Electronic Commerce Research and Applications 14 (2015) 305–318

Contents lists available at ScienceDirect

Electronic Commerce Research and Applications

journal homepage: www.elsevier.com/locate/ecra

# The new normal: Market cooperation in the mobile payments ecosystem

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ARTICLE INFO

*Article history:*
Received 26 November 2014
Received in revised form 19 March 2015
Accepted 19 March 2015
Available online 26 March 2015

*Keywords:*
Case study
iZettle
Market cooperation
Mobile payment
Payment ecosystem
Payment markets
PayPal
SMS payment

ABSTRACT

The introduction of mobile payments is one of many innovations that are changing the payment market. This change involves new payment service providers entering this lucrative market, and meanwhile, the existing stakeholders are trying to defend their oligopolistic positions. The *mobile payment market cooperation* (MPMC) framework in this article shows how the digitalization of payments, as a technology innovation, affects the competition and collaboration among traditional and new stakeholders in the payment ecosystem at three levels of analysis. We do this by integrating theories of market cooperation with the literatures on business and technology ecosystems. The MPMC framework depicts technology-based market cooperation strategies in the context of recent battles in the mobile payments ecosystem. In these battles, the competitors can use technology either in defensive *build-and-defend strategies* to protect market position, or in offensive *battering-ram strategies* for ecosystem entry or position improvement. Successful strategies can lead to: (1) *Ricardian rents*, based on operational efficiency advantages traceable to the firm's position relative to suppliers and monopoly power; and (2) *Bainian rents*, resulting from the extent the firm is able to resist price competition in the market. We validate the framework that we propose through three case studies of technology-based market cooperation in the mobile payments ecosystem.



## 1. Introduction

Payments have become a hot spot for digital innovation (McKinsey 2014b). Mobile phone manufactures, telecom operators, payment service providers, software companies, and technology start-ups all are entering the payment market (Gartner 2014, McKinsey 2014b). It is not only the well-known Internet giants, such as Google, Facebook, and Apple, and the early payment entrepreneurs such as Square, PayPal and iZettle anymore. There now are more there are more 12,000 start-ups moving into the payment services market (McKinsey 2014b). This is reshaping the industry and banks have been trying to fight off the competitors by using their existing market positions and IT infrastructures. For instance, Dansk Bank in Denmark responded to changes in the market by launching a mobile peer-to-peer payment app called "Mobile Pay." After only eighteen months, the payment app was adopted by about 40% of the Danish population.

One of the factors explaining the pace of innovation is that payment fees, even though the fees are declining per transaction, still are among the most important sources of revenues for banks. According to McKinsey (2014a), the global annual revenues from payments will reach by 2018 US$2.3 trillion and account for 43% of all banking services revenues. Another factor is the ongoing digitization of banking and payments. In particular, the mobile phone now plays a central role in this transformation and it has been suggested that "banks should have a 'mobile first' philosophy, in which products and processes are completely redesigned for mobile, after which they are translated to Internet and branches" (McKinsey 2014a).

Due to digital convergence with mobile technologies, payments have become one of society's most innovative and dynamic sectors, with fierce technology-based competition for market position (Ondrus and Lyytinen 2011). Banks all over the world are talking about the technology-led competition as the "new normal" or the "new standard," indicating that the industry has started to display competitive dynamics that are typical of high-tech industries rather that traditional financial industries (cf. Lee et al. 2010). For example, digital payments are information goods with near to zero marginal cost and frequently strong direct network effects (Bakos and Brynjolfsson 1999, Ferguson 2009). Most payments compete in two-sided markets where different costumer groups – payers and payees – are matched through some means of digital intermediation (Evans et al. 2006, Rochet and Tirole 2003, Shapiro and Varian 2013). Thus, the dynamics of payment markets are similar to mobile industries and characterized by tension between

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http://dx.doi.org/10.1016/j.elerap.2015.03.005
1567-4223/

competition and collaboration among stakeholders (Ghazawneh and Henfridsson 2012, Selander et al. 2010). While some of the stakeholders are direct competitors, they are also mutually dependent on the success of the industry as a whole and thus are forced into collaboration with other entities.

However, the payment market also displays characteristics that set it apart from other digital industries. The payment market is characterized by a strong regulatory framework and oligopoly (Ferguson 2009). Because of their high societal impact, regulatory agencies typically have a strong interest to influence how stakeholders assume positions within the market. In addition, payment markets have a long history of collaboration among the stakeholders, where change frequently is achieved by consensus and joint efforts rather than an innovation arms race. There are limitations in the conceptual understanding of how these distinct characteristics of payment markets influence how firms compete in them. Thus, contributing to an increased understanding of the effects of digitalization of payments, and also to digital ecosystem dynamics in general, we seek to explain how the digitization of payments, as a technology innovation, affects competition and collaboration among traditional and new stakeholders of the payments ecosystem.

We do this by developing the *mobile payment market cooperation* (MPMC) *framework*, which is based on an integration of market cooperation theory[1] (Makadok 2003, 2011) and ecosystems theory from the business technology domain (Adomavicius et al. 2007, Basole and Karla 2011, Moore 1996, Selander et al. 2013).

*Market cooperation theory* is based on the view that some markets and market positions restrains price rivalry, thereby allowing firms to profit at the expense of their customers. The profit generating mechanism of market position is particularly relevant in the typical two-sided market (Rochet and Tirole 2003, Stabell and Fjeldstad 1998), where the platform owner controls the cluster of stakeholders and captures a large share of the profit, high network effects that frequently lead to tippy markets, and scale advantage through high fixed and near zero marginal costs (Gawer and Henderson 2007, Shapiro and Varian 2013).

We use the *business ecosystem* as the unit of analysis, since previous research has concluded that mobile technological developments cannot be viewed in isolation. Thus, one has to consider the system and infrastructure they are part of (Adomavicius et al. 2007). In similar line of research, Basole and Karla (2011) propose that the organization of mobile industries, such as mobile payments, is more appropriately conceived as an ecosystem. One example is the direct credit transfer (bank account to bank account) from a mobile phone. It involves mobile phones, mobile phone operators, mobile bank applications developed by third party software providers, internal banking systems, and interbank processing provided by central banks.

Drawing upon three embedded case studies from the Danish payment ecosystem, we illustrate how different market cooperation strategies are used in the ecosystem and how turbulence is a recurring pattern in the evolution of socio-technical ecosystems (see e.g. Henningsson and Henriksen 2011). We show that established competitors apply the defensive strategy of *build-and-defend* and new competitors use the offensive strategy of a *battering-ram*.

[1] In his review of theories of profit, Makadok (2011) refers to this group of theories as *market collusion theory*. The term *collusion* has a very strong emphasis of the competitive dimension of market positioning, which we consider not matching the more collaborative sentiment of the ecosystem perspective and the empirical context in this study. The Danish payment market is characterized by a long history of collaboration between governmental agencies and financial institutions. Therefore, throughout this article, we refer to the set of theories that relate to firm's market positioning as *market cooperation theory*. Here *cooperation* is a term that denotes firm collaboration and competition in markets to achieve co-opetitive and beneficial outcomes.

The reminder of the article is organized as follows. In Section 2, we develop the MPMC framework by integrating market cooperation strategies and ecosystem theories. Then, in Section 3, we outline our case study approach, including data collection and analysis. Following this, in Section 4, we present our three illustrative case studies from the Danish payments market. This is followed by a discussion of the proposed framework's validity in Section 5. Finally, we discuss implications for theory, practice, and future research in Section 6.

## 2. Mobile payment market cooperation framework

We develop the MPMC framework in three steps. First, we discuss how technology can be used in market cooperation strategies. We identify two generic strategies. One is a defensive strategy that we label the *build-and-defend strategy*. Established competitors use it to fight off new entrants. The other is an offensive strategy that we label the *battering-ram strategy*. New competitors that are aiming to enter the market use this strategy. Second, we introduce the concept of the *digital ecosystem*. The *digital ecosystem view*, building on the idea of a business ecosystem, emphasizes the relationship between technology and strategy, which otherwise cannot be fully understood by approaching each as an isolated unit. Third, we synthesize the market cooperation strategies and ecosystems literature into an integrated explanatory framework for technology-based market cooperation strategies that is applicable to the mobile payment ecosystem.

### 2.1. Technology as a basis for market cooperation strategy

To understand how any technology, including payment technology, creates value for an organization, the technology has to be linked to the organization's value-creation mechanisms. Makadok (2003, 2011) offers a useful categorization of the major theories in strategic management. He organized them by their *causal profit mechanisms*. They are the means through which money moves from a customer to a vendor in exchange for goods or services, generating net profit in the meantime. This categorization views the numerous theories of strategic management through four value mechanisms: collusion, governance, competence, and flexibility.

*Theories for market cooperation strategy,* addressing how firms collaborate and compete to assume positions in a market space, relate to the profit mechanism. Fundamental for these theories is the observation that a firm's choice of and position in an industry, it turns out, are important factors for performance. For a firm to change its market position, it must have the ability to cooperate with other stakeholders in a way that enables it to exert power over its suppliers and customers. Below, we will define the objectives and mechanisms of market cooperation strategies. Then, we will discuss how technology can be used in defensive and offensive strategies.

#### 2.1.1. Market cooperation and firm profit

Market cooperation theories suggest that "market power is necessary for an industry's participants to be able to recover fixed investments and create long-term returns on equity that exceed that of firms in other industries" (Drnevich and Croson 2013). From this perspective, market concentration and barriers to entry that limit the competition on price and leads to increased average industry profit (Makadok 2011).

Common for this category of theories is an explicit or implicit view on management as market positioning, tailoring firm strategy to create or exploit unique industry characteristics. Establishing and defending an attractive position in the marketplace enables a