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# Emergence of a Digital Platform Based Disruptive Mobile Payments Service

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## ABSTRACT

Banks are motivated to be interested in developing platforms to provide mobile payment services to their customer and for those to be innovative. However, the successful implementation of a mobile payments service platform is mainly determined by how much players are fully motivated to realize it. In fact, in the Swedish context, the involvement level of mobile payment service platforms are very high whereas few studies have examined the related issues of mobile payments service platform. Thus, the purpose of this article is to investigate the factors leading banks to develop platforms and how banks manage these platforms. Data was collected by conducting interviews of applicable banks. The results mainly showed that the driving factors are significantly influenced by contextual factors, mutual objectives and opportunities. This article also looks forward to providing the payment industry with applicable guidelines for efficiently implementing and designing mobile payment service platforms.

## KEYWORDS

Banks, Coopetition, Digital Platforms, Disruptive Innovation, Mobile Payments

## 1. INTRODUCTION

Sweden is a leading country towards a cashless society. According to central bank the Riksbankin 2016, in Sweden the cash transactions made up barely 2% of the value of all payments which will lead dropping to 0.5% by 2020. For instance, in merchants, cash is now used approximate 20% of transactions. Besides surprisingly, about 900 of Sweden's 1,600 bank branches no longer provide cash or receive cash deposits (Sveriges Riksbank, 2013). Due to this digital wave with a high smartphone penetration, mobile payments have become a highly innovative and dynamic sector in Sweden which characterised by aggressive competition based on technology to gain dominance of the market (Ondrus &Lyytinen 2011). In this context, traditional industries such as banking, are highly resistant to transformation since the existing of strict regulation and slowly developing technologies. However, the situations have changed since last two decades (Tornjanski et al., 2015). Recently, changing occurs through a highly competitive market and disruptive technology which puts a burden on banks to innovate through understanding changes and the competitive forms and ways to handle strategic approaches (Achrol, 1991; European Financial Forum, 2015). Further, the rapid digitization has results such as collapse of industry boundaries, creation of new opportunities and increase of challenges.

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This phenomenon is termed as digital disruption that will play an important role to form banking industry in next coming years (Weill & Woerner, 2015). Recently, banks are forced to strengthen their competitive market through building digital platforms to provide mobile payment services (Hedman & Henningsson, 2015). Digital platforms are facilitating industry disruptions (Christensen, 2013). Recently, it is becoming obvious that the speed up of technological transformation is the most creative force and also, the most critical one in the payment services industry (Gardner, 2009). This study sets out to screen the implications of these technological innovations on the payment services industry which develop via digital platforms.

Therefore, banks are promoting new forms of strategies to accommodate changing in payments service. Digital platforms are an innovative way to manage the direct interaction between various providers affiliated with the platform to create network effect (Staykova & Damsgaard, 2015; Staykova & Damsgaard, 2014; Kazan & Damsgaard, 2013; Hagiu & Wright, 2011; Parker & Van, 2005). Frequent failures indicate that digital platforms of mobile payments service are complex to launch (Gannamaneni et al., 2015). However, this is not the case, and it is important to explore the factors which lead to the development of this digital platforms. There are few studies that have investigated how payments industry players (i.e., banks & MNOs) cooperate to create a digital platform to introduce innovative services such as mobile payments (Li & Du, 2015). This cooperation is significant since a single player cannot develop a platform. More recent research specifically applies the digital platform model to mobile payments from an economic perspective (Campbell et al., 2015) cooperation between banks and telecom operators (De Reuver et al., 2015), market cooperation in the mobile payments ecosystem (Hedman & Henningsson, 2015), entry and expansion strategies of digital platforms to dominate the market (Staykova & Damsgaard, 2015). Moreover, openness, competition and leadership issues in payment platforms have been investigated (Karippacheril et al., 2013). Despite these studies, limited is known about how the cooperation occurs between competitors (Harbison et al., 1998) in which known as ‘‘coopetition’’ (Bengtsson &Kock 2000). Since competing firms own appropriate resources and face similar challenges, cooperation with competitors allows the companies to establish a digital platform for innovations (Hedman & Henningsson, 2015; Staykova & Damsgaard, 2015). Digital Platform is becoming necessary to realize innovation in disruptive context (Pagani, 2013). Limited researches have studied why and how banks cooperate for pursuing alliances and design of the platform and to work on a common service for mobile payments (Hedman & Henningsson, 2015). This paper aims to address this gap through focusing on the following questions: 1. What are the factors driving banks to emerge digital platforms in disruptive context? 2. How do digital platform-based banks evolve? Drawing on a unique platform, the paper study in-depth case in Sweden where all major banks cooperate in developing a person-to-person (P2P) mobile payment service. Theoretically, the present study contributes to co-opetition theory in disruptive context (Pagani, 2013) as well as digital platforms (Staykova &Damsgaard, 2015; de Reuver et al., 2015). It also contributes to the area of mobile payment research. Earlier researches have examined either on business model issues (Juntunen et al., 2012), or technological and standardization barriers (Karnouskos, 2004), or consumer adoption (Mallat, 2007; Arvidsson, 2014). However, empirical studies on cooperation between competing banks for mobile payment platforms are still limited. This paper is organized as follows. In the next section, the theoretical perspective informing the study, followed by section 3 the method. The results in section 4, which is followed by the discussion, in Section 5. The paper concludes with implications for researchers and practitioners.

## 2. THEORETICAL FRAMEWORK

### 2.1. Platform Theory

Platform across economic fields is known as ‘two-sided market’, or ‘two-sided platform’ and defined as “an organization that creates value primarily by enabling direct interactions between at least two distinct types of affiliated customers” (Hagiu & Wright 2011, p.7). In the management field, it is

defined as participants cooperate in a fixed-point system to enable the transactions of money or information (Baldwin & Clark 2000; Baldwin & Woodard 2008). In this study, we adopt the digital platform definition, which is a new service added to large complex systems to benefit from shared data (Hagiu & Wright, 2015; Tilson et al., 2010). Platform key elements enable a direct interaction between two or more distinct participants, and each side is affiliated with the platform. The interaction involves services, pricing, or marketing delivery (Eisenmann et al., 2006; Hagiu &Wright, 2015). In this study, mobile payment services are hypothesized as a digital platform which links different user groups (i.e. banks, consumers, clearing and settlement) to provide new service. By mediating the direct interactions between two or more participants, this intermediate platform will represent an enhancement of the concept of network effects (Eisenmann et al., 2006).

There are key themes that emerge from the platform development literature (see Table 1). These themes have identified a gap in the existing literature on platform development. Many studies put attention on platforms' pricing setting and assume that a platform development affected through network effects (e.g., Bakos & Katsamakas, 2008; Yoo et al., 2007; Evans & Schmalensee, 2007). Network effects will expand when the utility derived from the use of a service or product increases with the number of users (Rochet & Tirole, 2006). In this context, platform providers should have the ability to manage the competitive dynamics and create cross-subsidize between the providers (Rochet and Tirole, 2006) to increase the size of cross-network effects (Eisenmann et al., 2006; Armstrong 2006). Overall, the role of platform providers in managing innovation is an important factor of platform success (Dhanaraj & Parkhe, 2006; Iansiti & Levien, 2004). Also, literature highlights the influence of the pricing and openness strategies on platform development since being considered as strategic objectives of the platform providers. Regard to pricing and profit-maximizing, prices may involve subsidizing one of the platform's participants (Evans & Schmalensee, 2005; Rochet & Tirole, 2003). This subsidizing can offer discounts to those who participate in the platform, to create positive network effects by attracting other participants (Rochet & Tirole, 2003). An increasing number of platform participants or developers will increase platform openness (Parker & Van 2008). However, increasing competition among participants will lead to a decrease in openness. Platform openness can affect innovation and profit (Boudreau et al., 2009; Gawer, 2009). Most of the platform openness significant platforms studies focus on cooperation among two to more providers (Lerner, 2013) or cooperation between a single platform provider and external provider (Mantena & Saha, 2012; Ritala &Wegmann, 2014). The disruptive nature of mobile payment service led providers to shift their strategy from single platform strategy to 'multi-sided platform' strategy (Rysman, 2009; Wright, 2004). Nevertheless, the up-to-date platforms that are modernizing the competitive business

**Table 1. Particular reserches on platform development**

| Authur | Key argument |
|---|---|
| Eisenmann et al., 2006 | To develop a platform, it is important to manage the competitive dynamics. |
| Armstrong, 2006 | Size of cross-network effects |
| Evans and Schmalensee, 2007 | Development affect through pricing and cross network effects. |
| Bakos and Katsamakas, 2008; Yoo et al., 2007 | Platform development affected through network asymmetries |
| Rochet and Tirole, 2006 | Platform develop when there is cross-subsidize between the participants. |
| Dhanaraj and Parkhe, 2006; Iansiti & Levien, 2004 | The role of platform participants in managing innovation is an important factor of platform success. |
| Mantena & Saha, 2012; Ritala & Wegmann, 2014 | Cooperation between a single platform participant and external provider |

landscape are supported by co-opetition or cooperation (e.g., Ondrus et al., 2015). There are limited studies that investigate beyond pricing. This will build a case for qualitative approach as most of the studies to date are conceptual in nature and not supported with empirical data (e.g., Eisenmann et al., 2009; Gawer & Cusumano, 2008).

## 2.2. Drivers of Coopetition

In the management context, co-opetition is the interplay between cooperation and competition, and it is a unique strategy that exploits the most advantages of this interaction (Gnyawali et al., 2006; Quintana & Benavides 2004; Ritala & Tidström 2014; Bengtsson et al., 2010; Brandenburger &Nalebuff, 1996; Bengtsson & Kock, 2000; Bouncken et al., 2015). From the capability and resource perspective, firms resort to cooperating to share heterogeneous and complementary resources, thereby creating added value that they would be unable to develop independently (Dyer & Singh, 1998). Specifically, competing firms cooperate to seek similar resources that may create better interoperability and scale of economies which play a major role in the development of service-based co-opetition. Co-opetition for relevant resources and capabilities will speed up the innovation and standardization in the industry (Gnyawali & Park, 2009). Therefore, from a strategic perspective, competing firms cooperate to tend to pursue innovations so as to gain competitive advantages (Ahuja et al., 2008; Lei, 2003). In this study, however, the objective of co-opetition is to set up a common infrastructure, i.e. digital platform.

Due to the rapidity of a magnitude of technological changes and customer's preferences, firms must accelerate their innovation activities (Lynn & Akgün, 1998). Furthermore, Gnyawali and Park (2009) argued that firms face high risks in the cost of infrastructure and uncertainty in technological development. Therefore, firms tend to seek further resources from their competitors to share the risk and to combine a variety of innovative technologies and improve services (Hoover, 2004). These convergences also offer firms the opportunities to set up industry standards and firms also attempt to form emerging industry structures that are essential to facilitate their evolvement (Garud, 1994) and this occurs while firms are competing to develop new services. As digital platforms form the basis for new services (Lei, 2003), competing firms cooperate to control the industry standards (Gomes-Casseres, 1994).

## 2.3. Coopetition Activities

Coopetition is dynamic and involve cooperation and competition activities (Park & Russo, 1996; Luo, 2007), which creates tension among cooperating rivals. Tensions can occur because of a partner's aspirations to dominate the market (Gnyawali & Park, 2011). Cooperating rivals cooperate to enter a new market; however, after reaching their goal, they will compete to capture the market (Brandenburger & Nalebuff, 1996). These circumstances are indications of how cooperative and competitive activities form and evolve over time and thus help clarify the dynamics of coopetition activities (Bengtsson et al., 2010; Gnyawali & Park, 2011). Gnyawali & Park, (2011) highlight that commitment and management among partners are important to reduce and deal with opportunism during the dynamic of coopetition activities. Luo (2007) suggests that partners will get more opportunities and common value. Therefore, value creation occurs through the economies of scale, cost-sharing, standard setting and entering new markets (Gnyawali & Park, 2011). Balancing cooperation and competition activities is a challenge to obtain stability relationships (Das & Teng, 2000). Therefore, the dynamics of coopetition would be shaped by the conditions of partners and industry and a partner's capability to keep the win-win situation and balance the relationships (Gnyawali & Park, 2011).

## 2.4. The Disruption

The emerging of electronic commerce and diffusion of mobile devices, and the inescapability of wireless have played an important role in forming new payment service. Mobile devices play an important part in the future of payments which predict the successful of mobile payment service (Ding & Hampe, 2003; Herzberg, 2003). In this context, market players want to become potential

disruptors, or insurgent provides disruptive technologies characteristically facilitate simpler, cheaper and easy using innovations. Technologies are considered disruptive when its deployment enables the design processes, products, of the services, with several features and attributes that have not been esteemed by existing markets (Bower & Christensen, 1995). Eventually, the innovations can develop and become a competitive risk, rapidly transform the market occupants (Ondrus & Pigneur, 2006). Christensen (1997) proposed that a disruption innovation process involves the following phases. Firstly, in the establishment of the innovation, it will drift therefore the end market customers will not satisfy and adopt this innovation. However, when the disruptive innovation sustains, it will evolve, and finally, the customers at the end of the market begin to adopt it. Thus, the innovation starts increasing market position. Eventually, the new technology becomes a competitive threat and fully perform in the mainstream market. Also, Rafii and Kampas (2000) proposed that the main market entry, customer attraction and switching are involved in the process of disruptive innovation.

## 3. METHOD

The case study method is appropriate to this study to gain an in-depth understanding of the development that occur when competing banks cooperate for mobile payments service platform (Yin, 2003). A case study method allows obtaining knowledge into the relationships, context and experiences of practitioners (Miles & Huberman, 1994; Eisenhardt, 1989), and address "why" and "how" questions. The research questions are based on understating the activities (Gephart, 2004) of platform evolution from a co-opetition perspective. This study follows an explorative research approach to explore new and incompetently understood phenomena (Eisenhardt, 1989) which are complex and includes multi-dimensional issues, such as technological, economic, and business elements and evolves over time (Koch & Schultze, 2011).

The reasons for selecting a single case study is the nature of this research that allows applicability to real context and contemporaneous phenomena (Hamel et al., 1993). Moreover, the case is unique since the cooperation among competing banks is challenging. Therefore, the findings facilitate an understanding of the complexities of real-life situations (Hamel et al., 1993). The case has been selected based on the need for a unique case, which is cooperation between banks to establish a digital platform to provide mobile payment services to their customers. The unit of analysis is the platform that develops through banks to provide mobile payment services.

### 3.1. Case Study Background

The case study is set in Sweden. In early 2012, the major Swedish banks, through jointly owned clearing system for mass payments (Bankgirot) that developed payment in real-time. This payment in real time system has facilitated cooperation among the major banks in Sweden to launch a faster interbank low-value transaction service, with the use of the mobile application 'Swish'.

'Swish' is m-payments service owned by several banks and managed by Bankgirot in Sweden. The service was launched on 12 December 2012, to provide m-payment services through cooperation between six major banks in Sweden including Danske Bank, Handelsbanken, Länsförsäkringar Bank, Nordea, SEB, and Swedbank. Skandia joined Swish in November 2013, with ICA Bank joining later, in June 2014 under supervision of the central bank. The service provides person-to-person payments in real time, using transactions between bank accounts via smartphones. The main purpose is to provide a fast, secure and simple solution for money transfers. In December 2016 the registered users were about 5 million, and the transaction value was approximately 8.3 billion Swedish Kronor (8.7 million Euro).

### 3.2. Data Collection

The interviews are the main source of data collection. We interviewed all the banks involved in Swish. Eight interviews were conducted face-to-face in English with a duration of 45-60 minutes,

in the period of September 2014 - May 2015 in Stockholm. Respondents are experts and worked in the payment and financial sector in Sweden each of them representative of his bank in the platform. Besides these main partners we also interviewed representative from the Swedish Central Bank and brand developer (see Table 2). The protocol of the semi-structured interviews guided by a standard topic list based on an extensive literature review of coopetition and digital platforms in the payment industry also included questions regarding the subjects of cooperation objectives. The questions were only based on why and how do competing banks cooperate to develop the platform, also in which activities do actors cooperate. Afterwards, the questions were forwarded to each interviewee before meeting face to face. In order to gain a holistic view, we gathered secondary data. All participant banks' web pages were sought as well as various annual public reports published by Bankgirot and the Swedish central bank. Secondary data from the Swish coordinator presentation during cashless society round tables in Stockholm in 2014.

### 3.3. Data Analysis

Based on Hsieh and Shannon (2005) direct content analysis methods, interviews were recorded and transcribed word by word to avoid the bias, allowing an accurate representation of opinions to complement this data; we have used multiple sources secondary data (banks documents such as annual report, websites and meeting minute) to triangulate the data (Yin, 1994) which an opportunity provide empirical creditability for the study. Based on Miles & Huberman (1994) and Mayring (2002), we followed several steps. Firstly, the analysis of this study confirmed its aim which mainly focuses on factors driving platform development and the management among all platform participants. Subsequently, we analysed the factors individually (Shaikh et al., 2015) by reading each transcript, making notes, and producing short phrases that sum up what was being said in the text. The data were coded and grouped into themes to define the phenomenon (Boyatzis, 1998) and by analysing the data using the coopetition predefined from the literature review and breaking them down into sub-themes (Miles & Huberman, 1994; Mayring, 2002) (see Table 2,3,4). To enhance the results, this study processes iteratively and provides feedback in construction from interviews and the secondary data (Eisenhardt, 1989).

## 4. RESULTS

### 4.1. The Development of Mobile Payment Service Platform

The platform was launched in the year 2012. But before developing the platform, there is a history of cooperation among banks in Sweden. The interviews in the case indicate that due to the development

**Table 2. List of interviewees**

| Experts | Position of the interviewee | Organization |
|---|---|---|
| Expert 1 | Digital and business development | Bank 1 |
| Expert 2 | Senior advisor of payment infrastructure | Bank 2 |
| Expert 3 | Advisor in financial stability | Swedish Central Bank |
| Expert 4 | Responsible for cards and payments | Bank3 |
| Expert 5 | Business Development Manager | Bank 4 |
| Expert 6 | Consultant | Swish |
| Expert 7 | CEO | Bank 5 |
| Expert 8 | Business Development Manager | Bank6 |

in ICT sector, banks cooperate with companies to develop internet banking service via telephone systems. This historic cooperation among Swedish savings banks starts in 1959 where banks and giro system work for inter-bank transactions, and secure economies of scale. In 1990 due to the digitalization salary payments in Sweden which led banks and unions cooperate to introduce of card payment services and mobile payment services currently (Arvidsson, 2015). These endeavors show how the banking industry forms on evolving platforms that can be shared by several banks.

The observation of the six major banks in Sweden jointly cooperate with the Swedish central bank and Bankgirot to develop a mobile payments service platform. For the banks, it is important to develop a platform to manage the competitive dynamics. Their ambitions are to provide a unique service and realize the network effect and provide high interoperability among banks. Swish platform is efficient sine it enables a direct interaction between all, thus is providing an interoperable service. This interaction involves costs, service and shared information. The platform is effective and allows a direct interaction between all, thus is providing interoperable service this interaction involves costs, service and shared information. Swish platform is developing efficiently through the increasing of network effects. The role of platform participants in managing innovation is an important factor of platform success and this results in the increasing number of users almost 100000 monthly. Some banks have joined the platform lately thus this increased the number of platform participants which increased platform openness. The main emphasis in the below section is to present the development of the platform and what factors drives banks to develop this platform also we will present how the development is applied.

### 4.2. Drivers of Coopetition

The result shows that a historical background was a choice to set up the digital platform. The Swedish Banker's Association formed a consortium of banks to be a key driver of EU and SEPA initiative towards a cashless society. Most of the interviews point out that the Swedish Banker's Association was to encourage banks cooperatively to provide an interoperable financial service leading to universally competitive payments services (Riksbank Studies, 2013). This would motivate banks to cooperate to offer new m-payment in a real-time system. In this case, the bank's aim was to introduce innovative services that are easier to use, aiming to create value creation for their customers through removing cash from bank branch offices. Therefore, customers become used to not handling cash; thus, Swish would facilitate the reduction of cash use and related costs. Banks want to share the cost of developing infrastructure and introducing new services, especially reducing the risk of acting alone when expanding a new business such as an m-payments service. Banks took into consideration the failure of the 'Bart' m-payment solution. 'Bart' was a payment solution provided by Swedbank and a Swedish retail chain (Axfood). Although the service's users had reached 20,000, the closure of 'Bart' was announced in early 2014 (Apanasevic, 2015). Because of this failure, banks seemed keener to pursue cooperation as prioritized option when introducing a new m-payment and entering a new market. As regards to the defendable side, banks want to compete with energetic newcomers to the m-payment market, such as mobile network operators e.g. Wywallet. Overall, it appears that the banks' aims are to develop this platform were more strategically driven (i.e., to provide a unique service, reducing cash, and competing with the new players) (See Table 3). Therefore, pricing was not necessary, as Swish did not need to be profitable for the time being.

### 4.3. Coopetition Activities

First, the shared cost and market share models of banks are present to help understanding cooperation and competition activities (Table 5) within the platform. The first model is based on the shareholding body (Swish council), which is operated by the four largest banks, Nordea, SEB, Swedbank and Handelsbanken. These banks own 20%, Länsförsäkringar Bank and Danske Bank own 10%. The Swish council is mainly important in enabling the platform to plan the roadmap, organize the daily operation of Swish and monitor the subcontractors. In addition, banks cooperate for business requirements, such

**Table 3. Examples of what factor drives banks to develop platform**

| | Drivers of why competing banks develop a platform | Quotes illustrating why competing banks cooperate |
|---|---|---|
| Capability and resource perspective | Value creation through introduce new service. Reduction of cash use and costs | "we wanted to come up with a new solution to the Swedish payment market, and thought of standardized solutions" (Expert 1)<br>"Couldn't we do something in Sweden, which would be good for moving a little bit further towards an actual mobile payment solution?" (Expert 2)<br>"We are getting more and more used to not using cash in our society'; 'And this is a key driver to getting rid of even more cash in our society" (Expert 6)<br>If we deliver Swish and then enable people to pay digitally, even in the forest or wherever the customer is, the use of cash would decrease." (Expert 1)<br>"Our customers are used to not handling cash; they used to make payments in other ways. And so we saw that the Swish initiative would be a perfect match for our customer base." (Expert 4)<br>"The banks would have to spend less on their cash management or their cash handling (…), if the banks are no longer selling real-time payments, why should people hold their money with the banks? So, there is a need for a different solution." (Expert 3)<br>"We saw also the need for a substitute to cash (…), we saw it would be a good feature for our customers. We want to introduce new, innovative things to our customers; it is an opportunity." (Expert 5) |
| Share heterogeneous and complementary resources | Economies of scale and Share the cost of developing the infrastructure | "There is huge benefit in the cost sharing, we could not have developed Swish by ourselves and that would've been more or less impossible". (Expert 4)<br>"I think our bank cannot develop such unique solution, because we are quite big in the retail industry" (Expert 1)<br>"we saw the opportunities to join other banks also good to share the cost" (Expert 6) |
| Pursue innovations to gain competitive advantages. | Opportunity and Environmental threats<br>Considering the failure<br>Network effect<br>Risk reduction/price structure<br>Compete with newcomers | "Our main competitors are not the other bank(..), the new players Google, Apple, PayPal and in Sweden, WyWallet" (Expert 7)<br>"person-to-person payment service, that is, it's directly competing with cash" (Expert 6)<br>"We have a lot of new competitors so we need to position ourselves towards innovation" (Expert 8) |

as developing new services within the Swish brand, thus this model is applied during cooperation activities. The second model is based on the banks' market share and we have explored this model as competition model. In this model, Swedbank has around 35% of market share, Nordea around 30%, Handelsbanken 20% and Länsförsäkringar 5%. This model is used when banks need to invest in marketing campaigns to introduce the Swish service to users. On the subject of competition, we explored unidentified competition among the banks. Moreover, interviewees explained that competition will possibly appear when Swish starts to deliver consumer-to-business (i.e. merchants) m-payment: here, competition will be generated because the agreement will be between banks and businesses so that each bank will aim to get the best deal or the lowest cost. Most of the interviewees mentioned that in (P2P) payment, Swish does not gain revenue since the transaction cost of services for all participating banks is almost zero. Since the service is almost free of charge, the banks have developed different strategies to introduce Swish to the market (i.e. sales and packages). Overall, competition between banks is not strongly expressed in the platform. Banks depend strongly on their established image and users' trust since technological alternatives exist for alternative payment providers.

## 4.4. Disruption of the Market

The result detects that banks are motivators of the mobile payments service disruption, encouraged by their high motivation to locate a new payment service. However, rising regulatory of EU and SEPA regarding payment interoperability and security, banks had to provide interoperable and innovative mobile payments service. The six banks aim to offer innovative platform, which targets both the P2P and P2B marketplaces, and to disturb the Swedish payments market. Although banks characterized by customers' trust, accounts and banking system these facilitate the transactions, which makes it challenging for a single bank to gather the critical mass of customers, offer a competitive and viable solution. Swish is considered as disruptive service and unique case.

**Table 4. Cooperation and competition activities of the platform**

| | Activities during the development of platform | Quotes illustrating how competing banks manage the platform |
|---|---|---|
| Enter a new market | **Cooperation Activities**<br>Develop the technological infrastructure<br>Share operation cost<br>Creating the brand<br>Development of current service (P2P)<br>Share communication and Business plans | "The owner banks have a different capitalization for being able to cover the costs within Swish thus ownership depends on bank size" (Expert 2)<br>"At this point banks have to share the Swish daily operation cost to realize payment in real time" (Expert 3)<br>"Banks have the same set up that are jointly owned, where Bankgirot provides resources that built up the network" (Expert 1) "We discuss the Swish infrastructure and how that behaves, and also the evolution of Swish,' and 'Work to lead<br>the everyday operation. And when we say "operation", we mean making sure that Swish runs as it should" (Expert 4)<br>"We need development activity because that's why we are cooperating on the infrastructure, and in the infrastructure we have the payment mechanism,' and 'Creating the roadmap and executing the road map, which steps we should take, and then how should we move this development further." (Expert 5) |
| Capture the market | **Competition Activities**<br>Transaction fees for using Swish are set by each bank<br>Marketing the service<br>Communicating with the users<br>Creating new business relationships with organizations (Person-to-Business). | "The agreement with clients, price model, specific marketing, is unique to each bank(..) each bank participating in Swish, they have their own transaction fee." (Expert 1)<br>"Pricing and sales, it is a totally competitive area(..)the promotion and sales activities are very different and vary between the different banks participating." (Expert 2)<br>"Banks compete in the end in the market(..) later banks might add services that are aimed towards merchants, and this is a direct competition." (Expert 3)<br>"We compete in the market; we compete about customers, pricing and offerings" (Expert4) |

**Table 5. Coopetition activities during Swish development (gathered from the secondary data)**

| Duration | Cooperation activities during platform development and capturing the market |
|---|---|
| Early 2012 | (Bankgirot) announce launch a new real-time payment for mobile payment service through cooperation among major banks in Sweden. |
| June 14, 2012 | Issued basic agreement among (Bankgirot), Swedish central bank and participant banks in the (payments in real-time) platform |
| Dec 11, 2012 | Danske Bank, Handelsbanken, Länsförsäkringar Bank, Nordea, SEB, and Swedbank, launched Swish. This service enables participants bank consumers to transfer money between account in real time. |
| Mar 13, 2014 | ICA Bank joint the platform to start offering the service. |
| Apr 6, 2014 | Swish launches a new service to business such as companies, associations and organizations (consumer-to-business). |
| Jan 2015 | Security provided by banks based on public key infrastructure *(PKI)* |

Sources: (Bankgirot annual report 2014; Bankgirot website, Get swish AB webpage; Riksbank Studies, 2013)

Since the industry is entering a period of disruption, the six Swedish banks cooperate to develop the P2P mobile payments platform to face an uncertain future. A fast-growing group of upstart financial technology in Sweden such as QR codes (SEQR, Payair) or iZettle (Sveriges Riksbank, 2013) through offering service to convince customers to use Swish service platform. The switching cost is interoperability among banks to provide easier, quicker, and convenient service. Therefore, banks go through several phases (Table 6) such as drift of innovation, main market entry and customer attraction. To convince customers to use Swish service platform, the switching cost is interoperability among banks to provide easier, quicker, and convenient service.

**Table 6. Disruptive phases during the platform development**

| Phases | Motivation facilitating disruption |
|---|---|
| Drift of innovation | The platform introduce service to users who do need simple service. |
| Main market entry | Introducing wide platform involved six major banks |
| Customer attraction | Transaction fee very low<br>Operate all the time |
| Customer Switching | Easy use, convenient and simple service<br>Interoperability |

## 5. DISCUSSION

### 5.1. Platform

Building network externalities (Farrell &Saloner, 1985; Katz and Shapiro, 1985) is the main aim of developing platform; this network effect (e.g. the banks' customers) motivates banks to create an m-payments service to add value to their services. The previous studies on platform enablers' literature have unexplored diversity of enabling factors (e.g., Dhanaraj & Parkhe, 2006; Eisenmann et al., 2006). Therefore, this study demonstrates that the Swish platform generated power from network effects through the value of service which attracted a huge number of users, almost 4 million since the creation of the platform in 2012, and generated around 4.7 billion SEK transaction volume (4 million Euro). Therefore, pricing may include subsidizing a platform provider over the long run (Evans & Schmalensee, 2007); this led to profit-maximizing prices. In this case, the platform development affects through pricing and network effects (Evans & Schmalensee, 2007). For instance, participant banks have a fixed rate of zero SEK (0 Euro) per transaction, and this was a specific way to increase network effects. In this case, network effects and consumer discount (e.g. subsidizing price) are the determinants of a platform's success (Iansiti & Zhu, 2007). The payment industry is a competitive environment shaped by competing banks engaged in cooperation and facilitates further innovation through expanding their services for consumer-to-business (i.e., merchants) and also adapts a competitive culture for developing unique customer experiences (Luo et al., 2007). As far as the payment industry markets are concerned, factors such as economies of scale, network externalities, and building a shared infrastructure become necessary (Au & Kauffman, 2008) to facilitate the platform development. This study concludes by proposing that successful platform development initiates with initiation factors that occur pre-formation such as contextual factors and historical background.

### 5.2. Drivers of Coopetition

The case shows that banks have an opportunity to cooperate to provide an innovative service to the Swedish market; the use of Swish has decreased the cost of cash handling among bank customers. Swedish customers are used to pay with cards rather than cash, which indicates banks have a significant role in controlling the payment market. In particular, payments market have reached a saturation point, and competition among businesses which is becoming stronger than ever (Fernandez & Usero, 2007). Currently, there are several innovative solutions that provide services to customers or merchants, such as QR codes (SEQR, Payair) or iZettle (Sveriges Riksbank, 2013). However, these technological innovators are still behind since they still rely on card schemes and are complicated to use (i.e. QR code) (Sveriges Riksbank, 2013).

This cooperation is a basis for new service (Lei, 2003). These tremendous impacts have motivated banks to start a new consumer-to-business (C2B) stream, which will be accessible to around 2,000 new small businesses and brings the awareness of the threat of newcomers such as WyWallet (i.e., defence

strategy) in the developmental phase (Eisenmann et al., 2011). Furthermore, to create a horizontal market, the competitive element increases the motivations of firms to enhance their services (e.g., Bengtsson &Kock 2000). Therefore, managing coopetition appropriately may enhance the market creation and increase the speed of introducing new services to users (Gnyawali and Park, 2009). In this study, the mobile payments service is an opportunity to share investments, cost and risks and thereby realize economies of scale and expand network externalities even a single bank cannot 'do it alone'. To provide a unique and high-value service, there is a need to scale economies in operations, and it must be done through cooperation among payment providers as well as with the customers who might have an opportunity (Hagiu, 2009).

Arvidsson (2014) argued in a study of turbulence in the Swedish market that the presence of economies of scale in the payment service provides benefits to payment providers to expand the network externalities. This cooperation has enabled banks to create value in an m-payment arena, such as offering payment in real time; also, changed the competition environment in the payments industry. Banks seek appropriate partners, including competitors, to pursue opportunities to defend their positions in the payments market through an interoperable platform. This infrastructure involves technological systems that process retail payments in real time using (Riksbank Studies, 2013).

### 5.3. Coopetition Activities

This study shows that the sharing cost model and market shared model that were significant factors in the creation of coopetition activities to enter a new market (Brandenburger & Nalebuff 1996). The banks established a platform through a sharing cost model to reach their goal. Thus, confirming achievement of goals occurring since the lack of the opportunistic behaviour among banks to dominate the market (Gnyawali & Park, 2011). While cooperating through the development of new services in order to create value, the competing banks were simultaneously competing slightly to the service market. Banks cooperate for value creation and, then, compete to capture appropriate market value (Bengtsson & Kock, 2000). In this study, the dynamics is the creation and evolution of coopetition during the development of the platform. Further, they competed in developing new relations with organizations in person-to-business payments and cooperated in person-to-person payments.

For example, the case result shows that in October 2014, Swish launched a new consumer-to-business (P2B) stream. However, all banks fixed their rate at 0.00 to 0.01 SEK per transaction, and this was a specific way to increase the use of Swish and to facilitate its adoption. Thus, confirming that, platform providers subsidized the price to gain network effect (Evans & Schmalensee 2007). The case indicates that the cooperation between banks will continue to be successful since the increasing number of users monthly and more banks involved recently to the platform. Gnyawali & Park (2011) confirmed that management among partners are important to reduce opportunism.

The case study illustrates how Swedish banks are notable as early adopters of m-payments. This has enabled banks to launch innovative and competitive financial services. This success depends on the Swedish consumer's tradition of using electronic payment services. The complexity of payment services required banks building a platform rather than developing one alone, as has been the case in other industries (Giertz et al., 2015). Therefore, platform has allowed Swedish banks to provide m-payment services, also leading to competitive payments services. Thus, confirming Luo (2007) that partners will get more opportunities and generate greater benefits when the business sector is developing.

Thus, driven by such factors as introducing a new solution to the m-payment industry, a desire to reduce cash in Sweden and move towards a cashless society, banks decided to provide an innovative and disruptive mobile payment service. Swish is an innovative mobile service

that has succeeded in providing an interoperable service. It has shown that even if there is a lack of competition during the Swish development, due to the nature of the Swedish banking sector, cooperation is required when developing innovative services in the payment sector. Each of the four largest banks owns 20%; small banks each owns 10%. The co-opetition relationship has developed over time. Tables 3 and 4 present areas of cooperation and competition mainly through the Swish platform and explain how the coopetition between the six competing banks has evolved from 2012–2015.

## 6. CONCLUSION

The changing through a highly competitive market and disruptive technology and the rapid digitization all these motivate cooperation between competing banks in Sweden to develop a digital platform to provide mobile payment services. In this context, banks want to become potential disruptors to provide disruptive mobile payment service. This phenomenon has been investigated through concepts from coopetition theory, platform theory and distributive innovation. In this study, the paper investigates a case of cooperative mobile payment platform development between competing banks. This study shows that coopetition provides the principals that have a vital role when competing stockholders cooperate for (i.e. similar objectives, threats, opportunity), these perceptions are affected by the platforms developing activities (i.e. platform pricing, network externalities, and openness). The current study indicates that coopetition is necessary for banks to provide disruptive, innovative service which is simpler, cheaper and accessible. The win-win consequences from the presented case showed how cooperation between competing banks could be significant for an innovative service. Such positive consequences are motivating factors for banks to consider coopetition vigorously as a viable strategy for mobile payments service. This study shows that the theoretical lens highlights the need to pay attention to an initiation of the platform formation which was initiated by contextual factors and environmental threats. This study has contributed to the existing knowledge by detecting different strategies of platform creation that are grounded on the indication of the case study. Specifically, defence strategy and economy of scale and value creation which this study proposes. By adding to the existing knowledge in this area, this study can serve as an indication for future studies to expand these conceptions or as the foundation for evolving a typology of platform formation strategies.

### 6.1. Implications for Practitioners

The main managerial implication of this study for banks is that mobile payments should be treated as an important new delivery channel in banking system. Since banks are being under threat and disruptions of regulation, new technologies and competition, this proposes that all players in the industry should take the development of mobile payments services seriously. We recommend that financial service providers expand the features of their mobile payments service through platform development line with driving forces factors. This movement needs a specific regulatory frame allow non-banking units to develop platforms set up the mobile payment services.

Furthermore, given that there have been several previous failures to develop a mobile payments service platform, such studies are highly needed. It is apparent that the mobile payment service has many obstacles and challenges (e.g. lack of cooperation between stockholders, interoperability), which may cause a loss of motivation and lead to the inefficiency and failure of the platform. Practitioners have different views and should be aware of particular platform issues that are generated from coopetition problems and challenges.

### 6.2. Limitations and Future Research

The limitation of the present study is that it is based on a unique single case study which is representation of real attempts (Lee and Baskerville, 2003); therefore, generalizations must have been

made cautiously (Yin, 1984; Walsham, 2006). Moreover, the study is limited to the Swedish payment context; therefore, generalizations of other countries' systems should apply with care, concerning the size of the economy, transactions made, etc. Investigating the role of coopetition, among the different platform providers could also yield valuable insights. Future studies in these areas would, indeed, provide a complete picture of the role of coopetition in platform development.

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