

# Mobile Payments

– A Game Changer?

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## Abstract

As an effect of internet, mobility and other technological advances, inevitably, the way people are going about their daily lives is changing. The way of buying products and services is changing too. In the last few decades, there have been a continuous decrease in the use of cash in Sweden and it's believed just a matter of years till Sweden is completely cashless. So far this has led to a corresponding increase in card payments (i.e. Visa, Amex etc.). Mobile payment solutions are being frequently discussed in media and academic journals, but currently less than 1% of the payments are done such solutions.

Cards gets increasing market share and other payment solutions has not developed as quickly, to present healthy competition. Sweden and the rest of the EU run the risk of near monopoly and getting charged the fees the banks and card companies deem fit. The retailers and consequently the consumers run the risk of being the big losers.

Mobile payments offers convenience paired with potential savings for consumers and up-sell opportunity together with less transaction fees for the retailers. Still it represents less than 1%, card payments 80-90% and is increasing. This initial study, including a preliminary stake holder analysis, present views from consumers, retailers, retail organizations, government organizations etc. to investigate what the potential benefits and disadvantages are with different payment solutions and what is needed for a switch to use new solutions.

This is an ongoing project and initial findings show that when asking a number of consumers, few said they were using Seqr (currently the most established mobile payment solution) or even heard of it. The lack of adaptation may be explained by the fact that they have not been convinced that there are any clear benefits encouraging them to change their current use of cards or cash.

**Keywords:** Mobile Payments, Cashless, digital payments, consumer behavior

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## Introduction

As an effect of internet, mobility and other technological advances, inevitably, the way people are going about their daily lives is changing. The way we are buying products and services is changing too. In the last few decades, there have been a continuous decrease in the use of cash in Sweden (Arvidsson 2013).

As we are moving towards a world where less and less cash is being used the trend, so far, is that cards, get more and more market share and other payment solutions have not developed quickly enough to present healthy competition. Both Sweden and the rest of the EU run the risk of a card near monopoly charging the fees they deem fit. The retailers and consequently the consumers run the risk of being the big losers.

Mobile payment solutions are being frequently discussed in media and academic journals, but few solutions have been launched both in Sweden and internationally. In Sweden, less than 1% of the payments are done by mobile solutions (Lukas 2014).

So far, in Sweden, relatively few retailers has adopted any mobile payment solution at all (Riksbanken 2013) and the ones that have (e.g. Hemköp / Willys, Burger King and McDonald's) have thus far reached low volumes in usage. In March 2015, asking the staff of Burger King at Odenplan in Stockholm, they said that only a handful customers use SEQR each week.

Initial findings in this ongoing project show that when asking a number of consumers, few said they were using Seqr (or any other mobile payment solution) and many had not even heard of

it. Security is a concern in some groups, but the lack of adaptation is easier to explain by the fact that to date they have not been convinced that there are any clear benefits neither in terms of convenience nor savings (e.g. discounts, freebies, customer loyalty credits) encouraging them to change their current use of cards or cash. One consumer said ‘how many apps do they expect me to download and use, and how many times do I need to register somewhere’. Another consumer stated ‘I can accept a maximum of one or a couple of apps where I can do all my online and offline shopping’.

Swish ([www.getswish.se](http://www.getswish.se)), which is not a payment system, but rather a person to person money transfer system has reached high volumes and is well accepted in Sweden (Jansson 2014). Seqr, ‘Sweden’s largest mobile payment system’ ([www.seqr.com/se/](http://www.seqr.com/se/)) is similar to Swift in how it’s installed and used, still the volume and penetration of Seqr is limited (idg.se 2014).

(Doherty and Chadwick 2010) states that innovations and ideas in relation to internet and retailing has so far been driven by the companies, but the future development will rather be consumer driven.

## **Project Questions**

How do consumers view the development of payment services and customer services systems and how does this affect their consumption behavior?

How can the retailers develop pay and customers services systems to form a platform to achieve lower cost and/or higher revenue?

## **Project goals and objectives**

The project aim is to gain knowledge about

- *How consumers purchase and payment behavior is influenced by digital tools and what it would take for consumers to make a switch to accept and start using new tools*
- *How retailers can adapt itself and be part of and drive the development of new payment tools to meet its own and consumers’ future needs for safe, convenient and cost effective payment solutions with clear incentives for the consumers.*

This knowledge can identify a number of concrete suggestions (cook book) to within the scope of the project, develop processes facilitating available and future digital and mobile solutions.

In all research undertaken by Swedish Institute for Innovative Retailing (SIIR), external communication is vital. On an ongoing basis results are presented at our blog [www.retailingresearch.blogspot.se](http://www.retailingresearch.blogspot.se) and web page, [www.siir.se](http://www.siir.se). Further, results are published in peer-reviewed international academic journals and conferences including EAERDC 2015. The cooperation with retailers will be ongoing throughout the project in our daily operations (e.g. customer meetings and seminars), and in various networks.

# Theory

## ***Co-Design as part of the CO3 movement***

One of the secrets of Lego's success is engaging the customers as Co-Designers and consultants in making its products. Lego is a global leader among toy manufacturers and the number one in construction toys. "It is estimated that the world's children spend five billion hours a year playing with Lego bricks" (Seybold 2006).

"In the Co-Design approach, it is stipulated that the overall quality of services will increase if as many as possible of the stakeholders are actively involved in co-producing the service" (Lind and Forsgren, 2008). "Co-Design is the incorporated design of systems using both hardware and software elements given a set of performance goals and an execution technology" (Subrahmanyam, 1992; Subrahmanyam, 1993).

One of the earliest and most reported sources of this movement is the CO-constructive branch. In the classical article "Misinformation systems", (Ackoff, 1967) shows the close relation between the CO3 area and information technology. Later, he wrote many books and papers focusing on "creating the cooperate future" all developing different important aspects and results of this new approach to innovation. This way of thinking is radically different from the classical "operational research" or applied classical scientific thinking, but deeply based in the philosophical debates about knowledge and knowledge development. Other names in modern natural science such as Einstein, Pasteur, Capra, Rosen and Prigogine, are important sources to the CO3 movement. It is possible to describe three important levels of ambition:

- CO-1: Co-Design – integrating the physical and the virtual aspects into augmented co-evolving realities and products. An early example is Steve Jobs with Apple. One of the earliest and most impacting cases was the MIT-project with IKEA resulting in an integrated solution between the Stores, the catalogue and the web (Forsgren, 2005).
- CO-2: Co-creative – Involving key stakeholders in an "Open innovation" approach - synthesizing different perspectives into new co-created perspectives with possible implementations and impact. This is a further development of Hegelian thinking.
- CO-3: Co-constructive – On this level the research and knowledge development process is integrated with the innovation and artifact development process. The result can be described as a new world view where the artificial walls between public, private, political, business, culture, art and knowledge development have been removed and replaced with the co-construction of integrated service complexes governed by new forms of Public-Private-Partnerships. Globally, there are now many projects aiming at this level – often regarded as radical.

Co-Design can also be related to Participatory Design and User Centered Design as the user is definitely in the center, however, not only the user is being taken in consideration, but as many stakeholders' views as possible are considered and the design team consists of as many stakeholders and views as possible. Also, it needs active involvement from the researchers to obtain knowledge and at the same time apply the gained knowledge in solving practical problems (Baskerville, 1999). As practitioners and researchers are all stakeholders working together in the design team the theory and practice are also closely entwined. The work is

managed as Co-Design workshops and the focus is the view of individual users. Co-Design practices are carried out in different fields of studies depending on the expertise and mind-set of its practitioner. Some of the key advocates of Co-Design originated from business.

“Forsgren developed the first Co-Design framework. This framework is a multi-stakeholder model in which all stakeholder concerns, related to a certain situation or problem, are taken into consideration by either inviting, or considering the perspectives of, diverse stakeholders in a workshop process” (Forsgren, 2005).

This work can be summarized in a raw model for performing the Co-Design process as four types of workshop activities.

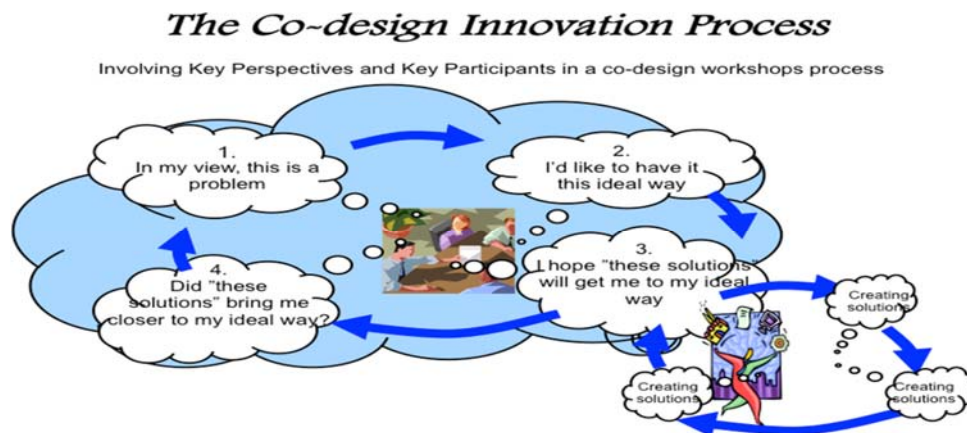


Figure 1 Co-Design Innovation

- 1) Co-Design of the problem situation and ideal scenarios including a first idea of useful views possible to implement in integrated solutions (Step 1: In my view, this is a problem).
- 2) Co-Design of one or a few specified useful views with implementation integrated solutions and related measure of performance systems (Step 2: I'd like to have it this ideal way).
- 3) Co-Implementation of selected integrated solution and related measure of performance systems (Step 3: I hope these solutions will get me to my ideal way)
- 4) Co-evaluation and feedback based on key stakeholder views (Step 4: Did “these solutions”, bring me closer to my ideal way?).

These four types of workshop activities are complemented with a fifth type of reflective Co-Design workshop activity. The question raised here is “if and how the Co-Design process itself can be developed in order to be more effective in producing knowledge and services” (Forsgren et al., 2012). The Co-Design itself can be Co-Design as further explained in methodology section.

## Method

In this ongoing project, below are steps that have been taken and what is currently in progress.

Handelslabbet (The Retail Lab) is SIIR's inclusive multi discipline and multi competence research environment. This means that it is an open innovation environment with the objective to develop technical solutions and business models improving life quality for stake holders in society, both consumers and businesses.

Life quality, in this context, consists of new ways of buying products and services that gives a clear value for various customer categories, good prices and efficient sales channels. An important driver for such work is therefore to increase the consumers' power, where the lab focusses on innovations that give unique consumers' advantages. Handelslabbet is built up as a physical retail shop and is situated at University of Borås, where we continuously develop software and systems enabling customers to make better and smarter choices for products and services. We have various technologies represented in the lab such as: RFID based tools, eye tracking and virtual interfaces for online commerce. Solutions are developed with retailers and are tested in the lab on real customers. The tests are analyzed and will serve as a basis for the companies to decide whether to go ahead with a commercial launch, or for inspiration for new ways to serve customers and offer enhanced customer value.

Swedish Institute for Innovative Retailing (SIIR) is responsible for its project organization, but uses InnovationLab to assist. InnovationLab is a systems development center at University of Borås.

### ***Extended Co-Design***

To benefit from the diverse perspectives of consumers, retailers, solution providers, public organizations and others when it comes to Mobile Payments, Extended Co-Design (a further development of Co-Design, see section above) has been used. As (Alm 2014) shows, when Scandinavian Airlines adopted the Co-Design approach for continuous improvement of their Avatar performance, it also expanded this approach to other services offered. Furthermore, as an important added value for the SAS organization, it could be noticed that staff who participated in the workshops were inspired to use the Co-Design technique in other parts of the operations (e.g. call center & online support, flight scheduling and sales & marketing). The Co-Design spread and evolved like a benign natural bacteria within and without the organization leading to improvements in a number of areas.

These findings are illustrated in the model below:

# Extended Co-Design Model

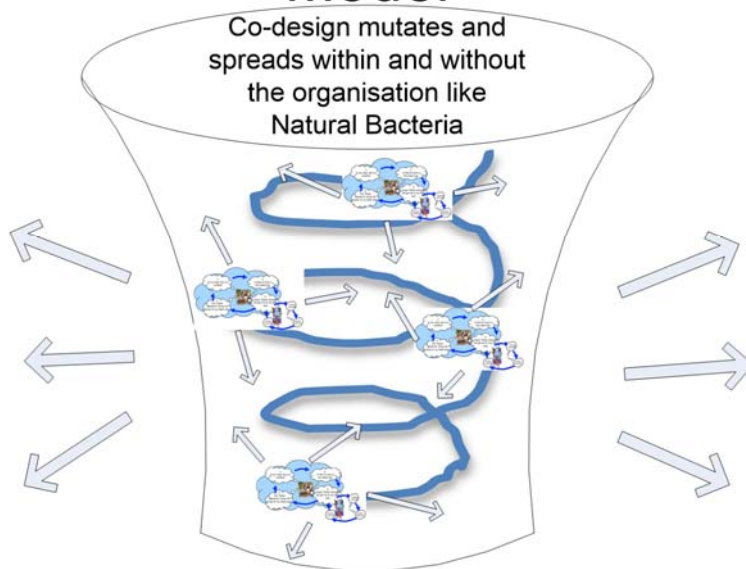


Figure 2 Extended Co-Design

The model illustrates how the Co-Design inspires other staff to use it for other functions and uses in their organization. In fact, staff are Co-Designing the Co-Design to fit other applications. In a number of years, the original Co-Design model will perhaps look very different and may even be called something different. This will then mean that the staff themselves will be researchers and developers reducing the dependency on academic involvement in each phase of the Co-Design. This would be an understandable and natural evolution in the development stage.

The observed results open a new set of questions framing the relation and transformation between Co-Design as a research approach for knowledge creation and Co-Design as a method for innovation and service quality improvements.

## **Project plan och execution**

The project is currently carried out through three main partly overlapping phases facilitating for ongoing reconciliation and interpretation of findings enabling for necessary adjustments accordingly.

**Phase1:** The first part of the study is to interview some of the key stake holders for payment systems (e.g. Svensk Handel's members, Riksbanken, Pan Nordic (cards and banks), Klarna, Seamless (Seqr), Wywallet?, Apple Pay, Paypal (currentC) etc. and carry out a survey to better understand the consumers' perception of mobile payment systems.

**Phase2:** Based on the findings above a number of mobile payment tools will be studied in the phase of the purchase and payment process (e.g. Seqr, Wywallet, Swish?, Apple pay, CurrentC) together with pilot tools that are currently being developed in the SIIR lab

(‘Handelslabbet’). The second part of the study is focused on analyzing the initial data with the perspective of perceived customer value. This will lead to the development and testing of IT Pilots. The pilots will be tested in scenario built workshops with groups of consumer represented in categories of place of residence, age, income, education, ethnicity etc. as the researchers are frequent travelers, some useful comparable data will also be collected in other European countries (e.g. UK and Germany) and in Asia (e.g. Singapore and Thailand) at no additional cost.

**Phase3:** In this phase we will analyze the qualitative and quantitative data and with this develop a ‘cook book’ with concrete suggestions for how future mobile payment tools needs to be designed in order to work satisfactory to be adopted and accepted by the consumers. A proposed reference group of representatives from a major retail organization and a few of its members will actively be participating in the evaluations of the pilots. Academic texts are being produced aimed for peer-reviewed scientific journals and conferences.

The project will combine various methods for data collection including observations, focus group workshops and interviews following the principles of Extended Co-Design. This is done to study behavior from multiple perspectives. Observations will be documented by filming and still photography and other tools. Comprehensive interviews with single respondents will also be carried out. In phase two, in-house developer will create pilot tools from the researchers’ analysis.

This combination of various methods for data collections give the best possible overall picture of a complex area and will bring knowledge about consumers as well as retailers and other important stake holders.

The below graph gives an overview of the work process.

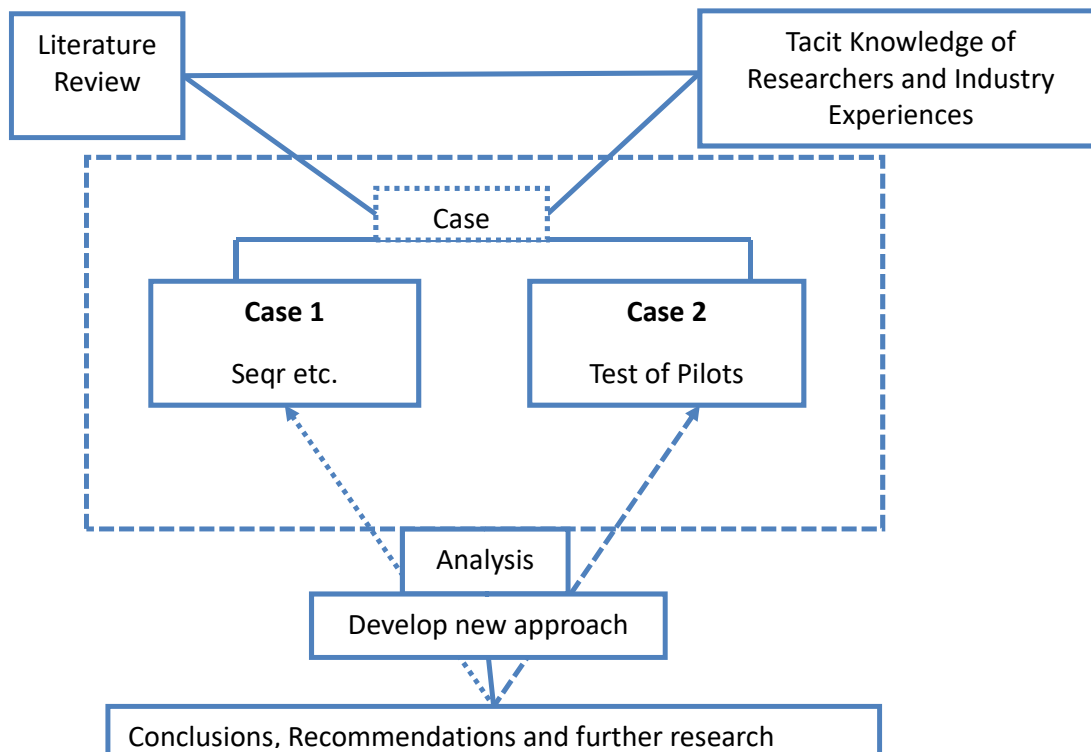


Figure 3 Work Process



## Analysis

An initial stake holder analysis have been carried out based on perspective identified in findings from data collection from literature, interviews and meetings with stake holders.



Figure 4 - Stake holder's perspectives of electronic payments – Initial findings

Figure 4, illustrates an early attempt to map the perspectives of stake holders when it comes to electronic payments. The consumers are looking for convenience and ‘kick-backs’. Retailers, primarily, are hoping for improved cash flow, lower transaction fees with higher customer loyalty as well as lower staff costs, thanks to more efficient processes.

## Conclusions, Discussion and Future Work

Initial findings show that few are using Seqr and other mobile payment solutions. The lack of adaptation may be explained by that consumers have not been convinced that there are any clear benefits neither in terms of convenience nor savings (e.g. discounts, freebies, customer loyalty credits) encouraging them to change their current use of cards or cash. There is a hesitance installing an even greater number of apps on the mobile devices and the inconvenience of registering more user accounts. If comparing Seqr with Swish (a person to person money transfer system) that is well used and accepted in Sweden, the volume and penetration of Seqr is limited (idg.se 2014). One reason for this can be that all the major banks are behind Swish from day one and around 80% of Sweden bank customers were able to use it since launch.

To date consumers been inactive in adopting new payment services and their behavior is relatively unchanged. In parallel, most retailers have been relatively inactive in developing payment systems or adopting third party services, such as Seqr, to achieve lower cost and/or higher revenue. New Government / EU regulations or dramatic increases in bank/ credit card fees may be future change agents to accelerate the development.

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