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Change of Market Structure for Mobile Payments Services in Sweden - The Case of SMS Tickets

Jan Markendahl
KTH Royal Institute of Technology, janmar@kth.se

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FOR MOBILE PAYMENTS SERVICES IN SWEDEN
- THE CASE OF SMS TICKETS

Markendahl, Jan; Wireless@KTH, Royal Institute of Technology, Electrum 229,
SE-16440, Kista, Sweden; e-mail:janmar@kth.se

Abstract

Mobile operators and mobile service providers like SMS aggregators and ticket providers have until now been the main actors in the provisioning of SMS tickets for public transportation services. The consumers have been charged for SMS payments using the mobile phone bill. Due to financial regulation (EU directive) mobile operators are no longer allowed to handle payments and transactions for non-telecom services without being a payment provider implying registration of the customers. In Sweden the mobile operators have joined forces and formed a joint venture that offers a separate charging solution, i.e. not using the phone bill. However, this new joint venture has in most cases not been involved in the public procurement of new ticket and payment solutions initiated 2012 by the Swedish transport companies. The outcome is that a number of new actors and constellations have entered the mobile payment business.

In the paper the change of the market structure for SMS payment services in Sweden is analysed. The motivation for the research is to contribute to the understanding why mobile payment services do not take off on a large scale in Sweden although the technology and solutions are here. The case with the transformation of the SMS payment market provides insights about some of the barriers. There is no common national SMS payment solution. Users have to register accounts with a number of different payment providers. The registration process is an obstacle, the SMS payments have decreased with 50 – 90% compared to the same period 2012. We can see a fragmentation of the Swedish mobile payment service market. Due to the multitude of different solutions the incentives for both consumers and merchants to extend these payment solutions to other areas would be low.

Keywords: Actor cooperation, ARA model, Business models, Mobile payment services, New market actors, SMS payments and tickets, Value networks

1 Introduction

New technical solutions for mobile payment services are developed and tested by Swedish companies like Accumulate, iZettle, Infospread, Klarna, Payair, PayEx and Seamless. Many pilot projects and tests for mobile payments have been conducted in coffee shops, restaurants and shops. The mobile operators have formed a joint venture offering mobile payment services (WyWallet). In addition, Swedbank and other Swedish banks have developed mobile phones solutions for payments in shops (Bart) and for transactions between bank accounts of private persons (Swish).

SMS payments have been used for TV voting, fundraising, vending machines, parking and for public transportation. Single tickets for local bus and subway travels are the largest application areas. Until now the SMS payments have done using the mobile phone subscription (or prepaid card) and the SMS ticket solutions have been provided by mobile operators, SMS aggregators and ticket providers. Examples of these companies are Plusdial, Unwire, Mobill and IPX. The operator joint venture WyWallet offers a separate charging solution, i.e. not using the phone bill. However, WyWallet has in most cases not been involved in the public procurement of new ticket and payment solutions initiated 2012 by the Swedish transport companies. Instead, a set of new actors (in new constellations) have got these contracts and hence entered the mobile payment market.

In this paper the change of the market structure for SMS payment services in Sweden will be analysed. The motivation for the research is that mobile payment services do not take off on a large scale in Sweden although the technology and solutions are here. The main research question is:

What drivers, benefits and barriers for different types of payment solutions can be identified?

2 Related work and contribution

There are papers that specifically describe or analyze mobile parking service (Pedersen, 2003), (Anžek and Uzelac, 2004) (Strauß et al., 2005). These papers focus on user attitudes and behaviour. In the literature review by Dahlberg et al (2008) it is stated that research papers on mobile payments often are dominated by topics related to either technology factors (m-payment system, mechanisms or protocols) or consumer factors (user attitudes, behavior, adoption). Examples of the latter group are (Dahlberg and Öörni, 2006) and (Pousttchi and Widemann, 2007). In Mallat et al. (2009) the user values of mobile payments ticketing services are investigated including both (mental) costs of how to learn to use a new system and benefits of the usage. Customer experience aspects of mobile payment solutions are investigated by Goeke and Pousttchi (2010) where some indicators deal especially with solutions for mobile ticketing and the perceived impression of the payment provider.

A number of papers listed in (Dahlberg et al., 2008) include descriptions of scenarios, business models and analysis frameworks. A framework for business model analysis of mobile payment services are presented in (Pousttchi et al., 2009). Criteria to measure both customer and merchant satisfaction of mobile payment services are proposed in (Mohammadi and Jahanshahi, 2008) and used in order analyze a number of early European mobile payment concepts. In Carton at al. (2012) an analysis framework is presented considering technical aspects (payment integration) and the value proposition to end users (purchase control). Analysis of business models and value networks for mobile payments can be found in (Methlie and Gressgård, 2006) and in (Markendahl, 2011). The modelling and grouping of actor networks and relations presented in (van Bossuyt and van Hove, 2007) include two main types of payment models; operator-centric and payment service provider (PSP)-centric. The operator-centric models are different forms of walled garden approaches and the PSP models include different forms of cooperation between operators, merchants/service providers and also intermediaries. The role of third party actors and payment providers are described in (Anderson et al., 2011) where the connections between technical development and the formation of new business ventures are analyzed.

Cooperation between banks, mobile operators and application providers in order to offer mobile payment solutions including internet, SMS and point of sales payments are presented in (Delic and Vukašinovic, 2006). The market position and roles of banks in mobile payment services and how different resources and assets can be used (or not) as a competitive advantage are described in (Gaur and Ondrus, 2012). New payment solutions and technologies in a social, institutional, and business model context are discussed in (Ondrus and Lyttinen, 2011). The business performance of Google, Apple and Square as "new comers" in the mobile payment business is analyzed. Mobile wallet concepts driven by banks, mobile operators and Internet companies are compared by Narayan (2013).

The contribution is the paper is the analysis of the value networks for SMS payment and ticketing solutions in Sweden and the analysis of drivers and barriers. The position of different actors is illustrated before and after the new payment regulation in Sweden was taken into use. It shows how new actors enter the SMS payment business and how the position of mobile operators is weakened.

3   Methodology

3.1   Data collection

Interviews with different actors dealing with mobile payment services and solutions have been on-going since 2009. This includes i) technology providers, ii) providers of mobile payment and ticketing services and iii) service providers making use of mobile payment solutions, typically the regional public transportation companies and parking operators. One set of interviews was conducted 2010-2011 in order to understand the market position and plans for different actors (Markendahl, 2011).
Another round of interviews wase done 2012 in order to understand: i) the objective and scope of different pilot projects and trails, and ii) strategies and plans for both solution providers as well as users of the upcoming "new" SMS payment and ticketing services. Interviews were made with:
- Parking operators in Stockholm, Västerås, Linköping, Gothenburg and the company Easypark.
- The regional public transportation companies in Stockholm, Uppsala and Linköping/Norrköping
- Providers of services and solutions for mobile payments and ticketing.

Late 2012 and early 2013, after the launch of the "new" SMS tickets for public transportation, in total 20 interviews were made with public transportation companies in the five major cities/regions of Sweden (SL, Västtrafik, Skånetrafiken, UL and Östgötatrafiken) and with providers of the ticket and payment solutions: Mobill, Samtrafiken, Payex and WyWallet. The questions to the transportation companies focused on their overall payment and ticketing strategies, their requirements for mobile solutions and how different offered solutions were evaluated. The provider companies were asked how they responded to the requirements, how they did select their cooperation partners and how they formed the different constellations.

3.2   Analysis approach

For the interaction between market actors and the involved resources and activities basic ideas and the ARA model (Actors, resources and activities) from business network research are used (Håkansson and Snehota, 1995), (Ford et al, 2007). The analysis should provide information about:
- What activities, actors and roles that are included in the value network.
- The distribution of activities and responsibilities between actors.
- The interaction patterns between different actors providing the service.
- The type of relation between end-users and different providers.
- What actor(s) that seem to be dominant and possibly organizes the network.
The results are presented in the form of actor-business role maps illustrating the involved actors and the activities/resources controlled by these actors and also business agreements between actors.

4   Results – actors, resources and activities

The results are presented as actor-activity maps showing what activities that are controlled by different actors. The activities of SMS payment and ticketing services can be grouped as follows:
- Ticket handling including issuing the SMS ticket, to send it to the end-user, to create a "virtual" ticket in a data base and to validate the ticket.
- SMS aggregation and integration with the service provider, aggregation requires agreements with all operators and means that SMS ticket requests from users are collected at a single point.
- Management of customer data, end-user billing and payment streams. When a SMS ticket request is received a charging request is issued in order to check if it is OK to charge the user or account.

The SMS payments were initially introduced in order to make use of the phone bill or prepaid SIM card as a payment solution. Hence, the mobile operators were naturally involved. The end-users were subscribers of the mobile operators and this customer and billing relation was exploited. For public transportation companies the distribution of roles typically looked like the one in Figure 1. The ticket handling and SMS aggregation was usually managed by one mobile service provider, examples are Mobill, Unwire and Plusdial. Note that the ticket validation is managed by the transport company where "ticket control" staff use handsets connected to the ticket data base. Also note that the ticket provider and aggregator in this case not are visible to the end-user. The responsibilities and activities for payment and billing ware usually split between the mobile service provider and the operators. However, the public transportation companies, as large actors, had direct revenue sharing agreements with the operators. Smaller actors, with less market power, did not have these direct agreements; instead they used the business agreements between the mobile operators and SMS aggregators.
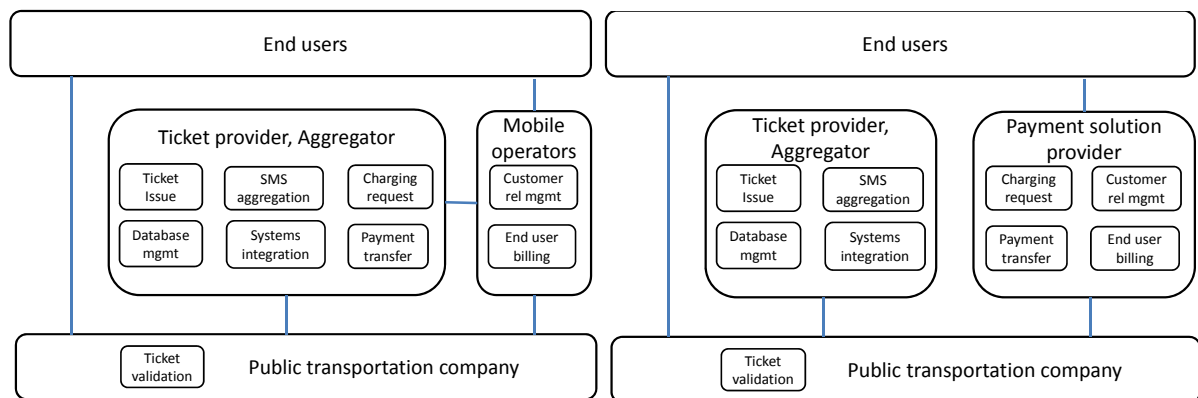

Figure 1.   Distribution of activities among actors for provisioning of SMS tickets for public transportation in Sweden, until and from February 2013(left and right hand side.

After February 1 2013, the "traditional" SMS payment solution involving end-user charging through the mobile operators is longer used. The public transportation companies have made a procurement of "new" SMS payment solutions. In most cases it is two different contracts, one for the technology solutions (i.e. handling the SMS tickets) and one for the payment solution. For other applications than local transportation (vending machines, airport couches, fundraising, etc.) the operator owned joint venture WyWallet has taken over the SMS payment contracts.

The analysis of all new cases results in a generic map shown to the right in Figure 1. There is a clear separation between the actors managing the technology solution and the payment solution. The mobile operators are no longer involved and the mobile phone bill cannot be used. Many new actors have entered the market for SMS payments, see table 1 for the actors having got the contracts in the main cities in Sweden. In the case of SL a temporary solution is used since the contract awarded to Samtrafiken and their partners has been appealed by one of the other bidders. SL then asked Mobill and Payex to provide a temporary solution.

Regional transportation company	Provider of technology solution	Provider of payment solution
UL, Östgötatrafiken, etc	Mobill	Payex and OKB
Skånetrafiken	Plusdial	WyWallet
Västtrafik	IPX + Plusdial	Seamless
SL (got the contract)	Unwire (got the contract)	Samtrafiken, DIBS
SL (temporary solution)	Mobill	Payex and OKB

Table 1.   Actors and teams that got the contracts late 2012 for technology and payment solutions for SMS ticket services for regional transportation companies in Sweden.

Mobile operators and mobile service providers like SMS aggregators and ticket providers have until now been the main actors in the provisioning of SMS ticket services. There were several SMS ticket providers and aggregators but together with the mobile operators they formed a "provider team" for SMS payment services. An agreed way to do the business was established and merchants and service providers that wanted to offer SMS payments contacted some mobile service providers. Of course many business agreements were established for the "provider team" but it was easy to use for consumers. The consumers were charged for SMS payments by use of the mobile phone bill. From the consumers perspective the complexity was low, if you wanted to use SMS payments you used a specific short SMS number for the specific service. The mobile operators had the main customer relation with end-users through the subscription, see figure 2.
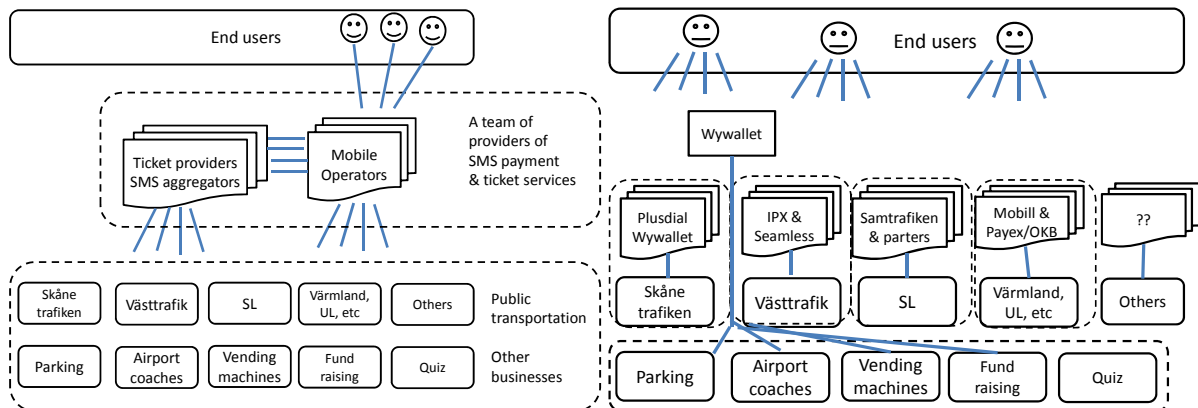

Figure 2.   A map of business relations for the former way to provide SMS payment services, one "set of providers" provided services and solutions to all businesses; consumers were connected through the subscriptions with the mobile network operators.

Due to financial regulation the mobile operators were no longer allowed to handle payments and transactions for non-telecom services without being a payment provider. The Payment Services Directive (PSD) states that payment providers need to know the identity of the person doing the transaction. This means that mobile operators need to register subscribers with pre-paid subscriptions. In order to avoid being payment providers themselves and in order to avoid too many non-telecom items at the phone bill, the Swedish Mobile operator formed the joint venture WyWallet in order to offer mobile payments services. Using this service the consumers can register and get a separate bill or being charging using a credit card for SMS payments. In many areas like airport coaches, fundraising, parking the traditional SMS payment services have been migrated to WyWallet. However, this joint venture has in most cases not been involved in the public procurement of new ticket and payment solutions initiated 2012 by the Swedish local transportation companies. One exception is Skånetrafiken where WyWallet provides the payment solution, an important aspect was that WyWallet could offer use of the existing SMS short number.

The local transportation companies are public organizations that need to make official procurements including tender evaluation of competing offers. The outcome of this process is interesting:

- The Mobile operators themselves have left the mobile payment market and created a joint venture offering the WyWallet service.
- All local transportation companies except one has chosen another solution than WyWallet
- A number of new actors and constellations have entered the SMS payment business.
- No solution by banks is among these new payment solutions
- There is no common national solution. Users that register an account in order to be able to use SMS ticket in Stockholm cannot use this in Gothenburg or Malmö.

The multitude of payment solutions and providers leads to a fragmentation of the mobile payment service market. There are many solutions and constellations of actors. The complexity has increased for the consumers, the multitude of payment providers is confusing. For example, in order to be able to use SMS-tickets in the three major cities you need have different accounts. After February 1, 2013 the use of SMS payments in Sweden requires an end-user need to register with the payment provider. This has been seen as major complication by users and has been reported almost every day in daily newspapers in Sweden. The registration requires personal information and take some time. This is seen as stressful if the registration is to be done just before the purchase of a ticket.

The registration of new user accounts results in a reduction of the number of sold SMS tickets and made transactions during February 2013. Compared to the same period 2012 the number of SMS tickets for public transportation has decreased 50 – 80 % in cities like Malmö, Uppsala, Västerås and Örebro[1]. The largest loss has been reported for fundraising, for the Red Cross in Sweden the change is 92% less money[2]. Organization like the Red Cross sees clear problems with the need to register with WyWallet and claims that these types of services should be excluded from the regulation.

5   Summary and discussion

The market for SMS payments in Sweden has changed after February 2013. The position of the mobile operator joint venture for mobile payments is challenged since new actors entered the market and won most of the contracts for SMS payments for public transportation. This change has resulted in an substantial decrease of SMS payments and a number of barriers can be identified. First, users have to register new accounts with payment providers. Secondly, consumers get confused by the multitude of different solutions and providers. Finally, there is no common national solution.

The operator strategy to migrate SMS payments to the new joint venture did seem to work fine for some applications but not for public transportation. Many representatives for the local transportation claim that the procurement process for public services may not have been fully identified or understood by the mobile operators and WyWallet. WyWallet also decided not to bid for several of the procurements of SMS ticket and payment solutions, hence other actors like Mobill, IPX, Payex, Samtrafiken, and Seamless made offers and got all contracts except one. If the operators had stayed with the previous business model but acquired payment provider licenses and registered all customers then the market position may had been the same. Assuming that there had been one common national solution for SMS payments, then it had been straight forward to exploit and re-use this solution for other types of payments, e.g. in shops, restaurants, coffee shops or for sport/music events. Due to the multitude of different solutions the incentives for both consumers and merchants to extend these payment solutions to other areas would be much lower compared to a common national solution.

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[1] http://www.svt.se/nyheter/regionalt/tvarsnytt/allt-farre-koper-sms-biljetter
[2] http://www.aftonbladet.se/minekonomi/article16328407.ab (2872)

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