not unique to designers and most people can embrace them effectively.

Open to change

Akama and Prendiville (2013) articulate that co-designing is not just collaborating using a set of tools and techniques but about an openness to take-on all the influences, challenges, fears and risks that come with a change project in a culturally stuck organisation. They argue that design researchers have a responsibility to tell the 'swampy' (Schön, 1983) stories of what really happens when trying to change and design existing services.

Indeed Akama (2009) points out that Service Design 'stories' do not document the complex realities and tend to oversimplify the human-centred and operational issues that are forefront in undertaking any design project. Ultimately no new tool or technique can 'change the relationship between service providers and users' without considering processes, knock-on effects and outcomes (Maffei et al., 2013). Significantly Hartley (2005) recognises that the innovations which fail are just as important as those that succeed as they help us to understand how innovation is cultivated, supported and embedded. She also recognises that innovators or change leaders more often come from 'bottom-up' or 'sideways-in' rather than top-down perhaps as they are experiencing the failures and inefficiencies first-hand.

Culture: 'how we do things around here'

Much of the existing literature does not demonstrate how to entrench design tools within an organisation, where employees prefer the familiarity of their current way of doing things, even if that current approach lacks efficiency. Buchanan (2007) suggests that an organisation needs more than enthusiasm to embed design as a discipline of thinking and making. The tangible benefits will have to be clear to actors at all levels of the organisation if Design Thinking is here to stay. However, Gouillart (2014) posits the view that it is the compelling enthusiasm derived from using Design Thinking along with bottom-up and outside-in techniques, that motivates senior management to steer a different course.

Cooper et al., (2013) suggest that in order for design to be truly successful,

it must focus on both process and outcomes and embedding design in any organisation requires an expansive approach that looks at the whole situation and includes a broad range of stakeholders. Lockwood et al., (2012) agree that an organisation needs to cultivate and encourage positivity and creativity by delegating

the process of problem solving to a wide group of employees. Many authors have come across a silo approach where employees are not encouraged to think outside their own specific activities and in order to change this, Design Thinking will need to 'permeate to the core' while encouraging initiative and risk-taking (Parker and Heapy, 2006; Wechsler, 2012). A number of authors contend that selecting the right people for a design activity is an important feature for success

(Von Stamm, 2008; Matthews et al, 2012). The term Design Thinking can some-

times create mystery and uncertainty, and rather than trying to sell Design Thinking as a new approach, the focus should be on the benefits it brings; the outcomes should speak for themselves. Human needs are fundamental

to Design Thinking and these needs should drive innovation. Having the right people involved is essential, people who understand the need for change, and can be empathetic towards the users.

This author's approach does not just concentrate on using design as a once-off change enabler but embedding design as a stepping stone towards real change.

Figure 1:

Overlap of Action Research Methods and Service Design Tools

Methodology

Service Design tools and methods are well aligned with qualitative research as both are holistic and creative processes that require intense contact within a real-life setting. The researcher is usually interested in analysing people's views, mind-sets and behaviours and the research tends to be subjective in nature. This research is collaborative rather than subjective as the researcher is jointly focused on fostering change with people across the institution.

Action research is a form of organisational learning as it is a process of problem solving that can help a group of employees to improve what they are doing or appreciate it in new ways

(Patton, 2014). It is the ambition of this research that people that participate in an action research cycle will learn to question what they are doing, why they are doing it and think more systematically about daily functions and operations. Employees will learn new tools and methods to enable them to look at all aspects of their work within the organisation and become more innovative with regard to changing 'how we do things around here', building a bridge between working and innovating (Brown and Duguid, 1991).

Developing one's own practice and the practice of the organisation that one is immersed in is the main focus of action research whilst gaining new knowledge (Candy, 2006). It looks to make collaborative change by means of participation and action. Traditional research is generally conducted from the outside while with action research the researcher is inside the situation and will have an influence on the outcomes. Costley et al., (2010) explain that as an insider, the researcher is in a unique position to study a situation or problem in depth but also has the insider knowledge which puts them in the crucial setting to investigate and make changes.

As this research involves solving existing problems, interventions and then making sense of the outcomes, abductive logic is most suitable as it allows for the generation of new knowledge, understanding and insight. Dorst (2010) maintains that when discussing Design Thinking, the basic reasoning pattern is abduction as the researcher is attempting to create value for others. Abductive logic is necessary for innovation to occur where creative and intuitive thinkers can use their feeling and perception to deliver valuable outcomes. Charles Sander Peirce who coined the phrase abduction believed that new ideas did not come from traditional forms of logic and he posited that new ideas resulted from a thinker examining data. Brown (2009) concludes that designers use the

tools of abductive reasoning to seek a balance between consistency and validity, between discovery and manipulation and between instinct and analytics.

For the purpose of this research paper, three action research cycles are documented to demonstrate how Service Design can influence positive outcomes which then leads to new knowledge and understanding of the consequences and challenges of embedding Design Thinking in an organisation of this kind. A

variety of methods were used throughout this action research journey including document collection and analysis, participant observation, surveys, interviews and focus groups. The combination of these methods integrated with Service Design tools provides a powerful way to collect data. An example is that although focus groups may not tap into emotions (Krueger and Casey, 2008), using a tool such

as customer journey mapping during a focus group can help to empathise more with the user journey. In fact Whicher et al., (2013) highlight that Service Design tools allow better insights into customer behaviours, engages the users and provides a more human element to the action research. The diagram in figure one demonstrates the overlap between qualitative research methods and Service Design tools and techniques and although the two approaches are not on equal grounds, they do complement each other.

Findings

At CIT there are many disparate actors, systems and processes involved in service delivery and too often employees work in silos (Parker and Heapy, 2006; Wechsler, 2012) with little or no understanding of the personal impact of the student journey. Problems that exist include issues with data quality & timely availability, lack of online student self-service, isolated enterprise applications, and a disconnect between academic business process and the IT solutions needed to support them. Changing the culture of any organisation is a monumental task and at CIT this requires strong leadership and support along with a fresh approach and a novel original toolkit. An existing mind-set

of “we have always done it this way” can hamper any new ideas if not handled in the right way. Employees are stretched to perform their daily activities which leaves little desire or time to experiment with new tools and prototype new ideas. The aspiration of this journey so far has been to evaluate how Design Thinking can be used to help solve internal issues that span several departments in CIT.

Whether Service Design tools are exclusively used within an individual project or as part of a larger process, Design Thinking and in particular co-design has the potential to open up conversations. The exchange of knowledge between users

of a service and the ‘makers’ of that service creates an opportunity to co-define the right problem or challenge in a collaborative way and make sure the outcome is

truly relevant. Co-design can enable this organisation to improve the efficiency and effectiveness of service operations while at the same time, delivering value to the end users; students and staff of the Institute.

Cycle 1: RECAP – Review and Enhancement of CIT’s Admissions Processes

The problem

Part-time students received no formal induction and an absence of process integration across the various college functions in providing an induction resulted in pain for all involved, in particular front-line employees and students, recognised by Martin (2009). The ‘service’ needed to be redesigned so it was simpler for students and employees alike.

Design of Study

RECAP was a six month pilot project at CIT which proved that Service Design as an approach can help to improve how we do business with regard to the services we provide to customers. Shifting mind-set was a key objective of this cycle and demonstrating to the providers of

a service, employees at CIT, how their cog and all the other cogs that are part of one cohesive process impact the stu-

dent who should see a seamless series of touchpoints. The study was co-designed with Jean Mutton from the University of Derby based on their experience of using Service Design to improve the enrolment process for new students.

In preparation for September 2013,

a broad range of staff (Cooper et al., 2013; Lockwood et al., 2012) that were involved with new part-time students were invited to co-design workshops to gather data and insights and map the current as-is process. The analysis was designed to be collaborative and inclusive and involve a wide range of staff including department managers, secretaries, and front-line staff from central student services. Part-time students were surveyed to ask them about their experience and then invited to focus groups in order to contribute to the design process, as guided by Baranova et al., (2010). In fact one part-time student welcomed the chance: “thank you for the opportunity to give feedback, it is the first time I have been asked”.

Actions taken

The part-time student journey was mapped out which highlighted all the fail and wait points in the process and the touch-points were analysed using swim-lanes, all front and back stage operations were identified along with problems, opportunities and user needs. Evidence was gathered, ideas were brainstormed and interviews conducted with key stakeholders. The data was mostly qualitative and included surveys, artefacts, documents and interviews. Many unstructured interviews took place with participants such as the college caretakers who were often the first interaction for new part-time students when they arrived on campus. A number of CIT students were recruited as summer interns to help deliver some of the outcomes and actions.

Improvements included a new campus map which guided students to the right physical location while a QuickStart Guide was used as a step-by-step journey to become in class, ready for learning,

with links to online video instructions and who to contact at each stage. New students felt the guide was clear and concise: “we had no issues following the eight steps, it was very straight-forward and the videos were really helpful”. An

in-class induction for new part-time students was delivered by student leaders where a Kick-Off @ CIT fold-out guide was handed out containing key calendar dates, contact details, library information and FAQ’s. An obvious efficiency was the reduction of queues at the part-time office by 50 per cent on the previous year; staff revealed “we were wondering if something was wrong as there were no huge queues or volumes of email from students”. Key services extended their opening hours until 7:00pm for the first three weeks of semester as suggested by part-time students.

Results

New tools were introduced to stakeholders and were well received and understood, demonstrating to participants that design is not to be feared (Marino, 2011). Initial interaction at workshops was slow but improved later during the

Customer Journey Mapping and ideation workshops when users became more collaborative and focused on the common goal of a positive student experience. The innovative approach to break down barriers was, to engage these stakeholders to draw up a Service Blueprint, viewed entirely from the end-user perspective. The use of Service Design techniques,

in particular Service Blueprinting, can support this service view and aid in innovating and transforming the student experience within higher education (Bitner et al., 2012).

As mentioned earlier, collaborative change became possible by means of participation and action as advised by Yee et al., (2015). Not only was the service for part-time students improved but both organisational and individual learning were facilitated by exposing the participants to new tools and techniques. A link between professional and personal learning was created which in turn leads to a positive attitude towards improvement. Workshop participants understood how Service Design tools on one project could be improved or altered for the next project. It was important to build on this momentum and provide suitable Service Design training to the eager participants.

Cycle 2: Service Design Master Class

The Problem

During the first cycle, it was understood that in order to embed Design Thinking within an organisation, the next step would be to get some willing supporters on board (Matthews et al., 2012; Von Stamm, 2008). Although many managers have various ways of delivering change and benefits to students, it is believed that in order to embed Design Thinking as a new method, then a number of design champions would be instrumental. These design champions would need to be

trained to use new tools and techniques. It was deemed important to focus more on the staff delivering the services and improve the back-stage processes which in turn will improve the student experience.

Design of Study

Two brainstorming sessions were held with a number of stakeholders and interested parties in CIT to deliberate

the proposed master class and choose the right tools to demonstrate to a new Service Design community on the day. The Service Design Master Class was advertised to a wide Cork community across

a range of sectors but it mainly sought to educate a number of CIT employees in Service Design tools and techniques.

Many unstructured interviews took place in order to recruit potential champions from different areas across the organisation and to ensure that those attending were interested and open to a new way of working. The workshop was designed with members of the SPIDER European project (2015) who offered their experience of delivering Service Design training workshops to public sector employees. It was clear that participants should not be overloaded at the workshop but get an introduction to a new approach. The design challenge decided on was the purchase of a take-away coffee, which was felt to be generic enough to be understood by a diverse range of people. It was also deemed important

to get participants to head out on the streets of Cork to meet potential users of the service, gather data and insights that would then feed into their re-design. As such the venue chosen for the event was CIT Wandersford Quay Gallery which offered inspiring creative surroundings as well as a central location.

Actions taken

The workshop provided a suite of tools to the participants to allow them to exploit their own knowledge, experience and creative potential resulting in the ability to create relevant, innovative and practical solutions in their own work. The event was a multi-disciplinary creative and collaborative process bringing together all people engaged with a common challenge as suggested in the literature by Brown (2009). The event was also an opportunity to bring ten Service Design experts and mentors together who provided guidance and led the 45 participants in the design challenge. Participants worked in teams to frame the problem, map the user journey, brainstorm ideas and evaluate a solution for a take-away coffee experience.

Results

After the workshop, attendees were surveyed to gather valuable feedback. Participants were asked to identify highlights, low-lights, and suggest ways for improvement to help embed Design Thinking as a way of improving 'how we do things around here'. One attendee described his experience: "I came in with an open-mind, I had no idea what it was going to be like but it has been an eye-opener, it teaches you to take a step back and question why you are doing something".

The aim of the master class was to build on the individual learnings of employees in cycle one and encourage more active participation in change across the Institute. Although there was a great buzz and excitement (Gouillart, 2014) during and after the master class, the gusto generated did not continue back at the office of many participants. Feedback gathered was very positive and it was clear that participants enjoyed the tools and the collaborative experience they brought. They wanted to learn more and contribute to solving problems that not only affected their own area. They liked how Service Design offered a solution to real-world problems. They understood more about how services overlap several departments and need to be designed to facilitate better user experience. They learned about design concepts and enjoyed hearing other people's insights and interpretation of the design brief.

Results

The results and data were analysed and collated and revealed that whatever students needed to know, staff did not have

The wish of the researcher was that participants would take ideas and tools back to their day jobs with them to put them into practice, but the reality was very different. Once back in their offices, participants got caught up in the long list of operational duties that left little space for improvement and innovation (Parker and Heapy, 2006; Wechsler, 2012).

Cycle 3: RIO (Registration, Induction, Orientation)

The problem

The purpose of RIO was to review the Registration, Induction and Orientation (RIO) experience for all new students.

It was an action research cycle that came about as a result of implementation of the first cycle, RECAP, which looked at introducing a better experience for new part-time students. The plan was to influence the organisers and planners (Hartley, 2005) and those delivering induction to new students to focus on the experience across the all various touchpoints irrespective of department ownership. It was important to improve cross-silo communication and create a vision of student experience. The ultimate goal was to use co-design methods to improve existing services by means of an iterative process of understanding the student context, observation, stakeholder analysis, building prototypes and designing a new experience as was previously demonstrated by public sector organisations such as Lewisham Council, Alberta CoLab and University of Derby.

Design of Study

In June 2014, a RIO working group was setup to plan, design and implement

a consistent experience for all new students and to review all communications and materials, both printed and online, for all students. The first thing that needed to happen was to organise a collaborative focus group to uncover what employees understood from each of the terms registration, induction and orientation. Brainstorming was used to determine what new students needed to know before they arrived, when they arrived and after they arrived, on campus. A further focus group was held to take that data from the first workshop and organise it into a sequence of events and logical groups, while coming up with new terms or labels and objectives of each category.

Actions taken

During the September 2014 registration, induction and orientation period, data was gathered, processes were observed and discussions took place. DeBono's 'Positive Minus Interesting' tool was used to analyse the September 2014 experience. All aspects of the registration, induction and orientation experience were examined including department talks, IT induction, walking tours and the registration process which included the processing of paper forms and production of CIT smartcards. Key staff members involved across the entire process were interviewed in order to understand their inputs and the expected outputs. It was not surprising to discover that each department had unique procedures and a culture of focusing on their part of the process. One administrator divulged "we try to communicate with them (new students) face-to-face or by phone, we don't trust them to read their emails" while another co-ordinator told how "new students might not check email so we need to post information". These findings suggested that the present service needed to be reorganised.

Results

The results and data were analysed and collated and revealed that whatever students needed to know, staff did not have a clear understanding of the existing process. Initially when the RIO working group first met, there was a lot of confusion due to a lack of communication across departments. As RIO was seen to overlap several departments, there was unclear ownership and the first meeting revealed frustration and inefficiency. It is extremely important for the business owner to lead the change in parallel to the service designer facilitating the process of implementing it. It became clear during this cycle that in order for change to stick, it is critical for the front-stage and back-stage staff to be completely engaged with the process. This is not an easy task and visibly employees are so burdened with their day-to-day job, they do not have time to consider broken processes. This is when the business owner or department manager must enable space and time for continuous improvement.

As mentioned by Akama and Prendiville (2013) it is important for design researchers to tell the real stories and the difficulties encountered on the ground. This cycle only reached the discover

and define phases and it was obvious that while Service Design tools can open doors, no change could happen when the following barriers existed:

- No obvious process owner
- Lack of management engagement and support for the change
- A working group that lacked steering and direction
- Change of staff and key staff members leaving
- Political and cultural divides that remove focus from the student experience
- Lack of time and resources given to design and improvement activities
- No incentive to improve the process
- Isolation of various processes & tasks within different departments
- No holistic view of all new students and their first experience

Discussion

The use of Service Design tools and techniques as an investigative approach to discovering, defining and resolving existing problems in higher education administration is in itself a contribution to knowledge. Investigating the practice of how things are done with a Service Design lens is a new approach in this institution and will form a novel way of identifying problems and challenges, the needs of those delivering and owning services, but primarily the requirements of those receiving services from the Institute. The problems being investigated are real-world problems that occur in every higher education institution across the world and the approach of practice-led research to solve real-world problems can lead to genuine change if given enough space.

Three action research cycles were documented and Service Design is having an impact in changing this organisation although that impact is slow and there are a number of limitations that need to be addressed. The change agent in this case was the researcher that was setting out to facilitate a change process using a number of tools and techniques. If the need for change only emanates from the researcher's practical experience and knowledge as opposed to the collective organisation's experience then a number of challenges ensue.

Limitations & Challenges Can Design Thinking influence existing culture?

Existing Culture: Many authors including Tjendra (2013) tell you what you need to embed a design culture including top-down advocates, front-line employees who are empowered and fired-up,

and a process champion who has a strong design motivation, but the discussion about how to do this in a higher education organisation is missing. The RECAP cycle struggled to

embed a design culture and many of the changes did not stick when the following cycle of part-time registration came around. Although there was no major cultural change, the tools did allow for collaboration and innovation by delivering a number of quick-wins.

Silo Mentality: Mulgan (2007) proposes that 'high walls' in organisations divide people and departments and Snook (2014) identifies that Service Design needs to deliver innovation across silos but

is often prevented because of separate department strategies and budgets. It has conclusively been shown that organisation silos have a huge impact on change and are a constant stumbling block as iterated by (Von Stamm, 2008; Beckman & Barry, 2007). During cycle one, the ownership of the process was unclear as it intersected departments and this directly resulted in poor student experience. Changing structures and ownership of services in an organisation can be politically difficult but the hope is that Service Design will influence departments delivering services to work together to focus on the end user. The aim was to move away from a silo-based approach to delivering services and to focus on the whole experience of students. In the short-term, this new methodology will help to deliver improvements in a new way but the aim of changing the culture and embedding a design process is long-term experiment.

Can leadership support, or hinder, the design process as a new way of working?

Getting management buy-in is difficult: At CIT, the initial requirement for change came from employees who were frustrated with existing processes and the downstream inefficiencies they created. The key problem in higher education is that many managers are under huge pressure to leap from one operational cycle to another with little time for iterative improvement in between. Most studies have emphasised Design Thinking as a tool to effect change but have not explained how Design Thinking can be used as a bottom-up approach to influence management thinking. Existing literature does not explain how to get senior management on board who have little or no experience in Design Thinking as a methodology.

Design Leadership: Miller & Moultrie (2013) insist that it is the design leader who needs to encourage all within the organisation to embrace the design process as a new way of 'how we do things around here'. Although CIT have a design leader as demonstrated in this paper, this leader is struggling to influence managers, free-up staff and create space for the design process because of a lack of resources, budget constraints and a focus on keeping the lights on.

Process Ownership: The researcher did not emphasise enough the importance of process ownership and as a result some of the actions and changes implemented did not stick when the following year came around. It is important for the researcher to allow the organisation to find its own answers rather than being the one with all the answers; this is essential for change to become embedded.

In what ways can Service Design tools and techniques help an organisation be collaborative and innovative?

Traditional Functional Organisations: The collaborative process of co-design immerses participants in new ways of thinking and encourages prototyping, taking risks, trying out ideas and making mistakes. Experimentation and failure are welcome in the design process. Matthews et al., (2012) use the term design interpreter as a necessary human force to inspire and blend opportunities across the organisation. The Service Design

Master Class was trying to change the traditional way of doing things, and it succeeded in creating conversations but not as many as could have been expected. A number of Service Design meet-ups were organised in the following months but participation was low.

No Space for Innovation: As highlighted in the literature review and identified by Design Council (2013) and Snook

and Design Managers Australia (2014), change cannot happen if there is no space for design-led innovation. During all three cycles, a large amount of collective energy was generated but freeing up employees from their day-to-day duties is complex; this is the reality of Service Design implementation and another 'swampy' story (Schön, 1983).

Gathering support & momentum: Demonstrating Design Thinking tools in everyday situations can show employees how to explore their own capabilities to be innovative. There is little evidence of this in the higher education sector and this research is seeking to reveal to both employees and management how

everyday problems create a domino effect resulting in inefficient services. During the first cycle, RECAP, it was the first time that Service Design tools were used in a collaborative workshop approach where stakeholders from across the organisation came together to try and solve a problem. This in itself was a big improvement and a change in the right direction.

Learning journey

This is a learning journey and a deep dive into Design Thinking for both the researcher and the organisation. The goal of internalising a new design-led culture in the organisation continues. Certainly Hartley (2005) recognises that iterating through cycles of action will help to better understand the reasons for failures but sometimes 'the organisation may be in inertia and not recognise the need to innovate or improve'. Although all three cycles made an impact in their own way by bringing people together in a collaborative way, cycles two and three never delivered substantial change or impact because of numerous barriers. At the same time, the tools of Service

Design were being experienced by the organisation and a few important champions and sponsors were uncovered.

Leadership is essential and leaders need to be put in place that will actively pursue innovation and be open to new ways of working (Liedtka, 2011).

Service Design as a tool has the ability to help an organisation to achieve quick-wins while building a community of like-minded 'intrapreneurs' (Clay, 2013) along the way. There are many existing problems in organisations of this type that do not necessarily require large scale change but need a group of people to come together with the same

goal in mind, which is defining the exact problem and then trying to solve that problem. The phrase "we have always done it this way" has come up more than once during this journey and one key aspect of this research will be to see how we can release those employees who are entrenched in the day-to-day firefighting and paper-pushing, in order to begin to deliver cumulative change. Furthermore this research will continue to investigate if Design Thinking can survive if it is only being practiced to solve short or medium term problems, and not a strategic focus of the organisation. In spite of that it is clear is that delivering quick-wins will help to deliver credibility to Design Thinking as a new tool.

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