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**From non-profit organization to app/platform? A qualitative study of social entrepreneurs utilising digital and web based interventions**

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**Digital Social Innovation: A new actor in the third sector**

**ABSTRACT**

This exploratory paper examines a new and understudied phenomenon – the use of digital innovations to address social issues. While the influence and consequences of disruptive technology are the subjects of many articles, books and much speculation, very little has been written on the deliberate use of technology to engage social issues. Eight cases illustrate six different types of digital innovations that social entrepreneurs are using for social purposes. We situate our research within three areas of related literature: disruption and transformation caused by digital innovations; the use of technology in nonprofits and civil society initiatives; and social entrepreneurship and innovation. Findings highlight two types of Digital Social Innovations. Phase 1 consists of the Digital Start up, in which bright ideas from outside the field focus on pitching and presenting. Phase 2 is the Applied Innovation, where entrepreneurs faced resistance from the sector and experienced a steep learning curve. The significance of this research is to map out a new and ignored actor in the third sector: digital social innovations. We also contribute to understanding the process of how social entrepreneurs develop from innovative individuals to become more established social enterprises. We provide a definition of this term as well as some directions for future research.

**Key words:** social innovation; social entrepreneur; digital disruption.

## **INTRODUCTION**

In 2019, it is rare to experience a day without a claim of a new online platform ‘disrupting’ and transforming existing economic and social practice. From Uber to Amazon to Expedia, apps – pieces of software for mobile devices - are emerging which fundamentally challenge and transform traditional institutions. In particular, online and networked tools enable scope, scale and speed of transaction and service in ways that pre-internet institutions could not hope to achieve.

While the use of online technology including social media, is not new in social movements (Harlow, 2011; Myers, 1994; Wall, 2007), nor in nonprofits (Zorn, Flanagan, & Shoham, 2011), so far there has been almost no research consideration of the role(s) of apps and online platforms in civil society, social change and social innovation (Guo & Saxton, 2013). This is particularly concerning given the ubiquity of both online platforms and documentation thereof in commercial and even public sector contexts. In this exploratory paper we aim to identify and analyze a new phenomenon: the use of digital technology to address complex social problems, or #TechForGood, #TechForSocialGood.

Do digital social innovations (DSIs) constitute an important new strategic terrain for social change initiatives by nonprofit organizations and social enterprises? Or are they more accurately characterized as novelties and managerial fads which play to contemporary beliefs in the necessity of virtual structures as a form of legitimating social currency? Are DSIs a new and distinct form of social innovation, or do they fit within existing conceptions of social entrepreneurship? These questions have not yet been the focus of academic study, although DSIs have received much media coverage (e.g. Rice-Oxley, 2018).

We found that there are two distinct phases of DSI. For the Digital Start Up – Phase One the focus is on pitching and presenting to receive awards and funding for an idea; this is a very different entry into the third sector than is considered in nonprofit literature. Phase two involves a steep learning curve and resistance from more established institutional players in the third sector; the DSI emerges as a social enterprise – The Applied Innovation - in which the technology is part of the initiative, but no longer the primary focus. The contribution of this research is to introduce a new actor in the study of the third sector which has so far been ignored. Furthermore, we illustrate how an innovative individual entrepreneur evolves into a more established social enterprise.

We have explored a relatively new phenomenon - DSIs – by conducting qualitative analysis of eight cases. We focused on the origin, the processes of development, and the context in which DSIs arise. Flowing from this explorative study, we have created the following definition:

*DSIs are creative interventions that emerge primarily from outside of established institutional fields to address social issues, including environmental, financial, physical and mental health, with a technology-based solution.*

The significance of DSIs is that they are new actors in the third sector, which is traditionally focused on community based organisations that are non-profits, non-governmental, membership associations, foundations, co-operatives, and social enterprises. DSIs begin with an innovative individual, like many social enterprises, but rather than being connected to the existing field of activity, they tend to come from the outside with an often-simple, new and creative application of existing technology. The intention of these individuals is to disrupt the field, as in commercial digital innovations (Kane, 2016), but we did not find evidence of major disruption. We did find evidence of new and creative solutions that became more complex and less based narrowly on technology as it was applied and became more sustainable organizations.

## **LITERATURE REVIEW**

While the focal area of our study is so far understudied in the nonprofit and social enterprise contexts, there are three relevant strands that are important to framing our own study. This literature review will develop the following theme areas:

1. The perspectives of disruption and transformation, which herald central roles for online platforms in the contexts of social development and social change;
2. Present research on the use of information and communication technology (ICT) in the contexts of nonprofits organizations and social enterprises, and in social change contexts;
3. Social Enterprises initiated and founded by innovative individuals, including research on social innovation.

### Disruption and Transformation enabled by Platforms and Apps

We are in an era where electronic networks and digital information technology are ubiquitous. The dramatic reorganization of past pre-digital social practice into contemporary internet based form is commonly called ‘disruption’ (Kane, 2016). It is exemplified by the transformation brought to the taxi industry by Uber, or to the hotel industry by AirBnB. Many digital disruptions were enabled by the creation of a relatively new business model, commonly called multi-sided platforms, which are digital structures that enable the transaction of two or more parties (Hagiu & Wright, 2015). These new tools force organizations to re-evaluate how they operate, how they attract and keep talent, and even what they are, and where are the boundaries of the organization (Kane, Palmer, Nguyen Phillips, Kiron, & Buckley, 2016). The concept of platform has also made its way into the public sector as the backbone of collaborative governance with the aim of actively engaging stakeholders in collaborative decision making (Ansell & Gash, 2018).

There is an emerging literature on the use of digital technology in the field of healthcare. There are estimated to be 318,000 healthcare apps available online, with 200 new ones added each day (IQVIA Institute, 2017). Particularly in the public health domain, in such contexts as weight loss and smoking cessation, there are numerous examples of ‘digital behavior change interventions’ (Hekler et al., 2016). These are a very specific examples of smartphone apps substituting for the kinds of direct professional services (for example, of social workers, support workers or coaches) that have so far been ubiquitous in nonprofit human service contexts. Probably any reader with a smartphone will have some app that reminds them to do some personally beneficial behavior (meditate? Express gratitude? Drink water? Exercise?) that amounts to a digital proxy for the kinds of human-intensive interpersonal support and prompting that has been the basis of challenging personal change from times immemorial.

While it is obvious that digital technology is causing disruption in multiple industries in different ways, and there is much enthusiasm of the potential impact of technology from a range of actors, particularly in healthcare (e.g. Hegde, 2017), but also in development, youth and other areas (e.g. Laws, 2017), the social impacts of those disruptions have not been fully considered. We have very little evidence that these technology-based approaches work at all, let alone reflect better impact, despite the enthusiasm and their rapid spread.

### ICT in Nonprofit, Social Enterprise and Social Change Contexts

In the academic literature on nonprofits and social enterprise, ICT has been presented in relatively minor roles. There has been very modest discussion of the internal uses of ICT in nonprofit and social enterprise contexts, focusing on the adoption of technology for internal managerial and administrative purposes (Zorn et al., 2011). This literature has a focus on the ways that nonprofits adopt relatively standard information technology, and some of the strategic and institutional influences that affect various levels of investment and application.

In contrast, a much larger set of studies has looked at the role of social media use in various nonprofit organizations and social changes contexts, looking externally from the organization for both mass communication and social networking roles. Guo and Saxton (2013) and Thackeray and Hunter (2010) discuss the role of social media in developing and advancing advocacy roles in the nonprofit sector. Case studies such as Harlow (2011) and Wall (2007) examine particular contexts of social media use in social movement, grassroots organization and professional organization contexts, and distinguish between roles for the kinds of flexible organization and information sharing required by grassroots organizations (Harlow lauds the potential of 'Liberation Technology' (2017) more recently), and the kinds of collective identity formation widely understood and experienced in social media contexts (Wall, 2007). This use of digital technology does not change which actors are involved in that social mission, or the type of change they are working towards.

Beyond social media, one can find on-line numerous examples of ICT use and social change in civil society (e.g. Haile, Wossen, & Kalkuhl, 2019). Within academic literature, there are few examples of research from various disciplines (e.g. Gaspar, Yan, & Domingos, 2019). Choi-Fitzpatrick considers how civil society takes advantage of drones for investigative journalism, human rights monitoring, and state accountability (2014). The popular M-Pesa, a new way of transferring money via the mobile phone network in Kenya, grew rapidly after it was first launched (Hughes & Lonie, 2007), and has impacted individual livelihoods and networks (Morawczynski, 2009), as well as benefited micro-businesses (Mbogo, 2010). Crowdsourcing has played an important new role in disaster relief following the earthquake in Haiti in 2010 (Zook, Graham, Shelton, & Gorman, 2012). The nonprofit, Ushahidi, is an open source platform for organizing crowdsourced data, that has been used first in Kenya for documenting violence during elections, and since then in several different contexts (Okolloh, 2009). While there is great optimism among the users of these new applications (e.g. Gao,

Barbier, & Goolsby, 2011), there is no overall framework, or even central discipline, for bringing together the various studies on ICT use in civil society change efforts.

Thus we conclude here that the non-profit and social enterprise literature has not yet taken into consideration in a serious way this new actor in our field: the digital social innovation.

### **Social entrepreneurship and digital innovations**

This research contributes to understanding the phenomenon of digital innovations in response to social challenges. We take social enterprise and social entrepreneurs to be the context where that phenomenon takes place (Dacin, Dacin, & Matear, 2010). Literature on social entrepreneurship can be divided into two areas: studies which focus on the innovative individual, and research on the enterprise. While there has been over 20 years of research on these concepts, there is not one overarching theory tying the pieces together.

The innovative individual is the social entrepreneur. Authors attempt to distinguish why and how he or she is different from any other kind of entrepreneur, highlighting passion, commitment to cause, childhood influences and life experiences (e.g. Brooks, 2009; Dees, 1998; Nicolás Martínez, Rubio Bañón, & Fernández Laviada, 2019; Zahra, Gedajlovic, Neubaum, & Shulman, 2009). This approach is referred to as the “innovation school of thought” (Hoogendoorn, Pennings, & Thurik, 2010) and is influenced by successful commercial entrepreneurs (Thompson, Alvy, & Lees, 2000). This approach often attempts to promote social entrepreneurs as important change makers that society needs in order to balance the inertia of bureaucracy from more established public and private organisations (Drayton, 2006), and as a catalyst for social transformation (Alvord, Brown, & Letts, 2004, p. 262). In other words, the promise is that when social entrepreneurs address local issues, the impact reverberates on a larger scale.

Research on the individual social entrepreneur has remained fairly separate from studies of the organization. There are numerous case studies of individuals pursuing their social ideas and forming organizations (Bornstein, 2005), but they tend to be promotional and not grounded in theory, nor do they tend to contribute to theory-building. In Defourny and Nyssens recent typology of social enterprises, they acknowledge after elaborating on the different types, that they leave out the ‘innovative individual model’ because the innovative entrepreneur concept could be apparent in all of the types (Defourny & Nyssens, 2017). While this is no doubt likely, it is still not clear how social entrepreneurs as innovative individuals move from being individuals with good ideas, to being part of an established

sector with multiple actors in a particular domain, such as preventative healthcare or food waste. How do they compare and relate to the other established actors? How do they survive and evolve into social enterprises? Our research explores these questions.

While research on social innovation stretches back to the late 20<sup>th</sup> century, a more recent interest in the term focusses on interventions to address social problems or respond to market failures (Nicholls & Dees, 2015). The concept of social innovation is often part of the definition of social entrepreneurship. For example, social entrepreneurship is “a process involving the innovative use and combination of resources to pursue opportunities to catalyze social change and/or address social needs” (Mair & Marti, 2006, p. 37). Social innovation is defined as: creative, original activities and services that aim to address a social need (Nicholls & Murdock, 2012). Research on social innovation focusses on the specific new idea, service, approach, or product, which can take place at any type of organization (Mulgan, Tucker, Ali, & Sanders, 2007). While social innovation and social entrepreneurship are often studied separately, combining them highlights important aspects of social entrepreneurship: that it does not take place in isolation, because the process of innovation necessarily crosses organizational and sectoral boundaries (Phillips, Lee, Ghobadian, O’Regan, & James, 2014). This is a counter-point to the often individualistic approach to studying social entrepreneurs. Research on social innovation provides some reflection on how the various levels connect between micro-level actors and macro-level changing landscapes (Avelino et al., 2019).

This research looks at how the two approaches to social entrepreneurship, the individual and the organization, play out in the phenomenon of DSI. We explore the role of the individual social entrepreneur, how the idea becomes an organization through the process of pursuing the DSI. Our approach is exploratory because so little is known about DSIs.

## **METHOD**

In order to explore the relatively unexamined phenomenon of digital innovations to address social challenges, we used an exploratory approach. Our aim was to identify patterns to uncover what is unique and distinctive about this new phenomenon. Qualitative research allows for the exploration of a novel phenomenon, with the goal of theory-generating, rather than theory testing (Silverman, 2011). Considering that digital innovations with social purpose is a vast empirical area, we aim to uncover some explanatory insights, while also pointing the way towards areas for future research.

The research took place in two stages. First we explored the boundaries of this phenomenon, and then we employed a multiple-case study methodology (Yin, 2003) in order to identify patterns across a number of cases.

In the first stage we assembled a list of all the DSIs that we could find with an explicitly social purpose. We found DSIs from around the world, and our list was certainly not exhaustive, but did provide a range or idea of what exists in this space. We limited our study to initiatives in Dublin, Ireland, so as to focus on one geographical area, rather than comparing different geographical locations. The DSIs were designed and launched by a social entrepreneur, or small group of individuals, who all formed organizations that they called social enterprises (SEs). Thus our unit of analysis is the social enterprise, which was the vehicle for the digital innovation. The elements of the SE that we focused on were the social entrepreneurs that founded them, as well as the process of creating a digital solution to a social issue. In examining the processes, we also discovered the very supportive environments in which these organizations grew.

We chose SEs that reflected a range of different content areas: health, mental health, climate change, food waste, poverty, fundraising, and housing/homelessness. There were many different digital solution ideas in these areas. Many of the apps in our initial list seemed to remain at the idea stage, and all of the SEs were still very young; the oldest one being seven years old. We chose cases that were either already operating, or had developed their idea further, were preparing to “launch,” and that had online presence. We homed in on eight organisations which we could access more easily through contacts and location.

For the eight cases, we gathered data on-line, conducted interviews, visited their offices, met with the founders and others in the organizations where possible. The first author attended eight events between August and October 2018, and took detailed notes. Events included launches, pitching new ideas following incubator experiences, award events, workshops, seminars, and networking events. Interviews were transcribed and coded manually. The two authors coded transcripts separately, and compared codes. Through discussion we agreed on key themes emerging to identify the key concepts.

Data sources consisted of 18 interviews with founders and CEOs (completed between May to October 2018, and March and June 2019), websites as well as social media pages (Twitter, Facebook, LinkedIn, YouTube) from all of the organisations, meeting notes from office visits



and Dublin events on SE, two strategic marketing plans, one brochure, and three slide decks of pitches or other presentations.

**Table 1 – Eight Case Organizations and Data Sources**

<b>Case</b>	<b>Organization Pseudonym</b>	<b>The digital innovation (What)</b>	<b>Who, When, &amp; Where</b>
1	CareBot (CB)	Assistive care robot for people with early stage dementia. Includes wearables and an app. Robot has several functions specifically designed for people with early dementia.	CareBot launched in October 2018 in the Irish market. The organization was established as a legal entity in 2017 and has 4 staff based just outside Dublin. The founder and CEO has 7 years' work experience in China.
2	Climate App (CA)	App for tracking carbon impact of grocery shopping. Users can take a photo of their shopping receipts and their carbon footprint is calculated and they are given a score. Advice is provided on how to improve the score, relying on gamification to keep people using the app.	The two founders and directors are recent engineering graduates, from Ireland and Nigeria. They have won various innovation awards, including using hotdesks in a well-known enterprise center in Dublin.
3	Platform Connect (PC)	A platform connecting community initiatives with volunteers and participants. The aim is to help people join in existing community events.	Two founders (USA and Ireland), first set it up as a platform, has evolved more into a network.
4	Mental Health Checkup (MHC)	The app facilitates checking in and monitoring one's own mental health, particularly at work. Several corporations signed up to purchase/use MHC. Has won award with cash prize as well as in-kind support.	This project has been developed by students over the past several years. The founders are business students, with French, Irish and US ties.
5	EasyPay (EP)	This fintech (finance technology) product facilitates online donations to charities. Individual users are able to round up their credit card purchases and donate the change to a charity of their choice. Has won award with cash prize and in-kind support.	Three founders (USA and UK) are MBA graduates with a background in investment, retail, and marketing in large multi-national corporations.
6	Supermarket Link Up (SLU)	Addresses the issue of food waste by connecting supermarkets with charities via an app. They won funding and have received donations; they became a registered Charity.	Two founders, Irish women, graduates in business and environmental science. Both had experience volunteering in soup kitchens. Founded in 2012, they have expanded to the UK, and their operations now also include

			warehouses for storing non-perishable goods for charities.
7	Housing Finder (HF)	App allows people to upload information about vacant properties in their area to help address the problem of homelessness. They partnered with an established homeless charity which follows up the information on properties with local government.	Two founders and directors from Ireland; geography/ architecture students. Launched Housing Finder in 2017.
8	Intercultural Game (IG)	Game that can be purchased, developed by a multidisciplinary team, for public servants to learn about intercultural communication by practicing through role play.	One project leader initiated this idea; gathered a team that received public funding to develop the innovation. A consortium of several organizations created the game.

When analyzing the data, we focused on the individual entrepreneurs who initiated these innovations; the organizations they founded and were running; the process they had experienced; and the environment in which they were operating. These foci correspond with Gartner’s four areas of new venture creation: individual, organization, process, and environment (Gartner, 1985; Hoogendoorn et al., 2010). These foci parallel the SE literature on social entrepreneurs (individuals), social enterprises (organizations) and social entrepreneurship (process of innovation), and will help us explore the process from being an innovative individual, to being a social enterprise.

## **FINDINGS**

There are two distinct types of DSIs. In six out of eight cases Type 1 evolved into Type 2, thus we renamed them Phase 1 and Phase 2. Phase 1 was the initial idea, with the focus on pitching and presenting, and the idea being simple, creative, and from outside the field. Phase 2 is the more established DSI that is more integrated with the field in which it aims to make an impact. Two of the cases did not change their idea from phase 1 to 2 (Robot and Game). It was clear from participating in pitching events that many Phase 1 ideas never make it to Phase 2.

Table 2: Focus areas and two Phases

Focus area	Phase 1: The Digital Start-Up	Phase 2: The Applied Innovation
Individuals	Outside the field	Networked, relationships with other key actors
	Influenced by personal experiences	Has gained knowledge and expertise in the content area.
	Global perspective, big macro-level idea.	Idea more granular and embedded in a local context.
Organizations	An idea: bright spark, not clear how it will be implemented; discontinuous, revolutionary, and different.	The attempt to implement the idea raises many unforeseen issues.
	Emphasis on pitching, presenting and gaining credibility and recognition.	Emphasis on connecting with relevant people, figuring out the added value of the technology.
	The Digital Innovation often starts as an app; the tech is front and center.	The technology becomes secondary and subordinate to a larger organizational or intervention model, and the model/approach becomes the central aspect of the venture. The tech plays a more supportive role and becomes more delimited, assistive and specific: Platform, Behavior change, fintech, robot, game, crowdsourcing.
Environment	Shared workspaces; hot desks	Developed relationships with other actors in the same field.
	Pitching events are important	Relationships with donors
	Part of collegiate setting that promotes entrepreneurship and innovation.	Connected to public sector, through lobbying or funding.
Process	Pitching and winning awards before the idea is developed. Very few DSIs move on to phase 2.	Steep learning curve from Phase 1 to 2.
	Seeking the infamous “pivot”	Many meetings with relevant stakeholders results in shift from initial idea.
	Initial idea meets with enthusiasm from innovation funders and resistance from established actors in the field.	A real ‘come down’. Humility and frustration that initial approach was much too simple.

### Phase 1: The Digital Start Up

Phase 1 is characterized by a bright initial idea, innovative individuals, and pitching and publicity. The initial idea is a bright spark that comes from outside of the existing field or area of activity. For example, the Mental Health App idea came from a student walking

through an airport and seeing satisfaction rating buttons and thinking, “*why don’t we have something like this for mental health*” (MHA2) A simple idea, disconnected from the field and experience of mental health, that puts technology first. This was the starting point. The initial ideas tend to be global scale, big ideas, such as, “*Reducing the carbon footprint of grocery shopping*” (CA1). And, “*Putting wellness in your pocket*” (MHA1).

#### *Innovative Individuals*

Phase 1 DSIs consist of an innovative individual, or small group of individuals, with a bright idea to solve a big social issue. The individual social entrepreneurs who are implementing the digital solutions are confident and their presentations are well-polished. “*I am self-taught in everything I do.*” (PC 1). They present their ideas clearly and with confidence. They have experience in various incubators and boot camps to learn presentation skills, such as voice coaching and “*telling impactful stories.*” (CA2) They are educated; in five of the cases, the founders have recently graduated from business schools. They are an international group, coming from Canada, Nigeria, France, USA and Ireland, and most have lived in more than one country.

*“I’m Canadian originally and when I was 20 years old I lost a bet in a bar with some friends and two weeks later I moved to China and it was meant to be a year and I stayed for seven.”*  
CB1

*“When I was 11 I wanted to be an anthropologist and go to the North Pole ... so I got out of Ireland as soon as I could even though I’ve ended up back here.”* IG1

*“The four of us went to Switzerland to take part in an accelerator program.”* (CA1)

Many of the individuals have had a significant personal experience in the area that they now work in, which drew them to finding a digital solution. “*I had struggled with mental health issues myself.*” (MHC2) They express dissatisfaction with the current system, often mentioning millennials’ values, and their attempts to respond constructively to that dissatisfaction.

#### *Pitching and publicity: “Fur coat and no knickers”*

The context in which the seven case SEs were working was very supportive of social entrepreneurship, encourages social innovation, and offered many opportunities. During data collection, there were several events for social entrepreneurs. At these events were accelerator programs, donors and investors in SEs, hotdesk office spaces, consultants who support SEs, mentors, nonprofits that support SE and SI, Universities, and others. Some of

these events were organized by the several Business Schools located in Dublin, which all encourage and teach entrepreneurship through their formal teaching, as well as through other engagement programs. Other events were organized by independent non-profit groups, to bring people together, for networking and sharing ideas on social innovation.

In Phase 1, social entrepreneurs have numerous opportunities to pitch their idea and win awards. The emphasis is on gaining publicity and credibility, rather than developing the idea of the DSI itself:

*“They gave us this big award and the award came from Google.org plus it came from the Department of Housing, Planning and Local Government. And there was also razzmatazz with it. And so we were kind of there a bit early to be honest because we didn’t really know what this was going to be about so I felt a bit like the Emperor without any clothes etc so there was a lot of, the focus of the...they put you on a what do you call it, an accelerator program.” HF2*

*“Our project is rolled out for every photo opportunity. It looks flashy, and gets attention.” (CB2)*

The pitching and presenting of awards was done very professionally, and the focus was on the appearance and the idea, and not on the actual implementation of the DSI.

*“We were in this sort of agile development process but we were really, it was all a bit early if I reflect on it we were put through this business accelerator but it was all about pitching so I learnt a lot about pitching but it’s very hard to pitch for something when you aren’t totally sure what it is ... we didn’t have a product as such ... we were pitching before we developed the product” HF2*

*“We are an App, but we don’t actually have an App yet” (ClimateApp2).*

*“As the saying goes, they are ‘fur-coat and no knickers.’ Ya know, just a website with nothing behind it” (Event notes, talking about Platform Connect).*

## **Phase 2: The Applied Innovation**

After trying to implement the DSI, the learning described by many of our research participants was that the real value was in the overall model of intervention, and the process of implementing the new technology, rather than simply in the technology itself.

*“Anyway so [the collaboration] that’s kind of where the value is.” IG1*

*“[The initiative] is a shop window, there’s a lot of opportunity out of this and my point is not only are we meeting the obligations but we’re also giving an opportunity for everybody to learn about it and see how it works you know.”* IG1.

*“In the beginning it was an on-line platform, but now it is really about much more than that. It is the relationships and the empowerment and meaningfulness of engaging with communities.”* (CP2).

The Phase 2 organizations had moved beyond the initial allure of the technology and were more aware of the role that technology played in attracting attention to the idea, but that the real work was the implementation of the idea.

#### *From technology to organization*

In five of the cases, the initial DSI idea was an app, as per the table below. As the social entrepreneurs tried to implement their ideas, the apps evolved into more complex interventions. Two use multisided platforms (MSPs, or platforms) where various parties can communicate with each other. Two used apps with the purpose of behavior change; and finally there was one each of the following: a new Fintech service, crowdsourcing information, a robot and an interactive computer game.

The platforms aimed at connecting people, ideas and knowledge in new ways. *“There are supermarkets throwing away food in the same neighborhood as there are charities that need food”* (SLU Website). *“They found that both parties were eager to get involved, and overcome the barriers that they saw existed, but had not been able to find a way to do that”* (Meeting notes, Event 2).

The initial ideas evolved into various forms of formal organizations in all cases. *“We had to become a charity because there were grants available and that was the only way to keep doing what we wanted to do”* (SLU2). *“So we had to become a social enterprise to get that money and so we were ok, we hadn’t thought of doing this really, we weren’t sure what we were doing with this thing and so that was very straightforward to set up so we set it up”* (HF1)

#### *Steep learning curve: “The devil is in the details.”*

The DSIs evolved through a process from Phase 1 to Phase 2. The process began with dissatisfaction with the current system, having an initial bright idea, followed by a steep learning curve and resistance from the sector. While the individuals were confident, they also described being humble and open to learning in order to actually implement their ideas.

*“We were so naïve about the food-space and being engineers we were like ‘well it’s a problem, there’s a solution and if we do x, y and z it will be ok’ ...I think if we knew like the depths of it we wouldn’t have ever you know gone down that path. We would have tried something different maybe.”* CA2

*“We started with the hypothesis that all people needed was the information and that was enough... to assist in the change of behavior....That was really naïve in the beginning.”* CA1

*“Then [MHC] expanded and developed over time particularly the past year we launched it as an actual product and we were able to see that maybe just a smiley face isn’t enough, you have to actually track eight variables to really get an understanding of someone’s mental health.”* MHC2.

Part of the learning curve was in response to the resistance that they received to their ideas from people already working in their institutional/issue context.

*“The charities and researchers working in this area didn’t return her phone calls; they didn’t want to know about what she was doing. It took a lot of work and some lucky meetings to break into the existing sector.”* CB, Meeting notes.

*“The climate change activists thought we were a joke; the people in food packaging laughed at our naivety; the supermarkets didn’t want to talk to us; the behaviorists (researchers) helped us learn about how people change behavior.”* CA1.

*“When talking to mental health practitioners, we learned to emphasize that we are ‘mental health lite’.”* MHC.

So, as the initial DSIs were implemented, they evolved into much more granular specific interventions, and the founders learned much in the process.

## **DISCUSSION**

Digital innovations in the nonprofit sector include a wide range of different initiatives: robots, platforms, smartphone apps, fintech, cloud computing, social media, 3-D printing, data analytics, and others. None of these are new technologies, but the application of them in a social purpose context is innovative and new. Our study shows the need to consider a digital technology perspective in research on the third sector, including civil society organisations, social enterprises, nonprofits and charities. A digital technology perspective considers that

digital interventions have unique attributes and outcomes, in particular digital entrepreneurship resulted in “less bounded entrepreneurial processes and outcomes and less predefined locus of entrepreneurial agency” (Nambisan 2017, page 1029). In other words, the process of developing the idea does not follow an established path. Similarly in our study, we find that the process of proposing, developing and launching a DSI is separate from the typical path of NPOs, and the innovative individuals are more like young entrepreneurs and less like their nonprofit counterparts, such as charity-founders. The concept that we develop here of DSI is the start of creating a framework for bringing together the various studies on ICT use in the third sector. Such a framework needs to include civil society change efforts (e.g. Choi-Fitzpatrick, 2014), as well as the use of social media in nonprofits (e.g. Guo & Saxton, 2013).

**The innovative individual approach to social entrepreneurship:** The phenomenon of DSIs shows how innovative individuals evolve into more established and connected third sector organisations, thus connecting the concept of individual social entrepreneur to social enterprises. The innovative individuals, or the Digital Start Ups, have a bright idea; they learn how to pitch and present their idea and win awards in the form of cash prizes and in-kind supports. If they progress beyond the digital start-up phase, they face a steep learning curve and often resistance from the field of other actors. The DSIs that succeed become formal organizations, and finally emerge as the Applied Innovations, social enterprises that use technology, but the tech is not the main focus of the intervention. Individual interests and agendas do not disappear. DSIs have multiple purposes, including the advancement of the entrepreneurs themselves, separate from their cause and their venture.

Social entrepreneurs are innovative individuals who propose new, creative and fresh solutions to old social, economic, health, environmental issues. This study shows that their initial ideas are often naïve, and focused on presentation and pitching, rather than on the content of the idea. In fact, these unusual tropes are what are both expected and rewarded by the funding and legitimacy ecosystem surrounding these DSI. The promotional literature on social entrepreneurs (Bornstein, 2005; Drayton, 2006) has overlooked this phenomenon. When studying the differences and similarities between social and commercial entrepreneurs, many conclude that the process and resources needs are more similar than different (e.g. Meyskens, Robb-Post, Stamp, Carsrud, & Reynolds, 2010). Our study shows the need to consider the complexity of social challenges, and the multiplicity of actors in any given field, who are not only competitors, as is often the case with commercial ventures, but key actors in the



addressing of the social issue. For example, if an entrepreneur wants her App to deliver on changing behavior, she is not *competing* with other supports available to the ‘customer,’ such as mental health practitioners, but the app will have to work *with* medical professionals and other actors in the field if it is to be optimally effective and successful.

## CONCLUSION

Interestingly, organizational theorist, Gerald Davis, calls for future applications of technology that would have social benefit, implying that it is a fairly straightforward endeavor: *“It is easy to imagine similar businesses that match, say, excess food inventory at stores or farms to those who need food, elders with time to spare with kids who need child care or tutoring, and so on...The cost of creating an enterprise can be quite low these days, as many of the parts are available free or cheap. Failure is common, but today the investment is small, so the risk is not catastrophic”* (Davis, 2016, p. 188). It is a logical next step in the efforts of a social entrepreneur to find innovative digital solutions to social challenges. It is also the logical next step for activists to use all the digital tools available to them to address major issues of concern. But the reality, as we have found in our research, is more complex. We found several examples of social enterprises doing exactly what Davis predicted. We also found that social entrepreneurs encounter resistance to their digital innovations from those closest to the issue. The challenge is not the financial risk of starting up a company, as suggested by Davis above. The challenge is navigating the steep learning curve in addressing complex social-environmental-political challenges, such as food waste, single-use plastics, dementia care, and homelessness. As one of our entrepreneurs stated: *“If I knew how complex these issues were at the beginning, I never would have started this”* (CA2).

Our study shows that innovations must co-evolve with their context in order to survive and be useful. Outside innovations parachuted in are not used or useful. The differences between Phase One (Digital Start Ups) and Phase Two (Applied Innovations) illustrates the contrast between shallow compared to deep innovations. Just because something is pitched as a DSI does not mean it actually has merit to do anything significant and useful.

Our study heralds an expansion in the area of Digital Entrepreneurship (Cavallo, Ghezzi, Dell’Era, & Pellizzoni, 2019; Nambisan, 2017; von Briel, Recker, & Davidsson, 2018), to include and compare it with Social Digital Entrepreneurship. So far, we have found a major gap in research in this area, and simply extending digital entrepreneurship studies to social-

purpose initiatives will not capture the differences in context and nature of these different sectors and endeavors. Our study has shown how DSI is a unique phenomenon, distinct from social entrepreneurship.

We have used the language of DSIs fairly uncritically. Future research could focus more critically on the language used by these new actors in the third sector: accelerator, pitching, running a beta, fintech, platform, etc. In such a study, the dramaturgy of the DSI pitch, and the use of the corresponding terminology is a way of gaining legitimacy for an idea and gaining credibility as an individual.

In 1998, Gregory Dees stated in his seminal paper on social entrepreneurship that “The time is certainly ripe for entrepreneurial approaches to social problems” (1998, p. 1). Two decades later, it looks like the time is ripe for digital approaches to social problems.

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