

CASHLESS CHARITABLE TRANSACTIONS: HOW DO WE ENABLE THE DIGITAL GOOD SAMARITAN?

Research Proposal

Rafferty, Donal, UCD School of Business, Ireland, donal.rafferty@ucdconnect.ie

McParland, Andrew, UCD School of Business, Ireland, andrew.mcpardland@ucdconnect.ie

Chavan, Prachi, UCD School of Business, Ireland, prachi.chavan@ucdconnect.ie

Abstract

Physical cash is disappearing from our pockets. In this proposal, we show that there is a continuing trend towards increased usage of cashless options for purchases. The aim is to capture the challenge faced by beggars, as people carry small amounts of physical cash nowadays. Existing literature is used to identify concerns regarding the impact of cashless transactions on those who are considered living in poverty. Society's perceptions of beggars also play a vital role in the cashless world. Analysing various available systems, which portray problems faced by beggars in a "cash-light" society, will help to understand how technology plays a role in addressing these problems. Design-science approach is used to propose a research design that will allow us to build a solution for the already existing system. The research will explore an approach that will generate effective and efficient systems that can be integrated into the problem area, and then strives to understand the value or lack thereof that the systems add. We also explain how this approach will iteratively generate new systems leading to new knowledge and incremental improvements to the solution. Finally, the timeline details the stages of our proposed research, and how we will proceed during a structured period.

1 Research Question

According to the European Central Bank's press release "Payments statistics for 2015" (2016), the total number of non-cash payments in 2015 had increased by 8.5% in the European Union from the previous year. Card payments accounted for almost half of these transactions, and the number of cards issued represents 1.5 payment cards per the European Union inhabitant. This trend towards a culture of cashless transactions has continued, which was highlighted by Leinonen (2009), using data collected by the European System of Central Banks. Nordic countries, in particular, lead in moving away from physical cash as the go to option for monetary transactions. The Swedish central bank predicted in 2015 that by 2020 the amount of cash in the country could fall by up to 50% compared to the year 2012 (Roos, 2015).

The idea of efficient digital transactions has been present for decades, yet the use of cash is still significant. For example, it still accounts for 20% of transactions in Sweden (Rogoff, 2016), and only decreases by around 2-3% a year. This means cash and cashless

transactions will coexist for some time. Despite this, we are moving towards an ever cashless society as first imagined by the banking industry five decades ago (Bátiz-Lazo, Haigh, and Stearns, 2014). Many concerns have been raised during this slow, decades-long progression from cash to cashless. While the move offers banks efficiencies in cost and time, the need for access to, and proficiency in technology means that certain groups such as the elderly or the poor need consideration during the transition from physical cash to the digital alternative (Noble et al., 2000). However, more recently, in his book Rogoff (2016) argues that the shift towards digital payments helps cash dependent members of society, especially the poor. He argues that new financial services drive financial inclusion and challenge the current exclusion of the poor from accessing many benefits of banking.

Beggars are a prime example of those in a lower socio-economic group that will be significantly impacted by the indirect effects of the dwindling use of physical cash. This cohort of people currently relies on charitable donations consisting of small amounts of cash by those who cross their path. In recent years they have been reporting less charitable handover of cash as passers-by inform them that they have no cash to donate (Silber, 2017). Current attempts to solve this problem have had some success and offer insight on how technology can be used to enable cashless donations to beggars. In Sweden for example, homeless charities provide those living on the street with card readers, enabling them to accept credit and debit cards. However, as discovered by Silber, (2017) some beggars are unwilling to work with charities in this manner. Lack of anonymity is a concern. If a beggar wants to buy drugs or alcohol, would the system enabling cashless donations, provide the ability to track these transactions? The move to cashless transactions and emerging payments technology offer a unique opportunity to tackle the need to beg. An understanding of how we can build upon current solutions to address the issue of begging itself is where we suggest more research is required. With carrying physical cash no longer being the societal norm, can people who wish to make ad hoc charitable donations do so, through a frictionless, secure transaction, using a system that prevents the need to beg itself?

2 Literature Review

The problem of homelessness was once seen as an emergency, a temporary situation that needed to be resolved quickly. However, it became clear, as argued by professionals dealing with homelessness, that long term strategies are required to deal with the problem (Hambrick and Johnson, 1998). Hambrick and Johnson describe the history of the issue as a "hot problem" that led to increased awareness within the general public in the mid 1980s. When promises of quick solutions to the problem failed, the empathy from the general public began to wane. Consequently the issue of homelessness, like unemployment, largely became an accepted problem with society (Hambrick and Johnson, 1998). The act of begging is associated with homelessness, in particular, it has strong links to rough sleepers (Kennedy and Fitzpatrick, 2001). The route to sleeping rough usually follows a period of social exclusion where family supports fall away. A person's social status is lost and low self-esteem takes over (Kennedy and Fitzpatrick, 2001). In their study of begging in Scottish cities, Kennedy and Fitzpatrick reveal how begging can become a systemic part of a homeless person's life, in particular why some homeless people decide to sleep rough and in turn require an income from begging. Some decide to turn down hostels and shelters for

fear of violent interactions with other inhabitants. Some are themselves barred for violence or substance abuse, and some cannot accept the governance placed upon them. The study further uncovered how gaining access to benefits was difficult for some. Many were too young, not from the area, had no fixed abode or were simply unwilling to contact agencies. Even when receiving benefits many rough sleepers still needed to beg in order to supplement their income. This was usually due to a need to buy drugs or alcohol to provide for an addiction. Kennedy and Fitzpatrick (2001) offer further knowledge on how beggars feel about the act of begging. Most found it difficult to get into begging and only turned to it in desperation, finding it humiliating and degrading. On a daily basis, they would deal with verbal abuse, harassment, violence, robberies, and hassle from the police (Kennedy and Fitzpatrick, 2001, p. 2008).

Unsurprisingly most of those involved in begging would rather no longer be dependent on it. From the point of view of the general public, the perception of beggars is interesting. Many people adhere to the idea that beggars are poor through their own actions, inaction or lack of morals. To resolve their troubles, they only need to seek help from a charity. Yet from the giver's point of view, a donation to a beggar can be perceived as altruistic in nature, in other words, an unselfish act. However, this is not always true. The donation of money to a beggar is often reciprocal in exchange for emotional validation of one's life choices (Castellanos, 2000). For example, someone may make a small donation to a beggar in order to relieve the emotion of guilt caused by a general lack of interest in being charitable, or helping on a larger scale. To elicit this donation, a beggar still must bypass the potential donor's perception of their morality. The donor will evaluate if the beggar does indeed need the money or if they are trying to con them. The **donator** will also **question** what the beggar will spend the money on. As mentioned earlier many rough sleepers turn to begging in order to feed an addiction to drugs or alcohol. A donor is unlikely to gain a positive emotional response to the donation if they feel it will go to such a cause (Castellanos, 2000). Castellanos' research shows the most successful beggars portray themselves as being "weak and distressed", highlighting how the donor's perception of the beggar is important. If they feel they are helping someone truly in need, they get more emotional benefit from their donation. Moen (2014) argues though that giving donations to beggars is irresponsible when we look at the bigger picture. He proposes that because beggars who manage to portray themselves in the most appealing manner to donors are the most successful, that our donations are likely not going to those most in need. He suggests that they are going to the best actor who can make a good income from begging, while those who are suffering more cannot compete.

In a counter argument to Moen (2014), Christian (2016) argues that you do not need to donate to the people who are the worst off in the world to make it a better place. These polarising views highlight the complex moral thought that must be understood when developing a system to help beggars. In developing such a system the goal should be clear. Kennedy and Fitzpatrick (2001) propose that begging itself is the problem and the solution is to remove the need for anyone to beg. This means the system must not just look to enable cashless donations in a "cash-light" society but it must focus on the bigger picture. It must look at how the system can build on current solutions to tackle the issues raised by Kennedy and Fitzpatrick, such as social exclusion, social support for vulnerable members of society, the perception that the poor are poor by choice, enabling donors to gain positive emotions from donating outside of face to face interactions with beggars and access to financial and

emotional support for the homeless. For example, computers in homeless shelters in Calgary offer the homeless the ability to complete online courses to boost their knowledge and in turn increase self-esteem (Moser, 2009). This provides a technical solution that addresses one problem faced by the homeless. But it could also be one part of a bigger system that aims to provide a solution to the need to beg.

3 Research Design

The problem of begging is currently well defined and understood. The increase in cashless transactions and a decrease in physical cash has put extra pressure on those who beg. Existing technical solutions provide the ability for beggars to accept cashless transactions. For example, in Amsterdam, winter jackets for the homeless are fitted with technology to accept contactless payments (*Hope for homeless asking for cash in cashless society*). Also, voucher systems are used to offer a cashless currency to the homeless in Ireland (*'Dragons' Den' backs profit-free homeless currency project*) and in Sweden, devices are made available to beggars enabling them to accept cashless transactions (Rogoff, 2016). We propose there is an opportunity to learn from and utilise these solutions to create a system that as a whole addresses the problem of begging itself. Given the existing knowledge of the problem, we propose that a design science approach is required to generate creative and innovative experiments that will allow us to prove our hypothesis using an engineering approach. This research framework as described by Hevner et al. (2004), will be adopted because creativity along with a trial and error approach are important components of the framework. A trial and error approach will put evaluation and validation of our efforts to the forefront of the research, to ensure that the system is validated and improved upon in an incremental manner. This type of research comes from engineering and architecture but has seen a growing interest in the area of information systems with many design science papers appearing in top tier IS journals since Hevner et al. (2004) outlined the framework (Geerts, 2011). The seven guidelines provided by Hevner et al. (2004) for design-science research provide a coherent set of practices to follow in order to achieve the goal of creating an innovative solution to the problem we have identified.

Peppers et al. (2008) build upon these guidelines to create a methodology: the design science research methodology (DSRM). This provides a framework and a template to follow while conducting design-science research. It was specifically designed to encourage design-science research by providing a commonly accepted framework to increase adoption of the research method by providing a previously non-existent methodology. This methodology provides the "principles, practices, and procedures" that we will follow. By following these, the methodology will help us achieve consistency with the current knowledge base, providing us with a process for conducting the research and giving us a model for presentation and evaluation of the system that we will create (Peppers et al., 2008). In addition to the DSRM, Offermann et al. (2009) provide a set of tools and best practices that can be applied to DSRM activities. The use of these tools and best practices will guide us in areas such as solution design, evaluation, and problem identification. Our research will start with a thorough scrutiny of the literature to refine our understanding of the problem and identify goals that our system will aim to achieve. We will use the literature to further our knowledge on the personas of beggars, why people donate to beggars, the challenges beggars face, the perceptions the public have of beggars and what the proceeds of begging are spent on.

Many ethnographic studies of the homeless and beggars are already present in the literature such as Castellanos (2000), Kennedy and Fitzpatrick (2001) and Lanckenau (1999). These studies provide insight into the aforementioned areas and will lay the groundwork for our own knowledge. We will tap into the knowledge of charities that currently work with the homeless by visiting them at homeless shelters, soup kitchens and shadowing their employees when they are helping rough sleepers. We intend to employ an anthropological approach to these visits in order to observe human behaviour as it occurs in reality as opposed to how it may be perceived. We will observe and document the life of the charities' employees, the people they help and the people who donate to them. This information will allow us to build a picture of daily processes that occur. This data will provide us with the knowledge required to identify where a system can be implemented to provide a solution to identified problems.

We recognise the importance of understanding why people donate. For example, people are more likely to donate if they can identify with the person that will benefit (Small and Loewenstein, 2003). Likewise seeing others donate, in turn, encourages further donation from those witnessing the act (Carman, 2004). Of equal importance is understanding why people choose not to donate. To identify these reasons we will observe beggars in the act of begging. While gaining knowledge on the act of begging we will observe the behaviour and type of people who donate and do not donate. We intend to approach both after they have interacted with or bypassed the beggar and use informal conversations in an attempt to understand their motivation for donating to or bypassing the beggar. This approach is open to change as we evaluate the success rate of such conversations. In order to better understand the needs of the system, we will need to assess current technological solutions and their ability to solve problems identified from the literature and our own field studies. Initially, we will identify and evaluate one to three projects that offer solutions to each identified problem area. We will narrow this down to one of each and make contact with the team behind the project. We will work with each team to understand the implementation, capabilities, and goals of their project. We intend to visit teams on site and investigate their approach and how their solution works in the real world.

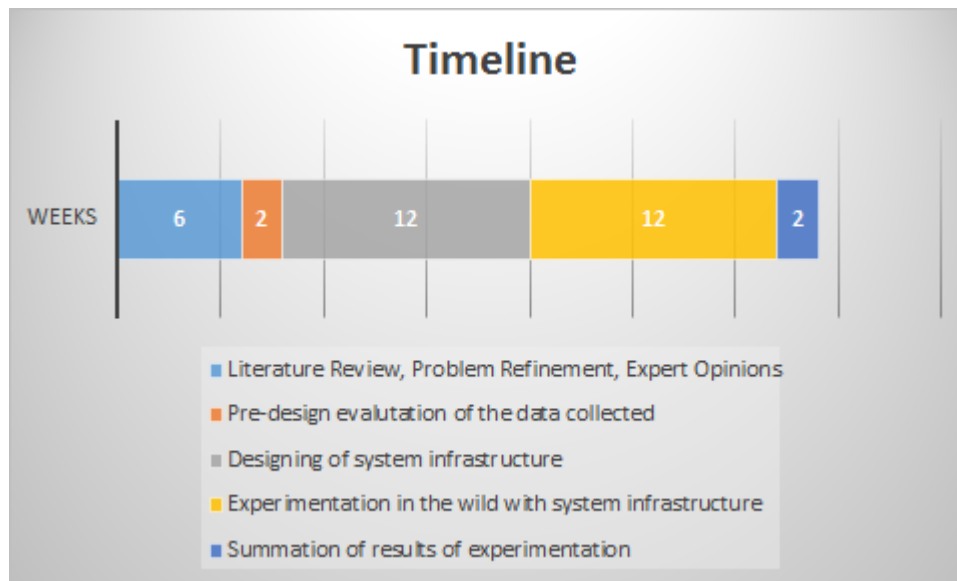
Once we have collected findings from the key areas already discussed we will enter an evaluation phase to create a hypothesis using utility theory, meaning we will ensure our hypothesis satisfies the needs of all **users of the system**. In this case, we need to ensure the needs of beggars, those whose wish to donate, charities and developers of systems designed to help the homeless are a part of our hypothesis. Once we have an overall **hypothesis** we will then break this down into sub-hypotheses for the design phase of the DSRM. This will allow us to incrementally design modular parts of the system, providing fast feedback and offering the ability to go back to the literature if we uncover a problem with the sub-hypotheses. We will use the approaches recommended by Simon (1996), as a guide for the engineering process where the system will be designed and developed. We will use the crowdsourcing platform Topcoder during this phase to use the skills of the technical community without the need to build our own expensive technical team.

The developed system will be evaluated using field experiments and an **action research** approach, whereby the system will be assessed while in use. This will include monitoring the ability of other projects to integrate seamlessly while bringing value to the system as a whole. It will also include evaluating the practicality of the system in addressing the issues

identified. We will look at various areas such as: allowing beggars to make money without needing to partake in the act of begging itself, allowing them to do so without external governance and enable the homeless to use technology to increase their education and address personal and social issues that lead to the need to beg. Other issues that will be considered include; allowing donors to achieve the positive emotional feelings they gain from helping those in need, without the interaction involved in begging; address donors concerns as to what their donation will be spent on; and build confidence in donors that they are not being conned. A/B testing will be used to evaluate the changes that occur when the system is introduced. For example, a cohort of beggars in a localised area will be identified, half will be selected for use of the system, the other half will not. For a set period of time, both sets will be monitored with the half not using the system used as a baseline to judge any changes the introduction of the system has. During this evaluation phase, new knowledge will be accumulated. This knowledge will be used to revisit the design phase, before again returning to the evaluation of the revised design.

Throughout the design-science research undertaking, there will be opportunities to publish findings at each stage. We will take this opportunity, if it presents itself, to share knowledge gained during each phase. This early feedback will allow us to share our findings with the communities affected and gain their feedback. At the end of the evaluation phase, we will present more substantial findings. These findings will take the form of a journal article presenting new knowledge on how we can use technology and the increase in cashless transactions as an opportunity to address the problem of begging itself. This approach will allow us to generate creative and innovative solutions, that offer practical implementations in the form of a system that will provide knowledge on how we can remove the need for people to beg at all.

4 Timescale / Research Planning



Here is a list of resources we require to complete this research.

- Observational audio visual equipment
 - Voice recorders (3)
 - Video Cameras (2 - 3)
 - Photographic Camera
 - Transcription machine
- Funding for system development
 - 3 months crowdsourced technical design + development
- Funding for experiments/evaluation
 - A/B testing platform such as Firebase
 - Analytics platform such as Google Analytics
- People
 - 3 - 4 Observational data collectors
 - Same group responsible for compiling data from findings
- Special
 - 1 - 2 certified experts in working with vulnerable people to ensure we do not have a negative effect on them while conducting the research
 - Funding for travel to European destinations to evaluate current technical solutions

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