THE IMPENDING EMERGENCE OF
(SOCIAL NETWORK) PAYMENTS

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THE IMPENDING EMERGENCE OF (SOCIAL NETWORK) PAYMENTS

A study of the current situation of the mobile payments industry in Sweden and the challenges within the ecosystem.

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Abstract

Payment industry is witnessing a fast transition from cash dominant era, to card payments and recently mobile payments. Sweden as one of the pioneer countries moving towards cashless society, has experienced quite fast transition thanks to it’s widespread internet access coverage and robust card payment infrastructure. During last few years there has been many mobile payment solutions launched to this market. As a result, some challenges and dynamics have emerged within the Swedish payment ecosystem. Different actors employed different strategies to secure and maintain their position within the ecosystem. This study aims to investigate the current status of power control within the ecosystem by using an extracted part of ARA framework to clarify how different established actors are reacting to this transition. What is more, conducted literature review for this study revealed that, there are few studies for the future of the payment industry and how the ecosystem should be responded to the current trend of moving toward mobile payments. As a result, by use of Configuration value for networks, this study managed to fine a gap which is, absence of a “Value Network” role within the ecosystem. The study suggests that concepts of value chain and value shops are no longer answering the demands of the market and thus, recommend the incumbents of the industry to create and fulfill the Value Network role, so that it could be used as a defense strategy against potential future industry disruption.
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List of abbreviations

API Application Program Interface
ARA Activity Resource Actors
B2B Business to Business
B2C Business to Consumer
ECB European Central Bank
Fintech Financial technologies
MNO Mobile Network Operators
NFC Near Field Communication
P-Commerce Printed Advertisement
P2P peer to peer
POS Point of Sale
PSD2 Payment Service Directive 2
QR code Quick Response code
RTGS Real Time Gross Settlements
SEPA Single Europe Payment Area
TARGET Trans-European Automated Real-time Gross Settlement Express Transfer System
Visa&MC Visa and Master Card credit companies

Key words: Mobile Payment, networks, value networks, payment industry, Swedish mobile payment ecosystem, money transferring, SEQR, SWISH, Facebook.
1. Introduction

This section aims to provide readers a brief presentation on the subject of this study by providing a background in the field of mobile payments. The section will continue with introducing the Swedish mobile payment, followed by presenting the formulated research question and the purpose of this study. The section ends with delimitations chosen for this study.

Today we are witnessing and living in an era in which societies are moving fast towards cashless societies. An important shift in this respect was the emergence of card payments which enabled societies to speed up this process. The internet and its remarkable penetration has brought more advantageous to improve the speed of reaching the cashless goal. Mobile payments, which is one of the products of internet emergence, is reshaping the traditional and established methods of card and cash payments in developed societies (Ding and Hampe, 2003).

This revolutionary phenomenon of internet and (online) mobile payments has created attractions of new actors and stakeholders in the payment ecosystems. There are now actors like entrepreneurs, telecommunication companies, etc. who wish to gain their share of the market by providing new solutions. Traditionally payment ecosystems were mainly dominated by incumbent actors like state own financial institutions, banks, and international payments schemes like Visa and Master Card credit companies. Those traditionally dominant players, according to the Economist (2012) had invested extensively in creating their infrastructures which they are not going to give up easily and with no conflicts in case of potential invasion. It is suggested that they should invest in innovative solutions if they are to survive (Economist.com, 2012).

According to E-marketer’s estimations, the world’s smartphone users in 2016 has surpassed 2 billion, which shows a 12 % increase from 2013 (e-marketer.com, 2014). This is even confirmed by a projection for 2014 -2020 by (Statista.com, 2017) which they estimated the world market to have 2.32 billion smartphones users’ world wide by the end of 2017.
This is an indicator of how fast the adoption to internet and smartphone could have impact on mobile payment solutions as well.

The stated statistics would also clarify the appealing attraction for new actors and entrepreneurs, specially when banks are reluctant to change and implement new solutions because of their long linked investments in their established empires. Thus, it makes sense why companies like Google Wallet, Apple Pay, PayPal, AT&T, Alipay, Facebook and even Starbucks are pushing their business model to find a way around the traditional payment solutions. In addition to that, in most cases mobile payments generally provide more beneficiary services to different parties involve in a trade, mainly consumers and retailers. Mobile payments enable retailers to make benefits from faster transaction time and promoting their loyalty schemes and also to increase their company image and customer awareness (Karnouskos and Fokus, 2004).

On the other hand, in consumer’s side, to fulfill their needs, mobile payment services need to address consumer’s main needs like convenience, lower prices together with services, which provides them, time and location independence (Karnouskos and Fokus, 2004).
The Swedish market

Sweden is one of the fast movers towards cashless societies. According to the central bank of Sweden more than two third of money transactions in retail industry nationwide is using card payment at the point of sale (POS) (Sveriges Riksbank, 2013). Therefore the current card payments infrastructure is known responsive for retailers and merchants so far.

The main issue for retailers is the high costs associated to this payment method which is too high for them to have profits when it comes to micro transactions (Mallat, 2007:413). According to Swedish central bank, costs related to transaction of non-mobile payments are standing for 0.3% of national GDP (Sveriges Riksanken, 2013), which makes the domain even more attractive for mobile payment solution service providers. According to a study done by Olle Findahl and Pamela Davidsson in 2015 for (IIS.se) the smart phone market penetration in Sweden has well exceeded 77 percent.

In Sweden, since 2012 many mobile payment service providers have tried to introduce and get their share of market by introducing diverse options to consumers in different industry sectors. This trend of emerging new mobile payment solutions has been studied quite widely from different perspectives ranging from comparisons, functionality, technologies they used or problems they managed to solved. But there are not too many studies trying to investigate how different solutions use different value creations.

What is more, there are no clear picture of potential future for the industry and whether there are any gaps associated with success of this trend or not. Thus by having the future perspective for Swedish mobile payment one can argue that Swedish payment market is experiencing a transition from it’s traditional card payment infrastructure to mobile payments. Therefore, having a research to identify the nature of value created by each mobile payment methods available for this market from the industrial management point of view came to interest. This would help the result of this study to have more potential practical implications for future of the industry.

Problem formulation and Research Question

The shift towards mobile payments, although gradually, has been started and soon the trend would affect the entire payment ecosystem (Au and Kauffman, 2008). Thus, it is of no wonder the way we are going to conduct our payments would be different in future.

This study considered Sweden as a pioneer to reach a fully cashless society and thus recognize Swedish payment industry at a transition point. A transition from a well functioning card
payment infrastructure towards using mobile payments. Thus this study would investigate this transition, therefore the research question for this study is:

*What is the gap for the future of the Swedish mobile payment ecosystem?*

**Purpose**

This transition would create some challenges between the already actors of the Swedish payment ecosystem and new actors, which have brought new solution to the market. That’s why the purpose of this study is to illustrate current dynamics between ecosystem’s actors and strategies they have employed to secure their positions in the ecosystem. The study also tries to distinguish and analyze different value creation proposition employed by different mobile payment solutions.

**Delimitations**

Scope of this study has been chosen to investigate interrelations between different stakeholders involved in the ecosystem and their power control over their surrounding networks. The reason for narrowing down the scope is, to reach an in-depth research which would result in practical suggestions. Moreover, different value creations associated to different mobile payment solutions are investigated in this study. Thus, the chosen scope would provide the author to fulfill its goal for this study.
2. Literature review and theoretical framework

In this section you will read brief definitions and previous studies and research that has been done in the field of mobile payments. The section continues with the main theoretical frameworks which are going to be used for this study. The later section, consists of two major theory approaches. Firstly, the control aspect extracted from ARA model developed by IMP Group, to help us understand how different stakeholders are playing their roles in the ecosystem. Secondly, the Value-Configuration theory, which would help us develop our discussion and analyze outcomes and advantages of a value networks for the ecosystem.

Definitions of mobile payments

Initially it is important to make a clear distinction between mobile payments and mobile banking since there is a high level of confusion among the consumers.

Mobile banking is defined as banking routines accessible to user’s, available through mobile phones, which allows users to do their regular affairs like checking their account balance, paying their bills, etc. (Zhou, 2011).

Through the extensive literature that has been researched on Mobile payments there are several definitions that are used. “any payment where a mobile device is used in order to initiate, activate, and/or confirm this payment can be considered a mobile payment” (Karnouskos and Fokus, 2004:44).

However, the term according to Dahlberg is defined as “Mobile payments are payments for goods, services, and bills with a mobile device (such as a mobile phone, smart-phone, or personal digital assistant (PDA)) by taking advantage of wireless and other communication technologies” (Dahlberg et al., 2008, p.165). Huber (2004) defines mobile payments as: “the transfer of an electronic means of payment from the payer to the payee through the use of an electronic payment instrument, which is a mobile device held by at least one participant, which is not bound to any place and sends and receives information over a wireless link”. This definition would be the mean for this study which would provide readers with a holistic view of the mobile payments.

Previous studies

In the field of mobile payments, researchers have studied the field from different angels and possible perspectives. To name a few, the technology aspect, consumer’s perspective, adaptation of the consumers, mobile payment service providers, merchant’s perspective. Many has done studies on existing relationships within the ecosystem through different theories and
academic approaches. Following text would provide a bit of background studies on each aspect of the field briefly.

Considering the ecosystem aspect for instance, Andersson et al. (2013) had found out in their research there are two ongoing major challenges between the business actors involve in the ecosystem. The two recognized challenges are firstly, the degree to which the actors (mobile payment service providers and the already established traditional infrastructures like banks and financial institutions) cooperate with each other, and secondly, the necessity of a change in the current business models running the scene with traditional payments. (Dahlberg et al., 2008a; Mallat and Tuunainen, 2008).

Other researchers have focused on the consumer’s perspectives and the consumer adoption part of the technology. Therefore, a well known perspective is Rogers (2003) and his view on innovation diffusion and adoption rate which considers five characteristics of innovation:

1. Relative advantage; which is the degree to which a new innovation is perceived better than already available solutions. This can be measured by different factors such as social prestige, satisfaction and convenience. For Swedish market the convenience of mobile payments has a major meaning due to its safety and additional values that mobile payments brought to the industry and its users are additional factors to increase and couple satisfaction as well.

2. Compatibility; is the degree to which an innovation is aligned with values and needs of the consumers or potential adapters. The innovation would have more chance of survival and diffusion rate, if it would fit to previously adapted solutions for consumers. In Sweden according to (IIS.se, 2015) the internet is accessible to some 95 percent of the population, thus the greatest majority of the population had educated themselves the use of internet in their daily routine life. Therefore, using a smartphone or a tablet as a device is not considered as a challenge Swedish society and is aligned with the user’s experiences.

3. Complexity; which is the degree of understanding an innovation for its users. The more complex and skills needed for innovations the harder would be the diffusion. This aspect is for Swedish market might only cause few percentages of hinder for elderly people and/or people aged 85 or above or those with physical disabilities argues (IIS.se). Apart from that, the only challenge is the device functionality and how user friendly the interfaces are designed are recognized issues of complexity.

4. Trialability; which is how hard is an innovation to be examined and tested. This factor creates less uncertainty which would most likely leads to faster penetration and adoption. The profound
infrastructure and high speed internet in Sweden together with it’s availability to users has ground the payments service providers the opportunity to launch and do trials while developing their services.

5. And finally, the observability; which implies whether the result of an innovation is visible to others or not. Visibility would provide an innovation the chance to be discussed between the peers and the word of mouth would help the adaption and knowledge sharing would leads to less uncertainty.

Taking the adoption perspective of the mobile payments industry, according to Tornatzky and Klein (1982) in his study in the filed of innovation they found out that among all factors influencing the diffusion rate of innovation, relative advantage and compatibility have the most positive effect on consumer’s adoption. A good example of this situation is SWISH, which is a platform for instant peer-to-peer money transfer in Sweden.

In a study conducted by Mallat (2007) it is stated that according to the survey conducted by Edgar Duhn & Company which is a payment consulting company, they found out that consumer adoption is considered as the biggest barrier for the mobile payment services providers to overcome (at the time of study in 2006). However, contrary to the later founding’s, in a study in Sweden done by Läsförsäkringar (2012) which was focused on large banks they found out that around 80 percent of Swedish consumers could imagine and would accept a mobile payment solution with almost no degree of resistance.

It should be mentioned that most of the studies done by researchers generally used two major theories. The Technology Acceptance Model (TAM) introduced by Davis (1989), and the innovation diffusion which was discussed earlier. In TAM model the suggested principles for adaption to innovations are recognized based on two pillars; the Perceived Usefulness (PU) and Perceived ease of use (PEU) which are defined as:

PU – “the degree to which a person believes that using a particular system would enhance his or her job performance” (Davis, 1989, page 320)

PEU – “the degree to which a person believes that using a particular system would be free of effort” (Davis, 1989 page, 320). Figure 1 illustrates a schematic view of TAM framework.
Technology aspect

Further investigation in the literature shows that the next topic which was interesting for researchers to investigate was the technology aspect of the payment solutions. In the literature, technology part of the mobile payments is divide into two main categories, proximity payments and remote payments. Proximity payments also known as contactless payments are those solutions where consumers and merchant equipment’s are at the same location and can communicate directly with each other (Goeke and Pousttchi, 2010). The place is called POS or point of sale. The most dominant common technology for proximity payments are Near Field Communication (NFC) and the Quick Response codes (QR) codes technologies.

Extensive studies have been done on the NFC technology which has some implications while considering it as a payment solution for consumers and merchants. This is mainly because using this technology requires merchants to implement NFC receiver terminals at the point of sales which are usually similar to traditional card reader terminals but NFC capable. In addition, there would be a need for NFC enabled mobile handsets (e.g. phones) which affect the rate of using this technology as considered as a hinder for this technology to be dominated. This, according to Dahlberg et al. (2008) indicates that there is some sort of confusion available for merchants to adapt and implement new solutions because, so far they couldn’t manage to find enough advantage and incentives to move towards the mobile payments. (Dahlberg et al., 2008; Heijden, 2002).

Another proximity type is the two dimension QR code which is essentially a barcode which users only need to have a smart phone with camera and a payment application so that they can
use the service. This solution has an advantage over NFC technology due to its simplicity in implementation mainly for the merchant’ side.

**Stakeholders aspect**

Apart from consumer’s adoption, technology, innovation and the diffusion aspects of the mobile payments ecosystem, many studies have focused on the stakeholders involved in the ecosystem and analyzed relationships within the ecosystem. Which will be presented here after. Swedish mobile payment ecosystem has actors consist of banks and financial institutions, merchants, consumers, mobile payment service providers and mobile network operators(MNO). In this ecosystem categorization few actors are presenting payment solution to the ecosystem. namely MON’s (e.g., WyWallet), online payment service providers (e.g., Klarna) and mobile payment service providers (e.g. SEQR, Swish) and financial credit lenders (e.g., Santander) and banks (e.g., SEB, Nordea, …). The relationships within the ecosystems has mainly been focused by researchers from the service offering and how these parties historically have tried to play their role in the market and capture their share of the market and in some cases, their protections strategies.

Most of the studies in the field tried to introduce firstly, the competition in the market within the ecosystem of mobile payments by having the Porter’s five forces theory to explain the competitive strategies employed by different actors (Apanacevic2015).

According to Porter (1997), there are five main factors which shapes the competition in the business environment. Threat of new entrants, bargaining power of buyers, bargaining power of suppliers, industry rivalry, and threat of new entrants. The view of Porter’s on the environment reminds and indicates that in competitions, forces are not only created by direct actions and competitors but external and actions of surrounding environment is playing a role in the competition (Pearson, et al., 2004).

Secondly, researchers tried to identify the inter relations between the actors involved in the payment ecosystem through the ARA model (Activity, Resource, Actor), which will be one of the theories for the discussion part of this study and is presented hereafter.
ARA Model

The ARA model tries to conceptualize the business interaction between companies engage in an environment and their confrontations that happens within the networks. The model analyzes the business relationships through three main factors consist of; Actors, Activities and Resources (ARA).

**Actors**, which could be any individuals, organizations or groups involve in the network.

**Resources**, which is the way actors’ tangible and intangible resources are linked together.

**Activities**, which is any interaction and relations between actors. such as sharing knowledge and information, logistics, administrations and etc.

The power and position of a company is defined by its relationships which the company has established through the network of business exchange. Activity links and actor bond and also resource ties are dependent on this mentioned positioning, (Gadde et al., 2003:7).

Within an environment, a company normally tries to develop relationships with organizations simultaneously as performing its own activities. (Ritter et al., 2004). These companies create and improve different types of relations within the network. In some cases, they control over their networks and other companies and in some, they might be controlled by others. There are also situations that they can not have control but they can influence others. They could have the possibility of having extreme control over the whole network, which is monopoly, added (Ritter et al., 2004). He argues that the level of control for companies' management’s is dependent on their power position. Thus a company may select partners to have more control over its relationships and its power positioning.

Ford et al. (2003) and Gadde et al. (2003) have identified three major strategies that managers have to address:

- Control over networks
- Business relationships in the networks
- Influencing and being influenced

However, since major challenges within payment industry and its actors are generated around the control aspect of mentioned strategies above, therefore, the control aspect has been extracted from ARA framework and is presented following.
Control over networks (ARA)

Håkansson and Ford (2002) believes that the control factor is dependent on network structure as well as the activities and the aims of each companies in between, which would make an impact on the rest of the networks structure, too. For this reason, Håkansson and Olson (2012) suggest that companies should set ambitions of control over their surrounding networks of relationships to be able to reach their business objectives. That’s why they should try to manage their activities i.e. linking and mobilizing activities between different actors in their network so they could better pursue their goals.

Configuring value for networks

A challenge to understand how firms are different from each other is a dilemma for strategic managements (Nelson, 1991). The main interest in institutional and dynamic economics is the change aspect in a dominant competitive situation (Parhald and Hamel, 1994).

The research done by Stabell and Fjeldstad (1998) is based on Porter’s view on value chain framework (1985), which in their belief Porter has analyzed his both researches on, Value Chains and Industrial Competitive Forces from the value chain perspective primarily. According to Stabell and Fjeldstad (1998) Porter’s value chain is a method to decompose a company’s important activities and find out the importance of their strategic impact on the cost and value drivers. Stabell and Fjeldstad (1998) believe that the Porter’s view of value chain creation is suitable only for traditional manufacturing companies and not necessarily fits other value creation processes or activities like, service industries for instance.

Stabell and Fjeldstad build their view of value categories based upon Thompsons (1967) three typology of long-linked, intensive and mediating technologies. They further explore and describe these typologies and the Porters value chain idea. According to them, value chains models or maps out the concept of activities of long-linked technologies (like most of traditional manufacturing with all suppliers and actors involved), and value shop, models and maps out a situation where value is created through mobilizing resources together with activities and work together to solve a particular problem. Value networks, models and maps out firms which, creates value through facilitating a networks of relationships and act as intermediaries between customers who use mediating services and technologies.
Stabell and Fjeldstad (1998) define value configuration analysis as “an approach to the analysis of firm-level competitive advantage based on a theory of three value creation technologies and logics”. They continue, that this analysis serves to create better understanding of competitive position of a firm and how it’s position could help them to maintain or even strengthen its position in a competition.

It should be added that Stabell and Fjeldstad (1998) do not disagree with what Porter presented in his work (1985), but they believe there should be more diverse analysis perspective extracted from the Porter’s value framework. Following is a brief description for each of the three value creation processes presented by Stabell and Fjeldstad.

**Value chain**

Stabell and Fjeldstad reflect on Porters work and define “customer value”, which they believe is produced as either activities that could reduces the cost or activities that could improves customer’s performances so that customers would gain advantage by choose to use that product. Therefore, technology developments are mainly towards either reduction of cost of production or to improve consumers’ adaptation and create an increase in buyers purchasing criteria’s. (Stabell and Fjeldstad, 1998).

Value chain configuration is categorized into two level of activities (Porter, 1985). Primary activities and support activities. Primary activities are those which are directly involve in bringing value to the customer, and support activities are those activities which enables, support and improve primary activities. The reason of having ‘support’ label is due to the fact that these activities only are effective upon value delivery of primary activities to customers. Primary value chain activities deal with physical products (Porter, 1985: 38).

Primary activities in value chain categories are (Porter, 1985:39-40); Inbound logistics, operations, outbound logistics, marketing, services. Support activities however are categorized as; procurement, technology development, human resource management, firm’s infrastructure. Examples of Value chain are basically any manufacturing company that produces goods.

**Value shop**

Value shops, implies firms which can be modeled within the category of intensive technologies, which according to Thompson’s view, are those firms which acquire intensive technology to solve a special customer problem. (Stabell and Fjeldstad, 1998). In this value
creation, determination of how activities and application of resources should be chosen is done by the specific problem requirements. Complexity of the problem to be solved, represents the intensity level which should be used in the shop. (Stabell and Fjeldstad, 1998). Accordingly, those firms trying to develop industrial products and process which employs problem solving by using intensive technology in their focal point of activities are recognized as value shops (Clark and Wheelwright, 1993). Examples of values shops are intensive technology firms, architecture and engineering and also law firms. The shop metaphor signals that “problem solving - solution fit”, is of main importance to the value shops. “This puts emphasize on the main expectation of value shops which are improving processes and /or decreasing costs on the object worked on” (Thompson, 1967:43). According to Simon (1977) problems are defined by the difference of current and existing state and the desired state. “the intensive technology is thus directed at bringing about desired changes in some specific object of interest to the client or customer” (Stabell and Fjeldstad, 1998). Usually the value that shops bring for the processes are of small percentage of the entire cost but they have high impact and major effect on the objects they work on. (Stabell and Fjeldstad, 1998). The main challenge for value shops is to find out a meaningful driver for value they are producing so that they can improve it even further to meet future demands and solve problems of customers with unique and novel solutions. (Stabell and Fjeldstad, 1998). Business value and product value (no matter if goods or services) scopes are very important in value shops. They are interrelated and the importance increases as the specialization for problem solving increases. Therefore, a high vertical integration within businesses is recommended while using shop value creation. This high degree of integration would enable generalists people could have the chance to meet appropriate specialist and interact as fast and efficient possible (Stabell and Fjeldstad, 1998).

Value networks

Value networks are firms that would fits into Thompson’s (1967) categorization of mediation technology, that are firms which links and facilitate clients and customers who are or want to be interdependent within a network. The mediating technology, enables firms to exchange relationships among customers without considering time and location. “The firm itself is not the network, it provides networking service.” (Stabell and Fjeldstad, 1998).
The term, network implies the importance of value from customers’ perspective, whom are aiming to have existence and presence with a network of relationships, and the critical value in focus is the customer network itself. The value of communication service within the network, is the main possibility that the network provides to its customers as an advantage (Stabell and Fjeldstad, 1998).

Modern societies are complex in terms of actors and organizations. Linking and facilitating these factors are therefore the main value proposition of value networks. One can describe mediators as club managers. The mediator role is to admits customers that would fits other customers desired needs or in this case relationships to be created. “supplier-customer relationships may exist between members of the club, but to the mediating firm, they are all customers” (Stabell and Fjeldstad, 1998). This is the situation of banks as an example, where both money borrowers and depositors are banks customer, and money depositors are recognized as suppliers. For mediators, by acting as an intermediary, they would enable bilateral relationships and exchanges to become multilateral relationships and exchanges. (Stabell and Fjeldstad, 1998). Therefore, adding more customers to the network directly would affect other customers which is known as side externalities (Katz and Shapiro, 1985).

Mediators usually charge their clients (or customers) heterogeneously or separately from others for the opportunity they provide for their customers on actual linking services in terms of performed activities and network capacity usage of each customer. (Stabell and Fjeldstad, 1998). “Value networks are characterized by demand-side economies of scale resulting from positive network externalities” (Stabell and Fjeldstad, 1998). That is, value is increased by each customer (or member) added to the network (Katz and Shapiro 1985). Thus size of customer pool of the value networks is of highest importance.

It should be added that services offered by mediators or value networks are of the extreme nature. This is because “dependency of customers” is the main product which is delivered to the network of customers.

A great example of customer composition and its positive externalities effect is to consider a mobile network operator (MNO). The more consumer a MNO could attract to join or provide access to its telecommunication services, the more would be the value and positive externalities for other members (companies) which have relationship with that MNO. Thus other members (companies) would also enjoy the positive outcome of the network. As a result, another member company in the network might experience increase in sales of its products ordered over telephone.
3. Method

The purpose of this section is to describe the methods used to conduct this master thesis. The section will present the chosen paradigm for the study and strategy selected. The sections will justify methodologies used regarding data collection and data analysis. The section ends by outlining the sustainability and ethics considered for this study.

Research paradigm

A research paradigm according to (Collis & Hussey, 2009. P.10) is “a framework that guides how a research should be conducted, based on people’s philosophies and their assumptions about the world and the nature of the knowledge”. The chosen paradigm for this study has been the interpretivist’s paradigm. Interpretivist is a paradigm that relies on inductive process, and the assumption is that social reality is created in minds of people in the society and depend on the level of understanding and investigation. Therefore, the result and findings are subjective and won’t be the same for every one doing the same research. (Collis & Hussey, 2009). “In inductive approach, it is the theory which would follow data rather than vice versa as in deductive approach” (Saunders et.al, 2009, p.126). Which means researcher make use of theories to explore or explain a phenomenon and the interest is to see whether and if the theory and the reality would match. Interpretivism paradigm was chosen to let this research investigation’s being deep and enable the researcher to understand a holistic view of current situation of mobile payment industry and its ecosystem in Sweden. Since the dynamics and relationships within the ecosystem can’t be translated to digits and statistics, therefore, this research made use qualitative data.

Nature of the study and data collection

The purpose of this study is of an exploratory nature, which according to Robson (2002:59) aims to see “what is happening; to seek new insights; to ask questions and to assess phenomena in a new light”. Saunders et.al (2009) argues that the advantage of exploratory approach is that the research is flexible and is adaptable to change. Flexibility is justified by Adams and Schvaneveldt (1991) which they believe that the flexibility would let a research to be broad in its initial stage, but later on become narrower as the research progress. Collis and Hussey (2009) suggest different ways to conduct an exploratory research among them; “a search for the literature” and “interviewing the experts”.
To fulfill both mentioned suggested solutions from Collis and Hussey (2009), this research has used the qualitative data approach to gather data in terms of literature and interviews to create the ground for an exploratory research.

**Qualitative data, Validity and Reliability**

Qualitative research, according to Bryman and Bell (2015), consists of more extensive information from non numerical findings and is done to better understand the characteristics of a specific field. Qualitative data are normally transient, and understood only given the subject of the research in focused and are associated with an interpretivist approach which usually results in finding with high degree of validity (Collis & Hussey,2009). Validity according to Collis and Hussey (2009) is “the extent to which the research findings accurately reflect the phenomenon under study”. In interpretivism’s approach the aim of research is to have full and deep access to details in the knowledge field. This phenomenon would consequently provide higher validity for interpretivist paradigm approach (Collis & Hussey,2009).

Therefore, to have deeper understanding about the mobile payments, coupled with high validity this study has exploited individual face to face interviews with different actors and experts within the industry. Interview, as defined by Collis and Hussey (2009, p.144) is “a method for collecting primary data in which a sample of interviewees are asked questions to find out what they think, do or feel.”

Reliability, according to Collis and Hussey (2009) is refers to “the absence of differences in the results if the research would repeat”. But since this research follows the interpretivist approach, the reliability has less importance due to its subjective nature. Therefore, Collis and Hussey’s (2009) viewpoint, which argues that; in qualitative studies, the importance of the reliability is not as critical and crucial as in positivists studies, is applicable for this research.

**Data collection, primary and secondary data**

For the purpose of this study, both primary data, which are data’s specifically gathered to address specific problem (Collis & Hussey, 2009) and secondary data, “which are data available already and gathered for other purposes “Saunders et.al (2009, p.256) has been used. Regarding the secondary data, extensive literature review including online sources and previous researches, academic articles and journals published, was investigated. Mainly databases like KTH library, Diva, and Google Scholar has been exploited and used to create a profound understanding of the payments industry. More specifically, to obtain deep insights in
Swedish mobile payment industry ecosystem. As for the primary data, interviews have been carried out with industry experts, previous researchers, entrepreneurs in the field. Two face to face individual interview with Peter Fredell, the CEO and founder of the mobile payments service provider SEQR, from Seamless AB, was conducted on 2th of February and 10th of April 2017. Interview’s took 70 minutes approximately and was held at the Seamless office in northern part of Stockholm Sweden. Another interview with Tatjana Apanesevic, former researcher in mobile payments and (contactless mobile payments) PHD student at KTH Royal Institute of Technology Sweden was conducted on 4th of April 2017 at her office at KTH Kista Electrum campus, which the interview took 80 minutes. Interviews were designed as semi-structured in nature, which means not all the interview questions were prepared in advance and questions were open-ended. This would help the interview process to have its genuine flow and would let the discussion be open that would help the researcher to gain in-depth understanding of the research field. For this reason, the interview questions included close questions, hypothetical questions (to encourage broad thinking) and summary questions to clarify the objectives of the questions and avoid ambiguity as suggested by Collis and Hussey (2009).

Gateway for analysis and discussion section

Use of theoretical framework for this study was to choose two major and known articles namely, ARA from IMP Group to illustrate and analyzing the power control of parties within the ecosystems of mobile payments, therefore the control aspect of the ARA framework has been extracted. In addition, the Configuring Value for Competitive Advantage from Stabell and Fjeldstad (1998) framework was chosen to analyze and illustrate the future changes in the mobile payment industry within Swedish ecosystem, which would help the research to propose some hypothesis for the future of mobile payments in Sweden.

Case study

Case study strategy has been chosen for this study, according to Eistenhendt (1989) he advises for case studies it is best to” combine data collection methods, such as archive searching, interviews, questionnaires, and observations. The evidence maybe qualitative (e.g. word) or quantitative (numbers) or both” Eistenhendt (1989, p.534).
A case study “is a methodology that is used to explore a single phenomenon (the case) in a natural setting using a variety of methods to obtain in-depth knowledge” Collis and Hussey (2009, p.82). Yin (2003) identifies a case study as a way not to limit the study within a certain phenomenon and boundaries, but rather to explore and understand it in a broader context. Which is justifying the use of a case study for this study, since the study does not aim’s to only study the mobile payments and dynamics of the ecosystem, but rather the phenomenon in a broader context which is the emergence of (high possibility) social network payments. For this reason, the study would use a case company, SEQR from Seamless AB in Sweden which has been operating in the mobile payment industry since early 2012. Saunders et.al (2009, p.146) “a single case may be selected because it is typical or because it provides you with an opportunity to observe and analyze a phenomenon that few have considered before” which is the case for choosing SEQR. The company meets the criteria presented by, Eisenhardt (1989, p.534)” understanding the dynamics within single setting” by which, setting being the mobile payment ecosystem (industry) in Sweden. In addition, to help more investigation for the field, both in presence and for potential future there are additional two more briefly described cases of SWISH and Facebook which would fulfill the practical implications of different roles for the aim of this study. Exploiting these two additional cases would help readers to gain more holistic view over potential future threat to the mobile industry.

**Sustainability and Ethics**

As mentioned earlier, many national governments around the world has initiated programs to move towards cashless societies. As a result, cashless societies, apart from it’s other social and economical aspects, consider the environmental aspect of the phenomenon as well. Thus, online banking and mobile payments are considered as important ways to reach more sustainable future by cutting paper consumption in which Swedish government has took several thorough actions during past decades and in considered as one of the pioneers in the field. Thus readers of this research will have the opportunity to realize the advantages of a cashless society by using a mobile device. In addition, ethical part of this research has been following the Swedish regulation on having ethics for researchers. As a result, KTH university was informed about reasons, and the purpose of this master thesis research. In addition, interviewees where asked about their consensus for publishing their ideas and their confidentiality has been respected.
Information gathered from interviews are not revealing any personal or corporate sensitive information, thus the study would be aligning with KTH research and ethics criterion.
4. Findings

This section tries to present the gathered qualitative data and aims to provide knowledge in the field of mobile payments to the readers so that they could have a holistic and clear understanding of the industry.

Traditionally, positioning of different actors in the payment industry ecosystem after the cash dominant era followed by the emergence of card payments, was quite clear and the role they used to play was almost the same for most of economies around the world. A typical card payment ecosystem would include these actors; merchants, consumers, card issuers (banks), credit card companies (Visa & Master Card), regulators. Regulators are the facilitator companies for credit companies to deal with contracts with merchants and provide point of sales card readers, help merchants with cash registers and etc. In other word, regulator’s role is to connect merchants to the infrastructure that exists and owns by financial giants of Visa & Master Card (MC) to be able to accept money transaction from any financial institutions connected to Visa & MC (clearing house) worldwide. This infrastructure is known as “rails”. (Pro Hearings payment solution event Göteborg, 2015).

![Figure 3: Traditional Card payment ecosystem and its major players. Source: (Heidarian, 2017)](image)

In an interview which took place with founder and CEO of Seamless, Peter Fredell (April, 2017), he described the ecosystem and its dynamics within the Swedish market. He
made a clear illustration of why there are too many actors trying to innovate and willing to be involved in payment industry. According to him for any transactions take place at merchant’s point of sales (POS), 2% of each transaction are costs for merchants which they have to pay and for credit card payments this percentage is even higher and about 3%. These fees are the merchant’s dilemma especially when it comes to micro transactions. Because some times the fees are even more than the profit they make on a single item sold.

Referring to Mckinsey statistics, Peter Fredell claimed by 2012 the amount of transactions fees (interchange fee) that are paid by merchants were 1.4 trillion US dollars worldwide. Which make the payment industry attractive enough for many actors and new venture to target this industry. According to Fredell this gigantic market is a battle field for actors involve. See figure 3 extracted from Mckinsey which shows revenues derived from interchange fees worldwide.

![Graph showing payments revenue](#)

*Figure 4: World Interchange payment revenue McKinsey & Company. (retrieved April, 2017)*

Having this information of the market potential, would let us understand the logic behind why companies and new actors strives to gain their share of market by addressing different problems and offering new solutions to attract consumers and merchants.

Among other new solutions and new entrants are fintech companies (financial technologies) which during recent years by utilizing internet as their core competent have tried to reach this gigantic market. Swedish payment market, thanks to it’s advanced technologies coupled with widespread internet access infrastructure, the market has met many of new payment solutions.
Examples are Klarna, SWISH, SEQR, WyWallet, different ticket purchasing platforms like SL, and many more online retailers which has developed new ways to attract merchants and consumers to reach the market.

Investigating deeper in the infrastructure, one would realize that there are mainly two channels available for financial transactions to be done, no matter if the transactions are of B2B or B2C or C2C in nature. First channel, which is done through banks that are connected to the “rails” (infrastructure developed by Visa&MU) in one end, and the countries central bank settlements systems (in Sweden (Bankgiro)) on the other end. In this channel all financial institutions are connected to the rails, could enjoy the clearing services of Visa&MU. Figure 4 shows how Visa&MU schemes are designed.

Second channel, is the Direct Debit payments and settlements, that does not required transactions to pass through rails and basically no point of sale is engaged. The latter is simply the traditional wire transferring (happening when someone as a payer sends money to a payee bank account). In this channel banks are directly connecting payer and payee accounts through the national settlement systems (see figure 6) of the country in our case, Bankgiro, (developed by Swedish Central Bank, Riksbanken). See figure 5, direct debit

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*Figure 5: A simplified version of how Visa&MU infrastructure works. Source (Heidarian, 2017)*
payments settlement through within banks.

These two main available channels for transactions has created dynamic within the payment ecosystem and became new company’s obsessions. Fundamentally, for fintech companies it is eithers trying to get around the traditionally established rails, or they tried to find new innovative solutions to build their business models based on the current rails available to them and made use of the existing infrastructure. For instance, Swedish based startup, Klarna which is a financial entity tried to get around the rail system by offering consumers to collect all their purchases being invoiced at the end of each month, and provide merchants (especially the new venture and mainly online retailors) with almost instant settlements. This way, Klarna has managed to get around the rails and use direct debit payment from consumer’s banks account to its own and/or merchant’s account without using the rails. Thus, Klarna could provide encouraging offerings for merchants. Among them, lower transaction fees for merchants, enabling new venture with low turnover and working capital to continue and improve their sales by removing the hassle of dealing with traditional rails fees and having the obsession of increase their operation budgets and thus, decreasing costs for merchants. This way, Klarna has found its own way to reach the gigantic market and by adding credit payments options and instalments plans for consumers, the company tries to improve its revenue channel as well.

In another attempt, iZettle, a company founded in 2010 which provides merchants and small businesses POS devices (card reader terminals) that are compatible with Apple products (IPhone and IPad) tried to reach the market based on existing infrastructures through using rails. The company charges higher transaction fees to merchants (2.75%, for transactions up to

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Figure 6: A simplified version of how Direct Debit payments works. Source (Heidarian, 2017)
SEK 20000 per month) and sell its devices to merchants and businesses for 379 SEK with no specific notice and boundaries in its contracts. iZettle coupled its business offering with cash registration software and offer some financial management software for businesses to let them control their sales as complimentary offerings. This way iZettle has managed to build its business model based upon existing rails. Therefore, the company surcharges its customer’s higher percentages so that iZettle could both pay its liabilities of using the rails and make some profit on top of it.

Breaking down the transaction fees and how rails are working

At this point it would be appropriate to break down the rails fees that merchants are suppose to pay. According to Fredell, of each 2% fees that merchants pays, there are different actors that acquire a margin form the sum but the main actors are usually as follows; Acquirer’s (Visa&Master card) 0.2%, Card issuers (banks) 1.6%, Regulators (in Sweden biggest company is BABS own by Swedbank) 0.09% which together with a very small margin for the device providers and other intermediaries the sum would be 2% in the end. The fee which is called interchange fee occurs when the issuer bank (payers bank) transfers to (payee/merchants) bank via Visa&MC infrastructures (rails).

Traditionally, banks are using their customer’s salary accounts to create their first tie and contact with their customers. Therefore, salary accounts are known as the starting point of mutual relationship between banks and their customers. According to Peter Fredell, salary accounts are not the profitable part of banks operations and administration operations associated to these accounts are even recognized as costs. However, he explained that because of the relationship created upon those salary accounts, banks are able to make their profits by selling other financial products to their customers. Products like insurance, long and short term loans, mortgages, and also be able to issue cards for their customers so that they can make benefit of the transaction fees.

Transaction fees sourced from 1.6% of the transactions are estimated to be roughly about 30% of banks net profits, added Fredell during our interview. As discussed earlier Visa&Master Card has developed their infrastructures for card schemes during many years and established a networks which banks could join and enjoy the financial services provided by these two main actors worldwide.

Thus, traditionally banks and Visa&MC where alliances because they were both beneficiary for each other. Banks use Visa&MC services and infrastructures to offer their customers services provided by those credit companies and at the same time they’re able to make
tremendous profits of this relationships based on transaction fees. Visa&MC would also enjoy the relationship with banks since by offering such profits to banks they would attract almost any banks to join their rails and there by creating some sort of monopoly over their customers as well. For this study this implies that almost all of Swedish population are tied to their rails through their bank cards.

Point of sale (POS) devices which are delivered and installed for merchants by contracts, according to Fredell, are principally routers that allows merchants and consumers to reach the rails and thereby make the transactions happen.

**European Union vision on payment industry and banking**

On European scale however, during recent year’s European Union and European Central Bank (ECB) had tried to improve the laws and regulations ruling the banking industry, to prevent and restrict oligopoly of established networks. These efforts had been designed to both facilitate banking operations in EU zone and also to open up doors for innovation driven solutions/companies to join the industry. Among those efforts are, creating SEPA (Single Euro Payment Area) by European Central Bank (ECB) which according to them the aim is to “turn the fragmented national markets for euro payments into a single domestic one. This will increase business opportunities and competition among providers of payment services. It will bring down prices for customers and raise the quality of services.” (European Central Bank, 2008).

To achieve this vision, the ECB created an integrated central RTGS (real-time gross settlement) system which enables the euro member states with different central settlements systems join this platform. The platform is called TARGET2 (Trans-European Automated Real-time Gross Settlement Express Transfer System). According to ECB the platform aimed to harmonize the diversity of the infrastructure which different member states had developed and caused variation in cross border payment transaction operations. (www.ecb.europa.eu).

TARGET 2 also works as an interbank RTGS clearing house, for banks allover the Europe. This way almost all banks in EU are connected to SEPA system. In other word’s the direct debit payment transaction are now accessible for cross border payments even without Visa&MC rails.
Following the mentioned vision of European Union, there are two critical regulations that has been ratified and took into action. First is the EC-MIF or IFR (interchange fee regulation), which regulates the interchange fees cross the Europe and aimed to prevent the variations of fee charges in different member states. “there are a variety of interchange fees applied within national and international payment card schemes, which gives rise to market fragmentation and prevents retailers and consumers from enjoying the benefits of an internal market for goods and services” (emoneyadvice.com). The IFR obliges credit provider institutions such as Visa & MC to limit interchange transactions fees, for debit card transactions to 0.2% and for credit cards transactions 0.3% for cross border transactions (emoneyadvice.com).

This regulation also provides different schemes to operate in whole EU region by obtaining only one license from any member states, thus financial entities don’t have to obtain licenses for each member state.

The second remarkable and crucial regulation ratified by EU, is the PSD2(Payment Service Directive). This directive obliges banks in European Union and European Economic Area to open up their customers account information to third party financial service providers. This means banks customers no matter consumers or corporates can now choose whom to have access to their accounting and manage their financial affairs. The PSD2 allows third party companies to have access to banks customers through API (Application Program Interface) and build their services and financial product offerings to their consumers based on information’s provided from banks. According to (every.com) this might be the end for banks
to have monopoly on customers account information and therefore in early future consumers may experience services like, peer to peer money transaction and bill payments being carried out though companies like Google or Facebook and other payment service providers than banks. This directive is a revised version of initially Payments Service Directive regulation which was ratified to make the ground for European union to reach their ultimate goal, which is to create a unified market for EU citizens.

According to Jonathan Hill, responsible for financial stability, financial services and capital markets union” The new Payment Services Directive will ensure that electronic payments in Europe become more secure and more convenient for European shoppers. This legislation is a step towards a digital single market; it will benefit consumers and businesses, and help the economy grow”. (Hill,2015).

The regulation is already implemented in many countries and is suppose to be implemented in all member states by the end of its two year’s period to be implemented in member states internal laws, which is November 2017. In Sweden, Nordea bank announced its Open banking and third party API opening in a trial to see the interest of possible third parties and invited companies to bring their innovative ideas to the table earlier in March this year. According to their web site there were 300 companies applying for the trial within 72 hours of launching the opening, which proves the interest for fintech companies in this industry.(Nordea.com,2017).

Jarkko Turunen, Head of Open Banking at Nordea mentions that in the first pilot trials API’s for customer account information and payment initiations would accessible for third parties to build their innovative offerings to consumers, while having the account owner consent.
5. Case studies

In this section of the study, three case studies are presented. A complete case study conducted on SEQR form Seamless Distribution AB is presented in the first place. The section will continue with two more brief case studies on SWISH and Facebook which would enable deeper analysis for the discussion part of the study.

SEQR (Seamless Distribution AB)

Seamless Distribution AB founded in 1999 started its operations initially as a solution for mobile top-up service for pay as you go mobile phone subscribers in Sweden. The company soon became one of the world leaders in top-up services and in 2002 took the step to go international and started its electronic top-up in France, and in following years penetrated to middle east and Africa. For time being the company is active in 28 countries worldwide and has over 200 million subscribers. (seamless.se)

After almost 12 years of constant developing its transaction switch as it’s core technology to process over 2.4 billion transactions in 2011, the company entered the mobile payment arena. By then the company had already established its relationships with many actors in retail industry and consumer markets, among them Seven-Eleven chain store, McDonalds, Axfood (including its subsidiaries Hemköp, Willy’s, Tempo, RrisXtra) Burgerking, Max Hamburger and many more. Having the infrastructure of transaction switch and the relationships developed through the years, they managed to introduce their mobile payment solution SEQR. The App launched and did its pilot for public via their established relations initially in 2012 with, Ax food group in Sweden in more than 400 of AX food stores as the pilot trial.

SEQR’s Co-Founder history

As a co-founders and a CEO, Peter Fredell started his career in financial and banking sector with specialization in derivatives and Option markets in Sweden since 1985 and continued for 16 more years at senior positions at different European financial institutions from Bank Leu in Switzerland to head of Bankers Trust for whole Europe other than Germany, France and UK. Having more than 25 years of experience in the industry Fredell knew how should he approach the giant market of payment industry with its now payment solution SEQR mobile payment App.
Using QR codes

SEQR was designed to carry out payment transactions only via direct debit channel to avoid paying extra fees being paid to rail infrastructure by merchants. That way, the cost of transactions would decrease and thus SEQR could offer lower transactions cost to merchants. To avoid using the rail infrastructure the company found an innovative solution to go around the rails and that was using Quick Response (QR) codes at each point of sales. The company assigned a special QR code to each cash register at retail stores which was designed to connect consumers account through the in-App QR code reader to the merchants account by scanning the QR code at the cashier counter within 0.6 sec.

Logic of the innovation

As mentioned earlier, the initial design of SEQR was to make an independent mobile application platform being able to work off the rails of Visa&MC. The ultimate goal is to be able to play the role of a card issuer (bank) which gets the highest profit in the giant market of payments. To reach that goal the in the early stage SEQR tried to make use of direct debit channel without interference of credit rails and banks, but since the merchants were reluctant to get their transactions off the rails (even though they would benefit from that) the company had to pivot from its original business model and made a contract with the Visa&MC so that SEQR could use the rails as well.

However, to take the issuer role the company originally had another innovative solution and that was to make an alliance with third party credit companies. Thus a consumer would buy his/her goods through the whole month and a bill would be available to him/her in the end of the month including all the transactions and the sum to be paid. Consumers could choose to pay the bill or pay it in instalments with some interest rates on top of the sum. This way SEQR could play the role of an issuer bank as well.

In summer 2015, align with European Union vision of, creating united market and opening doors for innovation and minor actors in financial sector in its member states, a new regulation was ratified. The new regulation created a huge impact on the SEQR’s business model and architecture. This regulation allowed the financial institutions as well as credit companies like Visa&MC to issue digital payments cards. This became a remarkable turn for SEQR. The company now is recognized valuable for Visa&MC since they could see SEQR as their distributor, without having the banks involved in any transactions. Moreover, SEQR has now
the ability to connect its consumers (App users) to connect any bank account (ranging from saving account or a credit account) to the mobile-app. Consumers using the SEQR mobile-app would give consent to the company, which would allow SEQR to handle transactions on their behalf from consumers bank to acquirers (merchants) bank account. Which as described earlier is through rails and now with digital cards though direct debit channels.

**Advantages of the platform**

SEQR is an integrated platform which offer advantages for its both customer parties. On user’s side (consumers), the intuitive user experience and fact and secure payments are at the core service offerings. In addition to that users could have the chance to have all their discount and bonus coupons gathered at one place in their app can choose to automatically redeem their discounts as they pay with their phone devise. Moreover, they can send money to their friends by using the peer to peer money transferring to whom ever has the app in more than 12 countries that SEQR is working today. The app also offers parking payments and ticket purchasing in a very fast manner through its QR code reader technology. Another unique feature is the p-commerce (printed advertisement) which consumers could buy, order and complete the payment directly by scanning a QR code any magazine or billboard or advertisements on buss stations. And still on top of all other services consumers would get up to 3% cashback based on their monthly sum of purchases.

On the merchant side, the company would let the merchants have their advertisements on the applications based on analyzed data from consumer’s purchasing behavior and fast check out’s at point of sales locations to avoid long queue’s and congestions. And most importantly the lower transaction fees than using banks and the traditional payment routs. The latter offering is of especial importance for merchants when it comes to micro transactions which is a dilemma to them.

**Constant development**

Since 2012 the company constantly developed its infrastructure and mobile application, as well as its business model. In its latest quarter press news, the company revealed that they are going to add international instant money remittance as a result of a strategic alliance with Express Money (a subsidiary of Western Union) in second quarter of 2017. As a result, the users could send money instantly to more than 150 countries around the world. Also the company recently implemented the MasterCard online purchasing solution (MasterPass) to its mobile app which would provide users with even more convenience when buying online and through their phone.
Among other changes in operations and developments, the company has started to use NFC (Near Field Communication) technology as its primary gateway for payments to be done instead of QR codes which was used before. This according to SEQR’s CEO would let them have access to more than 183,000 point of sales terminals in Sweden which are suppose to be equipped to NFC technology by the end of 2018.

Following illustration is a holistic view of services the platform provides to its users. The four major areas of operations are transportation, global Omni channel shopping experience, and the business & merchant world. (see figure 7)

![Figure 8: A general overview of SEQR’s value proposition cycle. Source: Seamless.se (retrieved April, 2017)](image)

Outstanding interview remarks with founder

During two in-depth interviews with the founder and CEO, Peter Fredell mentioned that the company has no yet started to invest in advertisement and marketing. The reason behind according to him, was the constant developing and pivoting to the new conditions and demands and also to prevent potential system failure prior to each new feature launches. “We believe there should be absolute zero bugs in our operations prior to our heavy investment on our publicity” added Peter Fredell (personal conversation, 2017).

In addition, he mentioned that the competition forces from incumbents from the industry was a great barrier to them to introduce their services to merchants. He further explained that the customer acquisition expenses for SEQR in last quarter of 2016 was 163 SEK and this amount was 106 SEK comparing to the summer season the same year.
**Case: SWISH**

Swish is a Swedish peer to peer money transferring mobile app platform which is developed by six major banks in Sweden. Nordea, SEB, Handelsbanken, Swedbank, Länsförsäkringar, Danskebank. The platform was a respond to an upgrade in mobile payments solutions which was demanded from consumers to be able to transfer money to their peers in society instantly. The company founded in 2012 and managed to capture tremendous attention among Swedish society very quickly.

The platform allows users to use a simple and intuitive application to send money to their friends by using their phone number with the prerequisite of both parties having the SWISH app installed on their smart phones. For time being the platform works only for peer to peer money transferring and there are no fees involved for payee and payer. There have been some trials to add Swish Företag (for businesses) which had failed due to system complexity and volume of transactions. In all trials merchants were required to pay fees for the money they received.

According to company’s website there are more than 5,4 million users in Sweden as of end April 2017 and in January same year more than 10 billion SEK were transferred through he platform. In April 2017 there were more than 5400 new users whom joined the platform.(www.Getswish.se, 2017). According to (Gunilla Garpås, 2016) she believed the increasing user acquisition of the platform is due to its unique service. It is worth to mention, she also approved that SWISH is the only available platform available to Swedish society (November 2016). Figure 8 shows SWISH peer-to-peer money transferring mobile application interface which illustrate the step by step procedures for users to send money instantly.
Figure 9: Swedish peer-to-peer money transferring mobile application interface. Source: (Edbor and Soltanieh, 2013)

Case: Facebook

Facebook the social media network platform which had shown its interest in payments, started its engagement in the field by introducing its Facebook Credits in 2009 for its online games. Developers and users for games could by Facebook Credits to send and earn on Facebook.(www.theregister.co.uk,2009). Facebook Credits continued until September 2013 and the company discontinued the use of Facebook Credits and announced the company would use the normal online payments for its advertisements and gaming purchases.

Having the experience of handling over a million payment transactions per day, in 2015 Facebook decided to launch its own payment scheme rather than implementing the already well known services like PayPal to its platform.(Techcrunch.com, 2015). The company launched its free peer-to-peer money transferring in the United States through its messenger app, where users could send money to their friends by pressing a $ sign in their Messenger app. According to Steve Davis, Facebook’s product manager in 2015, “We’re not building a payments business here,”. Instead, Davis says the goal is to offer P2P payments for free to make Messenger “more useful, expressive and delightful.” (Techcrunch.com, 2015).
The company has recently in October 2016, managed to obtain license for its operations as an e-money institution and became eligible to have financial activities through Ireland, and thus Facebook can expand its payment operations in Europe and EEA as well. (Techcrunch.com, 2016). The company has announced the payment services would include free peer to peer money transferring and for charity purposes at the meantime. Facebook has over one billion active users using its text messenger service and had acquired world leader OTT (over the top) text messaging service WhatsApp which has over 1,2billion active users around the world.

Figure 10: Facebooks peer-to-peer money transaction mobile app interface. Source: Techcrunch.com
(Retrieved, April 2017)
6. Discussion

In this section of the work a discussion on current and recent situation of mobile payment industry is presented. It is aimed to use academic theories presented earlier in the text to analyze the mobile payment ecosystem and describe current dynamics of the industry.

Sweden as a country which has aimed to become a cashless society was at the center of interest for researchers. That’s why Swedish mobile payments environment has been researched in many ways through the past years.

Traditionally financial institutions (banks) had the main market dominance on payments in Sweden. From pure cash era to the card dominated era. This phenomenon had enabled them to create some sort of monopoly on the payment systems. But the emergence of internet and it’s widespread accessibility of it for Swedish society through the last recent years, had caused this market to face some challenges and changes in the established and almost fully controlled situations governed by banks. According to a research from ISS (2016) more than 90% of the total population in Sweden has internet access and 77% of them are using mobile as their access point to the internet. This had forced previously incumbents in the ecosystem to start reacting to the situation.

So far, you’ve been presented academic theories and data gathered through qualitative study in mobile payment industry and the Swedish ecosystem and its actors. At this section of the text the author would try to use academic theories as tools to illustrate dynamics between different actors of the ecosystem. To do so, the text would start by using a major aspect of ARA model (extracted) to discuss different behaviors of different actors involve in the industry. The discussion would continue to analyze the industry by making use of the Configuration Value for Networks to analyze different value propositions of each actor within the mobile payment industry from traditional value chains to potential future value networks.

Taking the ARA framework into consideration, (Gadde et al., 2003) suggests “The power and position of a company is defined by its relationships which the company has established through the network of business exchange”. To reach that positioning there are three main criteria’s that managers has to address, which according to Ford et al. (2003) and Gadde et al. (2003) are; Business relationships in the network, influencing and being influenced, control over networks. The author has chosen to use a major criteria of mentioned
aspects of ARA model which is the control part of the framework, to provide readers a holistic view of the dynamics within the ecosystem.

The control aspect of ARA model which deals with having control over networks, implies and causes much of the dynamics within the Swedish mobile payment ecosystem.

Since the emergence of fintech companies (financial technology), as new actors, offering mobile payment solution like SEQR or WyWallet (a mobile network operator money transferring and purchasing solution) or Klarna and iZettle, in 20112 Swedish banks understood that they need to improve their services and update their offerings to be able to maintain their position in competition of technology arena. The result was SWISH, a peer to peer money transferring application which was developed by six major banks in Sweden. This mobile payment solution according to Tatjana Apanecevic (interviewed,2017) managed to address and solve an important problem for consumers, and therefore SWISH so popular and widely welcomed through the Swedish society. It is worth to mention that banks used their monopoly and full control over traditionally network to suppress the new solutions presenting by fintech companies like SEQR, argued Peter Fredell (guest lecturer at KTH,2016). This phenomenon was not rejected by a spokesperson and representative of SWISH lecturing at KTH Royal Institute of Technology in 2016 that banks are using their power control to prevent other actors entering the competition (Gunilla Garpås,2016).

Considering the situation described, Swedish banks and financial associations chose to react defensive to the fast growing and evolving financial technology solutions. launching their own mobile solution SWISH, made them to prevent other actors become their competitors to some high extent. This is projected in the company’s active users base, for time being more than half of the Swedish population is using SWISH to send money to their friend and individuals.(getswish.se, 2017).

Nevertheless, there are some shortages for SWISH, which the company has not yet managed to develop its platform to cover them, as an example the service is not working for shopping in physical stores. The company launched SWISH Företag (SWISH for businesses) in 2015 but due to complexity in clearing houses and settlements systems they couldn’t manage to handle the transactions on real-time basis and thus failed. Another exertion of power control emerged when banks(SWISH) charged merchants/businesses more than 2,5% for transactions to be done through SWISH platform. This was even more than traditionally rails service charges of 2% where banks had a share of approximately 1,6% of the transaction fees. (refer to transactions breakdown section in data collection).
Håkansson and Ford (2002) believes that the control factor is dependent on the network structure and the degree to which each actor set ambitions of control over their surrounding environment. Using this argument as a benchmark for Swedish Mobile payment industry one could argue that the structure of the traditional ecosystem had given the chance to banks to gain almost fully control and monopoly over the whole ecosystem prior to emergence of internet and financial technologies. Thus, not easily let new actors to join the ecosystem, even after small businesses and fintech companies like SEQR or Klarna or iZettle came around.

Besides, since different fintech companies had different value propositions as a mean to enter the payment industry ecosystem, ambitions of control vary within the ecosystem. For instance, iZettle as discussed earlier chose to use the existing rails and infrastructure, thus banks didn’t recognize iZettle as an invader or a potential threat. In fact, iZettle was another revenue channel for them which made them to reach another untouched markets where rails where not available before. But in the case of SEQR, where banks obviously recognized the ambition level for SEQR which was to create an independent payment environment with no interference of banks in it’s business design, the company recognized as a threat and treated accordingly.

Meanwhile, in a remarkable turn of events European Union and its regulations on payment industry did managed to force the incumbents and monopoly power owners to revise their strategies. Ratifications of IFR regulation in conjunctions with PSD 2 payment regulation indeed managed to open up some doors for third party service providers and outsiders. By official implementation of PSD2 which is due in November 2017, companies like SEQR would have the chance to set their ambitions level even further than what they had in their vision before.

It is of great interest to mention that even though Swedish banks and financial sector were well aware and communicated from European Central Bank about the PSD 2 directive since late 2015, but Swedish banks has just recently reacted accordingly to the directive only few months left to its du date (Europa.eu, 2017). As an example, in an attempt Jarkko Turunen, head of open banking for Swedish bank Nordea, invited third party fintech companies to use their API’s in March 2017 (Nordea.com,2017). He further reports that within only 72 hours of application time period there were more than 300 companies listing their interest for using Nordea's API (Jarkko Turunen,2017). Such shown level of interest would make it easier to understand why Swedish banks took advantage of their monopoly control over networks until the last months to market their own solution SWISH before PSD2 get inaction in November 2017.
As discussed earlier for positioning of an actor in the ecosystem the structure factor of the ecosystem recognized as an important feature which affect this positioning. Later in discussion there will be an argument that in a situation where an international outsider like Facebook would want to enter a local ecosystem, the old structures might be of minor importance to tech giants like Facebook.

So far the discussion was developed based on ARA theory framework. Here after to distinguish the differences of each value propositions employed by different actors of the Swedish mobile payment ecosystem, the discussion will continue to analyze by exploiting Configuration Value framework.

According to value configuration framework, banking industry traditionally could be recognized as a value chain. Even though they are not goods manufacturing units, take a look at the historical timeline of banking industry, banks were known for societies safe places to keep their money with high level of security. Thus the money people would lend to the banks could arguably recognized as input for the manufacturing of other financial products that banks produce and sell to their customers. Products like, insurance, loans, mortgages, pension schemes, etc. that could justify banks incurred expenses for providing safety and security to their customers.

It should be mentioned that emergence of internet and mobile banking has in many ways improved and changed the way traditional banking processes were done. Services such as online banking or mobile banking offered by banks, or enabling online gateway’s for online shopping are all indications of banks and their desires to serve their customers and of course increase their efficiency simultaneously. Thus implementing internet and mobile applications for serving services in a faster way and with higher efficiency (or paper less) does not necessarily change the banks nature of being a value chain according to value configuration model.

Having the Thompson’s (1967) view point on value shops which describes value shops as, those firms which acquire intensive technology to solve a special customer problem, it is not hard to argue SWISH as a value shop. Stabell and Fjeldstad (1998) argues that the main challenge for shops is to find a meaningful driver of value which would leads to solve an important problem for customers. SWISH, indeed managed to find that problem and solved it in a novel and unique way for its users. The problem of being able to transferring money instantly has been recognized by individuals and fintech companies. But complexity of payments when it comes to inter banks transactions and old infrastructure of settlement systems
was a great barrier for solution developers. However, for Swedish banks and SWISH handling this complexity was of an easier task to be done in comparison with fintech outsiders. Therefore, SWISH gained an advantage in solving this problem and presented a well and fulfilling solution for instant peer to peer money transferring platform. The main advantage of the platform, is so far the ability to send and receive the money instantly specially when it comes to peer to peer (between two individual persons), which enables parties to have access to instant cash out through ATM machines if needed. This feature, (ability to withdraw money form ATM) thanks to the alliances of major banks in Sweden is recognized as the only unique advantage of the platform for time being. The reason behind is, although other fintech companies like SEQR or Facebook in United states had also recognized this highly appealing demand of society and in fact managed to offer instant money transferring through their platform. But until now their users are only able to send and receive money if they want to spend their money through the app (SEQR or Facebook accounts) and not cash out their money form ATM machines.

Thus, by far all of three platforms of SWISH, Facebook and SEQR had managed to address the main problem to be solved which is, the instant money transaction in such a way that both parties involve in a deal(trade) could confirm the transaction. But, SWISH is the only platform could be entitled as a value shop, due to its ad-hoc value proposition (a single problem-solution fit) by offering only peer to peer money transactions with no other extra added values for its users.

However, this issue, for Swedish mobile payment service provider SEQR has more implications of impediment in comparison to Facebook. Mainly because the company has limited sources of active user base. Katz and Shapiro (1985), believes that the value of the networks is dependent on, how rich the networks customer bases are. Obviously by having the latter statement, SWISH would have a much wider and enriched level of user network (pool) that could be used in its favor. And of course, with the full control of banks over the networks, SWISH would have the advantage over other peer to peer solutions like SEQR.

To understand the important effect of networks and associated values to the networks, it is appropriate to continue the discussion with the third consideration of Configuration Value Network framework by Stabell and Fjeldstad (1998), which is the concept of Value Networks. According to Thompson’s (1967), Value networks are firms which by exploiting mediating technologies would link and facilitate and make the ground for their clients whom are willing to be interdependent to each other, as in a network. Having this viewpoint in mind, coupled with Stabell and Fjeldstad (1998) that argues, mediating technology, enables firms to exchange
relationships among customers without considering time and location, one might investigate in Swedish payment ecosystem and realize the absence of such networks. In other words, there is a gap of value network proposition for Swedish payment industry which no organization has so far managed to fulfill that role.

However, considering the European Union’s vision on creation of a united market for its member states together with the payment regulation like PSD2, attentions of the different actors of payment and even prospect actors has been raised. These regulation has brought two major issues to the payment industry.

Firstly, banks and traditional infrastructures were forced to revise and redesign their strategies. Secondly, new and already existing actors also have been given the opportunity to develop and redefine their business design’s with a higher degree of certainty about future. Examples for newer actors which previously did not engaged in payment industry are Facebook, Google or Alibaba and for already existing actors for Swedish ecosystem are SEQR and Klarna and as discussed earlier, at least 300 more interested companies according to Nordea.com (2017).

The result of this situation on first group is that, recently in march 2017 Nordea bank in Sweden has took the first step and started the discussion about Open banking concept which is basically the PSD2 directive initiation. Nordea has invited fintech companies to register their interest if they are interested to use Nordea API’s (Application Programming Interface).

For the second group however, on one side of the spectrum SEQR, as an already existing actor, the company has made deals with Master Card to implement MasterPass to let its users pay online through the app and also included NFC technology, that would enable the company to access more than 35 million point of sales (mentioned company’s CEO) at physical stores. Lastly the company is planning to start its massive advertisement for the forth quarter of 2017.

What is more, for new actors which were not known previously for their interest in payment industry like Facebook, there has been indications that attractions of a giant market of $1,4 trillion dollars has maid an impact on them too. Even prior to PSD2 regulation in Europe, Facebook had launched its peer to peer platform in United States for non commercial purposes. Moreover, the company finally after two years (October 2016) obtained the E-Money license in Ireland which would allow the company to start its activities in whole Europe as well (Techcrunch.com, 2016). Thus, Facebook could soon (as of November 2017) start to penetrate its service in Swedish market if the company wants to.

Recalling from our discussion earlier, Swedish bank, Länsförsäkringar (2012) research showed the majority of Swedish people are willing or at least has no resistance to pay with their mobile devices. In addition to that, the ISS research and statistics indicates that more than 77% of the
swedes has a Facebook account. Besides, as a powerful advertising and social media tool, Facebook has no costs for businesses, therefore, almost all businesses are either a user or they can become a user within few minutes. Thus, a simple analysis would reveal the attraction for Facebook to enter to Swedish market.

Now, the challenge for Swedish mobile payment ecosystem would be even more complicated. Banks and the highest financial institutions were aware of the payment services directives (PSD) form almost 2002, when the first PSD directive was planned to be incorporated for the Single European Payment Area (SEPA) in EU member states. Therefore, the traditional establishments had over a decade to plan and prepare themselves for this moment.

In fact, the delay of Swedish banks to prepare the arena for post PSD2 era had caused problems for the ecosystem. Among those problems, firstly, banks could have tried to fill the gap of the Swedish payment industry and became the actor whose role is of a value network approach. that means, they could have become the owner of the value network or the club manager for the ecosystem. Secondly, the delay in response to implementation of PSD 2, from 2015 until mid 2017 has caused the confusion and uncertainty for third party mobile payment service providers like SEQR. As a result, the company’s recent activities shows a divergent approach towards the ecosystem, which would make it difficult for Swedish ecosystem, if they are to reach a consensus about creating a homogenous ecosystem/value network.

Thirdly, banks and traditional infrastructure, failed to create a fully functional payment service platform, which could have caused them to become the absolute leader of the ecosystem by having the majority of users both on non-commercial (peer to peer) and commercial Business to consumer(B2C) or even Consumer to Consumer (C2C) markets.

The only success they managed to achieve by SWISH was in the non-commercial sector which is peer to peer money transferring. Thus, there is a lack of fulfillment for SWISH to serve its users and businesses, whom are expecting to receive value added services like what SEQR has to offer them.

Investigating deeper in all mentioned mobile payment solutions sector of the ecosystem, it would be wise to have a look at Facebook and SEQR and SWISH and their position for time being. As we discussed earlier according to Katz and Shapiro (1985), the higher the level of active users the more the value of that network would be.

SEQR, as a company being in operation for 5 years and constantly developing and pivoting to get around different barriers, has managed to develop a robust platform with many added values for both merchants and consumers. Although these features have raised the expectations
for the whole market by its wide range if service offerings, but since the company had not invested in acquiring customers in Sweden the company has not yet managed to reach critical mass for its active user base, at least for time being. On the other hand, SWISH by solving the single problem of peer to peer money transferring, has slightly more than half of the Swedish population (55%) as its users. Which obviously would put SWISH in a better position than SEQR. In comparison, Facebook, if enters to the Swedish market, even prior to its entrance, the company already has more than 77 % percent of Swedish population (in 2014) as its user base which only includes individuals and not businesses (Facebook pages).

In an interview with Tatjana Apanacevic (a former researcher in the field of mobile payment at KTH university in Sweden), she mentioned, even though Facebook has better position in terms of user base, technology and even financial resources, she believes that there is casual ambiguity which might create troubles for Facebook’s market penetration. She added there are some unanswered questions that Facebook should be able to handle, among them customer support, fraudulence and hacking its servers, fake profiles, etc. She further discussed, trust issue on Facebook, may also be a blind spot for some users, such as whether consumers would be able to get their money back in case of fraud or technical problems. But since Facebook has now been operating in non commercial sector in Unites States for almost 2 years, the company is expected to have all answers and solutions to what Tatjana Apanacevic (interview, 2017) pointed.

Besides that, according to SEQR’s CEO Peter Fredell (interview,2017) the cost of customer acquisition for the company in summer 2016 was 108 SEK which in winter increased to 160 SEK. These costs for SWISH and Facebook are almost zero, and thus make the competition even harder for SEQR in terms of gaining customers. What is more, the structure of local market for Facebook is of minor importance as an outsider and international company and thus many of problems that SEQR had experience and might have in the future may not be an issue for Facebook. SEQR’s CEO Peter Fredell added” Because Facebook has unlimited financial and technological resources, they could even provide users (merchants & consumers) with even better value added service offerings than we are able to offer”. Services such as enabling in-app purchasing for manchest through their Facebook Page is an example for what Facebook can offer its users which other mobile service providers do not have the opportunity to offer their users.

Thus, from the perspective of value network configuration merits, Facebook solely has all it takes to play the role of an independent intermediator. Facebook could be a network owner (or even an independent ecosystem owner) which if eager to enter the Swedish market, company’s
chances are higher than its other rivals in the industry considering the current situation of the Swedish payment and mobile payment ecosystem. Therefore, Swedish major ecosystem actors, whom traditionally had developed their infrastructure and used their control power over the ecosystem in their advantage, now have to respond as quickly as possible to the threat of an outsider actor like Facebook, or Google or alike platforms, if they wish to survive in long run.
7. Conclusion

In conclusion, banking industries and mobile payments have passed the era of being traditional value chains, and for Swedish market the value shop concept introduced by launching SWISH, is in its last stages of its lifelong. Thanks to constant and fast growing of technology and internet, the world is moving toward a more homogenous market and thus the demands of societies are increasing constantly. Therefore, using value shops to solve specific problems and use them as ad-hoc solutions could only be viable for short time periods.

This research showed a blind spot in Swedish payment industry ecosystem that needs to be fulfilled, which is lack of a value network creator/operator role. This role, no matter by one of the actors or by an alliance between all actors involved in current ecosystem, needs to be filled to make the market more homogenous and solid against potential invaders. That way the ecosystem might be able to postponed a potential disruption to happen and possibly focus on developing a solution of creating a robust local value network. Although, to obtain the role of a value network owner, some actors like banks might have to sacrifice their current position in the ecosystem and take more responsibility for the sake of both, the industry and surviving their own role within the ecosystem.

The current trends show the ability and interests of giant tech companies like Facebook, Google, which has an enrich level of resources ranging from user bases, technology and financial resources. Entering these companies to the payment arena could easily be an emerging threat for current Swedish ecosystem. Thus, fulfilling the role of a value network, even though late, but still would be one of the best possible solutions to be used as a defense strategy for Swedish payment industry.

Limitations

As mentioned earlier, reliability, although has less importance when it comes to interpretivist approach but still would be a limitation for the outcome of this study. This implies that what ever the result of this study would suggest may not necessarily be the same if other researchers would investigate the same study. What is more, the findings and suggestions of this study might not be feasible and applicable solution align with the predictions illustrating the future of mobile payments industry in Sweden. This means the suggestions and predictions might not be decisive and holistic solutions for the emerging phenomenon of social network payments. Moreover, due to the attraction of the study for the author, and the personal interest of the author about the payment solution SEQR coupled with negative attitudes towards monopolies
may have caused author to have subjective views. In addition, apart from all efforts to stay objective while conducting the research, there are possibilities to become biased while conducting the interviews with SEQR’s CEO which might have influenced the view of the authors to some extent.

What is more, due to lack of possibilities to get more interviews with more expert, entrepreneurs and researchers in the field form different sectors of the Swedish payment ecosystem findings might not cover diverse viewpoint of other actors involve in the ecosystem.
8. Contribution and further research

Contribution

A major strive for this study was to make both theoretical and practical contribution within the field of payment industry and more precisely the mobile payment segment of the industry. Thus, this study tried to illustrate and discuss different strategies taken by actors involved in an ecosystem with the help of applying theories to the real world situation and companies in Swedish payment industry. The study showed how different actors and institutions would use their positioning to gain power in an ecosystem to control and influence over other actors. Another contribution of the work was to clarify and to distinguish different value creation presented by different payment solutions (actors). Being able to distinguish between different value concepts ranging from value chain and value shop to understanding a value network as a solution was at the core of this study. Besides, recognizing value networks concept as a solution which would make the ground for Swedish payment industry to evolve, while interoperability would maintain at its best level is another contribution achieved by this study.

Further research

Considering the findings of this study, it would be of much interest to analyze the entrance of a new outsider actor, like Facebook, which almost has no solid tie to the current ecosystem from the Porters competition forces perspective, to see whether the same phenomenon would offer other solutions derived from Porters theoretical viewpoint or not. Another interesting research for the future of mobile payments would be the use of bitcoin technology in mobile payment in future and whether there would be a need to create a universal currency to make international payments even more flawless worldwide. Last but not least, is the big data concept, which is getting more and more hype nowadays. Based on current trends being able to access consumer’s data is of great interest for giant companies to use as a leverage in customizing and preparing better consumer goods and services. This phenomenon might be an interesting area of research to see how important it is for mobile payments service providers to be able to reach their users’ payments data.
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