

Barriers to entry in the Norwegian payment services market

What are the major barriers to entry third-party providers encounter when entering the Norwegian payment services market after the implementation of PSD2?

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Preface

This master thesis is written as the final part in the master's program in Business and Administration at the School of Business and Law at The University of Agder, Kristiansand. The master thesis is written by Didrik Knudsen and Mons Haraldsen.

The paper has the purpose of uncovering the barriers to entry towards the Norwegian payment services market, after the implementation of the Revised Payment Services Directive. This topic is highly relevant, and it has been rewarding to contribute to a subject that impacts society at many levels.

The execution of this master thesis has been both educational and interesting. We would like to express our gratitude to all of the respondents who contributed to the completion of this thesis through thorough and insightful interviews. We would also like to thank our supervisor, Andreas Erich Wald, for his guidance and input.

Abstract

The purpose of the Revised Payment Services Directive was to ensure efficient and integrated financial services, and to increase market competition and innovation across the EU and EEA. PSD2 was put forth to lower the barriers to entry for the payment services market, hence allowing new entrants to compete with incumbents, and incumbents to compete with each other to increase both competition and innovation. In Norway the number of new entrants is rather low relative to comparable countries. The PSD2 regulative brings new possibilities for third-party providers, but it does not entail a market entry without barriers. This research has taken a qualitative approach to identify entry barriers that new TPPs have faced or will face when entering the payment services market in Norway. Semi-structured interviews were conducted with 11 participants representing fintechs, banks and neutral consultants to answer the research question.

We have found that there are a number of entry barriers in the payment services market. The most prominent findings of this study were the quality of the APIs the banks have been required to produce, the banks guarding of exclusive control over strategic resources in form of consumer data, gaps in information and technical knowledge from the Financial Supervisory Authority of Norway, and access to financing of Norwegian fintech companies in the payment services market.

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Abbreviations

AISP	Account information service provider
EBA	European Banking Authority
EEA	European Economic Area
EU	European Union
FSPAN	Financial Supervisory Authority of Norway (Finanstilsynet)
OECD	Organization for Economic Co-operation and Development
PISP	Payment initiation service provider
PSD1	Payment services directive
PSD2	The revised payment services directive
PSP	Payment service provider
RTS	Regulatory Technical Standards
SCA	Strong Customer Authentication
TPP	Third party provider
XS2A	Access to account

1 Introduction

1.1 Background

The economics of payments and the system of which it works are something that people usually do not think much about in their day to day life. Nevertheless, it is something that is quite significantly important in all parts of society. We are now witnessing a shift in how payments are conducted, and it is driven by digitalization and how we do business amongst one another. The operators of the payment system in Norway have historically been banks. If an organization wants to take part in the payment service sector there has been a need for special agreements between the bank and the organizations that want to become a payment provider (Nicolaisen, 2018).

In 2007 the payment services directive (PSD1) was introduced in the EU and EEA. This was a supranational law that was aimed to regulate the payment services and the payment service providers within member states. The objective of PSD1 was to increase the competition in the market, improve the quality of payment services, and make payments safer for consumers (The European Union, 2007). Later the directive was modernized and introduced as PSD2 in 2018. The aim of this modernization was to include new services and players, and extend the scope of already existing services (European Commission, 2018). As a result of PSD2, banks were required to open up their value chains to third-party providers (TPPs) and there was much talk about the extensive possibilities for new players in the payment services market. PSD2 was seen as a catalyst that would enhance the technological innovation in the payment services market, and in turn affect both the consumers and businesses. It was put forth to incentivise banks to innovate as the competition was supposed to increase.

Almost three years after PSD2 was incorporated in Norway, the increased competition and large number of new products and TPPs has not been seen. Norway has rather few TPPs compared to other countries in the EU and EEA. In the fourth quarter of 2021 there were a total of 9 TPPs that originate from Norway. In total numbers this places Norway as the 13th country out of 27 amongst the countries with licensed TPPs.

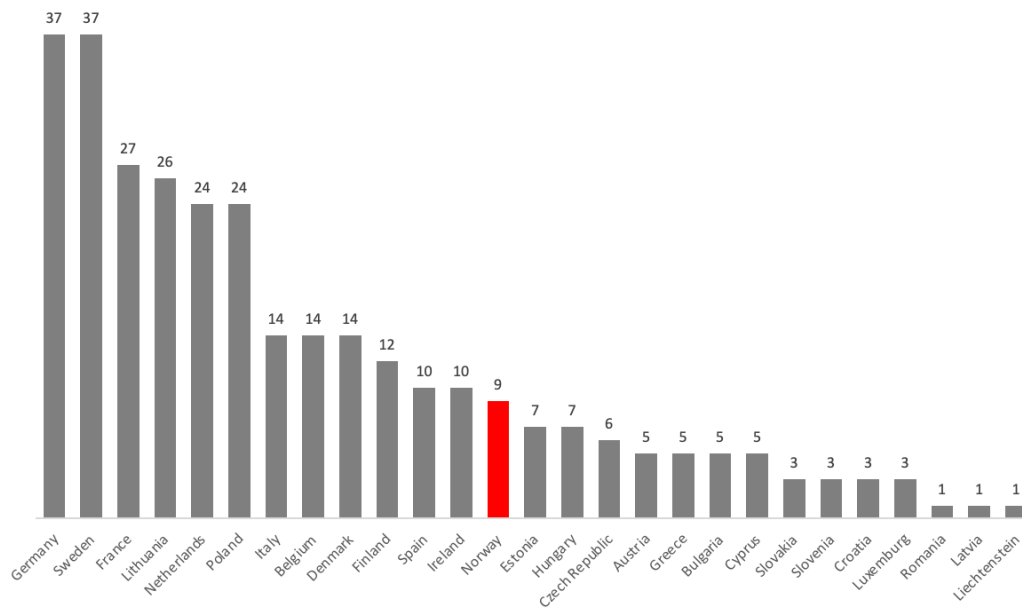


Figure 1: Numbers of TPPs in each country in Q4 2021 (Konsensus, 2022, p. 2).

1.2 Motivation

The payment services market is a part of the broader financial services market. Since PSD2 was introduced, there has been talk of opening up more than the payment services market as the PSD2 regulates. It is not unthinkable that the infrastructure of other parts of the financial services market will see changes down the line. PSD2 is the first part of the broader financial services market that has opened up the playing field for new competitors. One key factor for the new competitors is to gain insight into the entry barriers which they are facing. When we were pondering on what topic to study for this thesis, we were introduced to the PSD2 regulation by a manager in a fintech company who was looking into obtaining a PSD2 license. Since PSD2 has the possibility of affecting all parts of the payment services market on a macroeconomic level, business level and consumer level it motivated us to enrich the knowledge people have on this topic.

1.3 Research question

The purpose of this thesis is to examine and identify the key barriers to entry in the Norwegian payment service market. There is limited research to be found on this specific topic as the PSD2 regulative is a relatively new supranational law. Given that the regulative

somewhat deregulates the payment service market and allows new organizations to enter the market it is a likelihood that some forms of barriers to entry emerge. It was found by Polasik et al. (2020) that the introduction of PSD2 in 2015 caused a temporary increase in fintech start-ups in Europe, yet after nations transposed the directive the number of new start-ups fell in 2018. This shows that after the PSD2 regulative was transposed, something deterred the start-up of new TPP in the payment services market. A big part of entry deterrence is the concept of entry barriers. Therefore, the goal of this thesis is to give insight into what the entry barriers are when entering the market of payment services. With this in mind our research question is formulated as:

What are the major entry barriers that third-party providers encounter when entering the Norwegian payment services market after the implementation of PSD2?

The Norwegian payment service market as the country to research

One key factor for choosing Norway as the country to research is the nature of the study which has a rather limited timeframe. In order to conduct the research in an orderly fashion the scope of the research needed to be limited to one market. Another reason for choosing Norway as the country to research, is rooted in the supposed capabilities in the Norwegian market regarding digital competitiveness. The Institute for Management Development (IMD) publishes an extensive report on countries' digital competitiveness and produces rankings accordingly. The digital competitiveness ranking analyzes and ranks the extent to which countries adopt and explore digital technologies leading to transformation in government practices, business models and society in general (IMD, 2021, p. 32). The ranking is based on three main factors, and are:

- **Knowledge:** Know-how necessary to discover, understand and build new technologies.
- **Technology:** Overall context that enables the development of digital technologies.
- **Future readiness:** Level of country preparedness to exploit digital transformation.

When comparing the rankings among the countries with licensed TPPs that was presented in chapter 1.1, it is remarkable that Norway does not have more licensed TPPs.

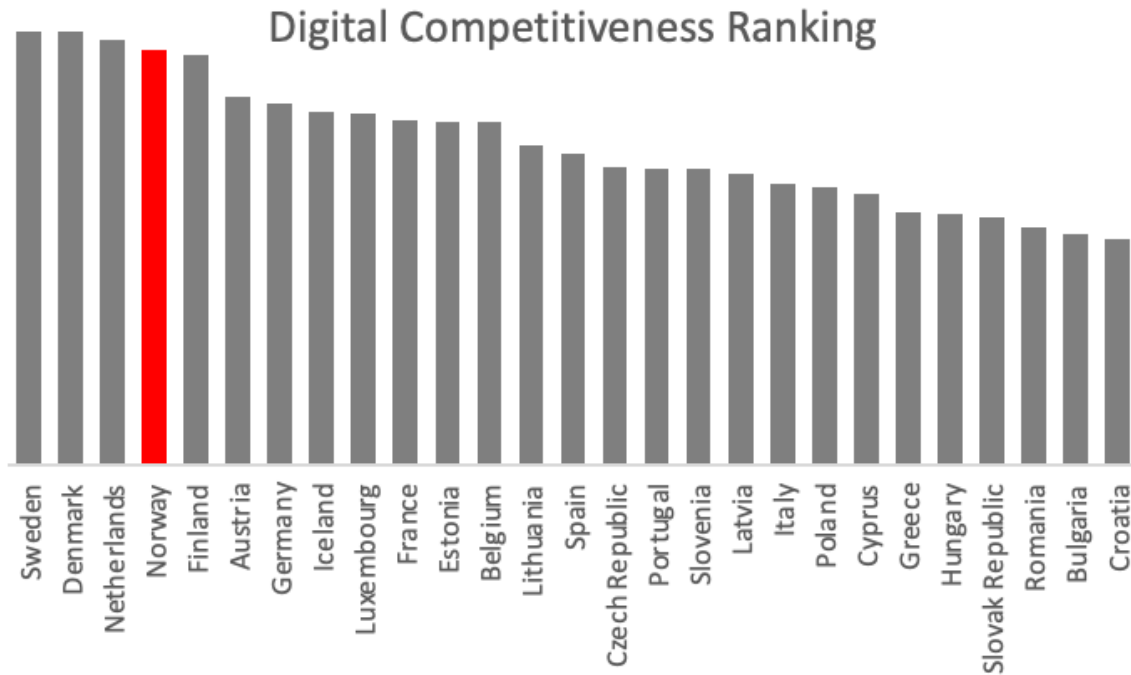


Figure 2: Digital Competitiveness Ranking amongst countries with licensed TPPs (IMD, 2021)

Among the countries, Norway ranks as one of the leading countries regarding exploring and adopting new technologies. In the sub-categories of knowledge, technology and future readiness, Norway is placed respectively as 7th, 1st, and 4th. Other Nordic countries are also considered to possess a leading digital competitiveness with Sweden placing 1st, 3rd and 3rd, Denmark placing 2nd, 4th and 1st, Finland placing 3rd, 6th and 5th, and Iceland placing 18th, 5th, and 12th. Additionally, the Northern European countries have the greatest tilt toward digitization when it comes to the preference of remote and digital interaction for everything regarding transactions and purchases (Dallerup et al., 2017, p. 3). We would argue that the similarities between the Nordic countries, regarding adopting and exploring digital technologies and preference of digital banking produces findings that can be generalized to other Nordic countries. This is the reasoning and justification of applying our research on entry barriers to the Norwegian payment services market.

1.4 Structure

This thesis is structured into seven chapters. Throughout the remaining chapters we will present a description of the PSD2 regulative and the changes that TPPs and fintech is playing towards the future of banking (chapter 2). The theoretical background for this thesis will then be presented, as it is essential to examine the research question (chapter 3). Additionally, the methodology used in this thesis will be described, and why said research method was conducted to examine the research question (chapter 4). Following this, we present our findings (chapter 5), and discuss them against previous research and the research question. Limitations and suggestions for future research (chapter 6). Finally, we will present the conclusions of the study (chapter 7).

2 PSD2 & Open Banking

2.1 Open Banking

The banking industry is becoming increasingly digital, with digital platforms being used for communication, data storage, and general operations. The numerous operating systems that make up this digital infrastructure are adapted to each particular bank's demands. The operating systems of the various banks must be able to communicate and interact with one another for a concept like open banking to succeed. Banks currently play a well-established function in society as a trustworthy money manager. The role of banks is changing as a result of technological advancements, and the distribution of financial products and services is being restructured. As a result, new and modernized data sharing, privacy, and payment regulations are required. Open banking enables for a more efficient flow of data between industry participants, as well as new value propositions, business models, and strategic options.

There are three primary drivers for change towards open banking. First and foremost, with the emergence of the computer and the internet, all sectors have undergone substantial technological progress. Changes in client behavior and expectations for digital distribution of financial products and services are another impetus for open banking. This shift has been aided tremendously by the adoption of mobile solutions in the form of smartphone applications. The third driver for open banking is the implementation of new and amended payment, data sharing, and privacy legislation, like PSD2 (Fjørtoft, et al., 2019).

2.2 The first Payment Service Directive

The first Payment Service Directive (PSD1) was introduced in 2007 and enforced in 2009, as part of the Single European Market to harmonize the financial payment services in the EU and EEA member states (The European Union, 2007). The purpose of the directive was to ensure efficient and integrated financial services, and to increase market competition and innovation across the EU and EEA (European Commission, 2018).

The PSD1 laid out the legal structure of the single euro payments area (SEPA). The EU was aiming to make payments across borders for consumers and businesses as easily and safely as it was domestically. The advantages of SEPA are among others to have one single system for both national and international transfers, and to ensure cheaper, safer and faster transfers of money across borders (European Commission, 2018; European Commission, n.d., B). The PSD1 also introduced a new player to the market, a payment service provider (PSP), which allowed non-bankers to provide payment services. PSPs are providers of activities that allow consumers to withdraw or deposit money from a payment account. In other words - the online version of the bank terminal you find in physical stores. PSD1 covered all types of electronic payments; credit transfers, direct debits, card payments, and mobile and online payments (European Commission, n.d., A).

The SEPA and the opening of PSPs are examples of some of the improvement of the payment system in Europe, since the introduction of PSD1. However, there has been significant technical developments and innovations in the market for payment systems over the last decade. The European Commission had to review PSD1 in order to modernize the regulation, to take into account new types of services and to keep track with technological development. New players, called third-party providers (TPPs), have emerged in the market for online and mobile payments. Third-party providers have developed new technical solutions that have not yet been regulated by PSD1. Examples of this from Norway would be Vipps, where payments are initiated directly from bank accounts, without the use of a card scheme. TPPs like Vipps have brought innovation and competition to traditional card or cash payments, providing more convenient payments for the consumers.

Some of the challenges with PSD1 was the inconsistent application of the regulation. There were several exemptions in the directive, a lot of different and unregulated intermediaries, lack of standardization of the directive, and a lot of different fees across the member states. Regarding the general data protection regulation (GDPR), the European Commission also needed to strengthen consumer protection in the payment market (Jennings et al., 2016). The EU then started the development of the Revised Payment Service Directive.

2.3 The Revised Payment Service Directive

The European Commission proposed to review the directive in 2013 (European Commission, 2018), and in 2018 the new and revised directive was enforced and replaced PSD1 in the EU. It was later incorporated in Norway September 2019 (Finans Norge, 2019).

Some of the articles in PSD1 have been applied differently across the Member States, this has led to a legal uncertainty. The European Commission states that this has led to impaired consumer protection and competitive distortions (European Commission, 2018). PSD2 is an updated version of PSD1, with some new main objectives. These objectives are 1) contribute to a more integrated and efficient European payments market. 2) Improve the level playing field for payment service providers, including new players. 3) Make payments safer and more secure. 4) Protect consumers (European Commission, 2018).

Integrated and efficient payments market in Europe

This objective of PSD2 has the incentive to further integrate and unionize the European payments market. The directive seeks to ensure that existing and new players in the market for payments will compete on equal conditions, regardless in what member states the player operates. The European Commission is aiming for greater efficiency and transparency in the market, and at the same time strengthening the consumers' safety across the Member States (The European Union, 2015).

Leveling the playing field for PSPs

The significant technical developments and innovations in the market for payment systems over the last decade has required the European Commission to open the directive in PSD2, compared to PSD1. This allows new and old players to extend their services. There are two new services that are made available under PSD2. The first one is by getting access to information about the consumers' payment accounts, this is called an Account Information Service Providers (AISP). The second one is by initiating payments directly from the consumers accounts, this is called a Payment Initiation Service Provider (PISP) (The European Union, 2015). Both AISPs and PISPs are categorized as third-party providers (TPPs) of financial services.

Account Information Service Provider (AISP)

Sterling Bank explains an AISP as “Any online provider that wishes to aggregate online information on one or more payment accounts held with one or more other payment service providers who typically present the information in a single dashboard for a customer.» (Boden, 2018). The AISP can obtain information from the consumers bank accounts, regardless of the quantity or which bank the accounts belong to, and then view all the information from every account on a single dashboard.

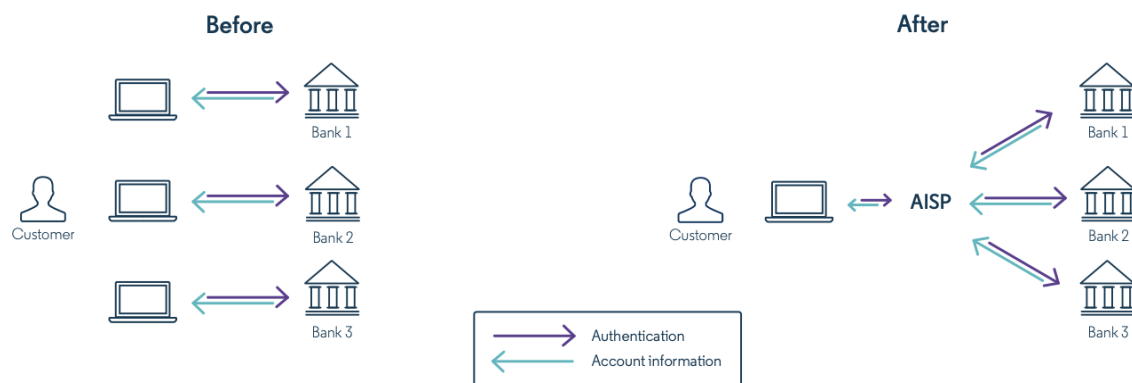


Figure 3: Account information before and after PSD2 (Holm & Helström, n.d.)

An example of an AISP in Norway is Horde. They obtain all information about their customers' consumer credit, and then use this information to offer financial advice or refinance their debt (Horde, 2022).

Payment Initiation Service Provider (PISP)

Sterling Bank explains a PISP as “Any organisation (traditionally retailers, but could be utilities or any other category of business that takes online payments) that initiates a payment, needing a software bridge between the website of the merchant and the online banking platform of the payer’s bank in order to initiate internet payments on the basis of a credit transfer.” (Boden, 2018). TPPs can now initiate payments directly from the consumer's bank account. A well known example of a PISP in Norway is the company Vipps. They were the first PISP in Norway, and provided this service before PSD2, with special agreements with Norwegian banks. After PSD2 was enforced in the EU and EEA, new TPPs now have the possibility of providing similar services.

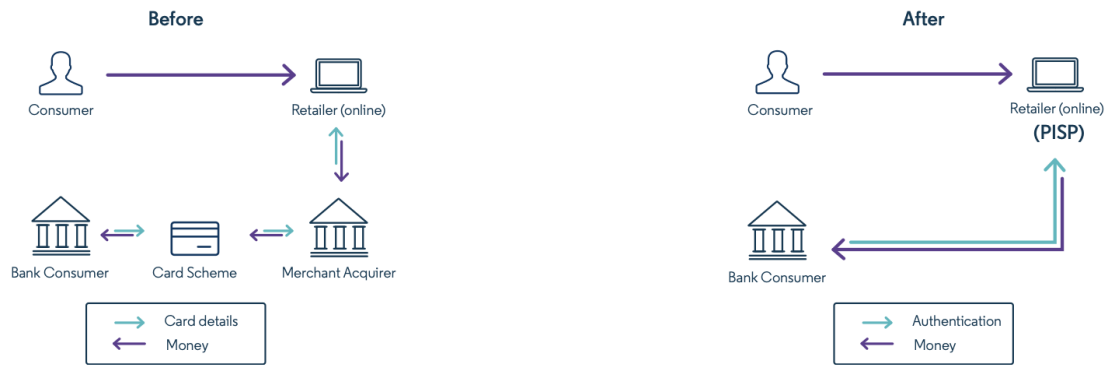


Figure 4: Payment initiation before and after PSD2 (Holm & Helström, n.d.)

Access to Accounts

According to previous reports, the most critical aspect of PSD2 is the access to accounts, as this represents the biggest impact on business, IT, risk and compliance (Fritsch et al., 2018). As mentioned above, Vipps is an example of one of the first PISP operators in Norway, yet they launched in 2015 before PSD2 was implemented. The difference before and after PSD2 is that Vipps, or others who wanted to enter this market, had to have special agreements with the bank to be able to get access to customer information. After PSD2 was enforced in the EU and EEA, new TPPs can now provide similar services without special agreements with financial institutions. This regulation of access to customers' information opens for new business opportunities, and for players who want to improve current businesses or build new businesses.

In order to regulate the access to accounts (XS2A), the European Commission endorsed a set of standards developed by the European Banking Authorities (EBA, 2021). The Regulatory Technical Standards (RTS) contains topics as data security, legal accountability and how TPPs can utilize the XS2A. The banks have to either develop a dedicated application programming interface (API) for this purpose, or let the TPPs use the same interface as the customers for their online banking. According to BITS, the Norwegian bank and financial infrastructure company, most banks wish to develop dedicated APIs (Johnsen, 2018). application programming interface is a code that allows two systems or apps to share data with each other. An API integration allows systems to communicate without the need for human intervention. When two systems' APIs are linked, data sharing and automated operations become easier (Skjørten, 2022).

Safe and secure payments

One of PSD2's main goals is to improve the security of electronic payment services in Europe, thereby preventing and limiting fraud (Johnsen, 2018). PSD2 aims to improve the safety and security of electronic payments by demanding payment service providers to use strong customer authentication (SCA). PSD2 requires that payment services providers use SCA when a payer accesses his or her payment account online, initiates a payment transaction, or performs any other action via a remote channel that could result in payment fraud (The European Union, 2015). The goal of SCA is to safeguard customers and facilitate secure payments by increasing the degree of security for electronic payments. A secure authentication code must be entered each time a payer enters his or her payment account online or conducts an electronic payment transaction. This authentication code must guarantee that the service user is the real user, and that the service provider has permission to access account information or move payments (EBA, 2022). Authentication must be based on two or more of the following elements:

- Knowledge: Something only the user knows (PIN-code or password)
 - Possession: Something only the user possesses (a card or a phone)
 - Inherence: Something only the user is (biometrics like fingerprints, iris or voice)
- (European Payments Council, n.d.)

Protect consumers

PSD2 protects consumers by requiring SCA, but it also improves their rights in other ways. Consumer rights are improved, for example by lowering the payer's responsibility from €150 to €50 in circumstances where the payer is responsible for any losses resulting from an unauthorized payment transaction. PSD2 also gives the payer unconditional return rights for euro direct debit transactions and eliminates fees for using a consumer credit or debit card (The European Union, 2015).

3 Theoretical Background

3.1 Barriers to entry

In the literature on barriers to entry there has traditionally been distinguished between two different approaches, the industrial organization perspective and the strategic management perspective. The industrial organization perspective has a focus on the market or industry and tries to identify barriers for economic development in that market or industry. This is the perspective where the concept of barriers to entry was developed by Bain (1965), Stigler (1968), Von Weizsäcker (1980), and McAfee et al. (2003) among others. The strategic management perspective on the other hand, is a perspective focused on the firm and appraises barriers to entry as an ability to establish competitive advantage for that individual firm. These are entry barriers that have either been purposely raised to reduce the possibility of entry into a market or industry, or are market specific traits that lead to a lower risk of new entrants (Porter, 1980; Robinson & McDougall, 2001; Singh et al. 1998). The main difference between these two types is what they use as the unit of analysis, where the industrial organizational perspective focuses on the industry and the strategic management perspective focuses on the firm (Lutz et al., 2010, p. 3). Entry barriers can be sources of deterring entry all together or hindering new entrants to gain a foothold in a market (Yip, 1982). PSD2 was put forth to lower the barriers to entry, make room for new players, and to improve innovation in the market. With this in mind, entry barriers can pose a large problem for entrepreneurship and in our topic of research cause an issue for new entrants in the Norwegian payment services market. Many economics and experts have sought to define the concept of a barrier to entry, resulting in a number of dispersed definitions. Hence, it is important to go through the various definitions in the economics literature, on what defines an entry barrier in order to answer the research question at hand.

The industrial organizational perspective focuses on the industry when describing and identifying barriers to entry. Efficiency and identification of harmful barriers for economic development is important. In this perspective, there is a focus on the structural conditions of the industry, and incumbents' reactions (Blees, et. al. 2003). The concept of barriers to entry got its importance that it now holds thanks to the American economist Joe S. Bain. He published one of the first thorough studies on entry barriers. Bains concept of barriers to new

competition, is based on the assumption that operation of industries is related to competition. Bain defined a barrier as:

“A barrier to entry is an advantage of established sellers, which is reflected in the extent to which established sellers can persistently raise their prices above competitive levels without attracting new firms to enter the industry.”

- (Bain, 1956, p. 3)

This definition relies on the assumption that all possible things that allow incumbents to earn above normal profits without the threat of new entrants entering the market. This approach is founded on the assumption that competition is critical to the operation of industries, and that any artificial barriers to competition may diminish the industry's effective resource allocation. The American economist George Stigler, defined in his publication that entry barriers is a cost advantage of the incumbents over entrants.

“A barrier to entry is a cost of producing (at some or every rate of output) that must be borne by firms seeking to enter an industry but is not borne by firms already in the industry”

- (Stigler, 1968, p. 67)

This proposes that economies of scale are not an entry barrier, as long as there is equal access to technology. This also defined that capital requirements are not entry barriers unless incumbents never faced the same requirements. Bain (1956) on the other hand defined that economies of scale, and capital requirements are entry barriers as it was positively correlated with high profits. Ferguson (1974) sides with Bain on the definition of entry barriers, he adds that incumbents need to earn monopoly profits as a requirement to be categorized as an entry barrier. The German economist C. C. von Weizsäcker build on Stigler's definition and defined a barrier to entry as:

“A barrier to entry is a cost of producing which must be borne by a firm which seeks to enter an industry but is not borne by firms already in the industry and which implies a distortion in the allocation of resources from the social point of view.”

- (Weizsäcker, 1980, p. 400)

This definition adds to the definition of Stigler in that cost differential can only be an entry barrier if it lowers economic welfare. The definitions developed by Stigler and Weizsäcker have a focus on the cost advantages that incumbents have over new entrants.

The definitions of entry barriers are rather disparate. This makes the identification of entry barriers in a market rather difficult as some aspects of a market can be considered an entry barrier in light of one definition, but not another. McAfee et. al. (2003) published an article that sought to use these definitions of entry barriers, among others, in order to categorize and define one general definition. They classified two different entry barrier categories:

“An economic barrier to entry is a cost that must be incurred by a new entrant and that incumbents do not or have not had to incur.” and “An antitrust barrier to entry is a cost that delays entry and thereby reduces social welfare relative to immediate but equally costly entry.”

- (McAfee, 2003 et al, p. 11).

This classifies barriers to entry into economic- and antitrust barriers. Economic barriers are a quantifiable amount that all new entrants will have to overcome to be able to enter the market, while antitrust barriers are not a quantifiable amount, but usually another obstacle that new entrants have to overcome. This classification explains that all economic barriers are antitrust barriers, but all antitrust barriers are not necessarily economic barriers. This classification does not exclude aspects of entry deterring factors as non-economic factors that are needed to be overcome by new entrants. McAfee et al. also found it useful to distinguish between primary and ancillary barriers:

“A primary barrier to entry is a cost that constitutes a barrier to entry on its own.” and “An ancillary barrier to entry is a cost that does not constitute a barrier to entry by itself, but reinforces other barriers to entry if they are present.”

- (McAfee et al., 2003, p. 463).

The distinguishing between primary and ancillary barriers sheds light on the fact that a small group of primary barriers can aggregate a significant barrier to entry, but a group of ancillary barriers does not necessarily aggregate a significant barrier to entry by itself.

The phenomena of entry barriers have also been adopted in the field of strategic management.

The strategic management perspective on entry barriers takes a narrower approach when evaluating entry barriers compared to the industrial organization perspective. This school of thought focuses on a specific firm and assesses the entry barriers as a resource to incumbent firms in creating a competitive advantage by deterring new entrants from entering the market (Lutz et al., 2010, p. 3). The entry barriers are in other words viewed as resources that are used strategically in order to create and nourish a sustainable competitive advantage for the incumbent firms. Jay Barney (1991, p. 1) identifies four indicators of the potential of firm resources to generate this sustained competitive advantage. He proposed that the resources need to possess certain properties and introduces - value, rareness, imitability, and substitutability. According to Barney it is not possible to maintain a sustained competitive advantage if the resources are not heterogeneously distributed but do acknowledge that there are exceptions to a certain degree in cases of first-mover advantage in gaining access to distribution channels, creating good-will with customers and gaining a good reputation (Barney, 1991, p. 6). Therefore, Barney's resource-based view encourages firms to “*obtain sustained competitive advantages by implementing strategies that exploit their internal strengths, through responding to environmental opportunities, while neutralizing external threats and avoiding internal weaknesses*” (Barney, 1991, p. 1). In order to do so the firm's resources need to be valuable, rare, difficult to imitate, and not substitutable.

The threats from new entrants are highly dependent on what barriers to entry exist in the market, in addition to the reactions new entrants can expect from incumbents. According to Porter (1980), the higher the barriers, or if new entrants can expect harsh countermeasures from incumbents, the lower the threat is from new entrants. Porter further defined seven major sources of entry barriers: Economies of scale, product differentiation, capital requirements, switching costs, access to distribution channels, cost disadvantages independent of scale, and government policy. This approach of using typologies is a broad way of defining entry barriers and identifies the linkage between structural- and strategic entry barriers. An entry barrier can be based on the market structure, and this could encourage incumbents to take strategic actions. Porter's major sources of barriers are extensively written, and in general they include the most important entry barriers discussed in previous literature.

From the historical literature it has been established that barriers to entry can be categorized into strategic and structural barriers to entry. These distinctions have also been characterized

by the Organisation for Economic Co-Operation and Development (OECD) and are often referred to as economic or behavioral barriers (OECD, 2007, p. 3). The structural barriers refer to basic industry conditions, like cost and demand, and economies of scale and network effects. These barriers are usually easier to quantify and are exogenous to the players. The strategic barriers on the other hand refers to barriers that are intentionally created or enhanced by incumbents in the market, often to purposely deter entry of new players, and are endogenous to the players (Blees, et. al. 2003).

According to OECD, the issue of what constitutes barriers to entry has not yet been universally resolved (OECD, 2005, p. 9). Publications by Carlton and Perloff (1994, p. 110) states that anything that prevents new entrants from creating a new firm in a market instantly, is defined as an entry barrier. OECD states that barriers to entry are important in all kinds of competition, and entry barriers may delay, or offset the market. Scholars have debated entry barriers for decades and concluded that entry barriers must be taken into consideration in every single case, and not whether it satisfies a specific definition (OECD, 2005, p. 9-10).

3.2 Identification of entry barriers

As stated by Han et al. (2001, p. 2), over the years from Bain (1956) first extensive research on entry barriers (economies of scale, differentiation, cost advantages) we see that the typologies of entry barriers have been expanded upon. It now includes entry barrier such as capital requirements (Porter, 1980; Eaton & Lipsey, 1980), switching costs (Porter 1980; McFarlan 1984), access to distribution (Porter 1985; Yip 1982), Advertising (Comanor & Wilson 1967; Demsetz 1982; Harrigan 1981), R&D (Singh et al. 1998), patents (Mansfield et al. 1981), and retaliation from incumbent firms (Needham 1976). In this chapter, we will identify the most prominent typologies of entry barriers that exist in the literature up until today.

3.2.1 Structural entry barriers

Capital requirements

New players who want to enter a market usually have to make investments. This barrier can vary a lot from market to market, but are related to costs like wages, property, plants and equipment (Bain 1956; Herrigan 1981; Karakaya & Stahl 1989; Porter 1980; Shepherd & Shepherd 2004).

Economies of Scale

When a firm's capacity is raised, economies of scale result in lower production and distribution costs per unit of output. This can force a new player to enter with a large market share, which will raise total capacity in the industry and most likely make prices drop (Bain 1956; Dixit 1980; Geroski et al. 1990; Schmalensee 1981; Spence 1980).

Absolute cost advantage

When newcomers' unit costs are greater than incumbents' at any common scale, there is an absolute cost advantage. Potential entrants who are aware that they would face higher unit costs may be hesitant to enter the business, hence absolute cost advantages might act as a barrier to entry (Bain 1956; Harrigan 1981; Karakaya and Stahl 1989; Shepherd & Shepherd 2004; Yip 1982).

Product differentiation

The industrial organization perspective on entry barriers regards product differentiation as an important barrier. This makes the entrance of a market complicated as incumbents already supply most of the niches. According to (Bain, 1956; Porter, 1980; and Karakaya & Stahl, 1989) product differentiation can be some of the fiercest entry barriers if used strategically by the incumbents. Differentiation can create customer allegiance (Bain, 1956), and through the creation of customer loyalty can eliminate some price elasticity (Schmalensee, 1982, p. 12). In the case of financial services, banks have the advantage of a large already established consumer base, as well as a broad set of product offerings (Stulz, 2019, p. 12).

Access to distribution channels

The necessity for new entrants to gain distribution for their products might be a barrier to entry. If established enterprises already service logical distribution routes for the product, the

new firm must persuade the channels to adopt its product by price cuts, cooperative advertising allowances, and other means that diminish profits (Porter, 1980).

In the financial services market, the entry barrier regarding distribution is more dependent on the consumer rather than accessing wholesalers in the manufacturing market. In this market the process of adoption decision on distribution channels for the consumer is complex, and this complexity intensifies when financial products co-exist (Black, et al., 2002).

Sunk costs

Some types of costs can be impossible to avoid for firms that want to enter a market, and impossible to recover if the firm leaves (Shepherd & Shepherd, 2004, p. 193). Sunk costs can exist in many different forms. Necessary advertising expenditure is one such form and leads to an unrecoverable entry cost if it fails, thus creating a sunk cost barrier to entry (Kessides, 1986, p. 1). Baumol & Willing (1981, p. 19) argues that activities such as advertising, asset specificity and R&D are capable of creating ancillary barriers that create sunk cost entry barriers. The research on R&D intensity as an entry barrier finds that Intensity of R&D is not sustainable as an entry barrier (Harrigan, 1981, p. 3).

Vertical integration

Vertical integration can be a source of entry deterrence as it in some cases can force new entrants to enter a market at more than one level of the production column. This demands larger investments, and greater commitment to entry, thus raising the barriers to entry in a market (Shepherd & Shepard, 2004). The barriers posed by vertical integration are also heavily linked with the barrier of asset specificity, as two companies that relate vertically both do not want to invest in the same asset due to uncertainty concerning incomplete contracting (Blees, et. al. 2003, p. 134).

Switching costs

Customers may be repelled from switching to other systems by the costs of commitment and training associated with complex systems. In the banking markets around the world switching costs are recognized as an issue. The switching cost perceived by consumers to be most important is the inconvenience of switching, the possible disruption to services, and the need to learn new systems at new banks or companies (Matthews, 2009, p. 1). Switching costs are not only connected to monetary gains or losses, but also psychological factors (Burnham et al., 2003). According to Donnelly (2016), consumer concerns regarding online payments

have been identified to be one of the main barriers to the growth of e-commerce and thereby a barrier that new TPPs need to overcome in the payment services market.

Gaps and asymmetries of information

Entrants have less information than incumbents by nature. Obtaining information can be costly, thus newcomers will be more risky, raising their cost of capital (Milgrom and Roberts, 1982).

Government policies

Government policies can influence both in a positive and negative way in the context of entry barriers (Blees et al., 2003, p. 88). Governments can limit and even close markets through licensing or limiting raw materials. Porter (1980, p. 13) argues that governmental policies can not only raise barriers, but also give incumbents notice of possible new entrants and in some cases knowledge of new products. This gives the incumbents ample time to plan out strategies of retaliation.

3.2.2 Strategic entry barriers

Retaliation

The concept of retaliation in the entry barrier literature encompasses actions to deter new entrants from directly competing with incumbents. The category can include a wide variety of strategic countermeasures with a variable degree of severity (Shepherd & Shepherd, 2004, p. 194). To which degree new entrants can expect reactions from incumbents depends on e.g., how possible it is for incumbents to deter entry by using advertisement and whether it is optimal for the incumbent to do so (Needham, 1976, p. 1).

Excess capacity

A dominating business informs other enterprises that it may easily prevent entrance by rapidly boosting its production by building and carrying excess capacity (Dixit, 1980; Singh et al., 1998).

Diversification and market segmentation by incumbents

Diversified businesses may be able to concentrate their resources at any one segment to resist entry. Funds, marketing, employees, advertising, resources, and R&D capabilities are just a

few examples of these resources (Karakaya and Stahl, 1989; Schwartz and Thompson, 1986). Customers may be segmented by demand and features, allowing the leading business to treat them differently in price and other ways. It makes cross-border entrance more difficult by strengthening the local market (Shepard & Shepard, 2004).

Advertising & selling expenses

The relationship between entry barriers and advertising can be argued in two ways. Netter (1983) explained that advertising can improve resource allocation, market transparency and helps consumers in comparing products and services. The contradicting argument is that advertising prevents resource allocation as it increases consumers' switching cost through the creation of brand recognition and loyalty. In the second school of thought advertising can have the possibility of creating entry barriers.

Patents

Firms want to obtain patents in order to obtain exclusive ownership of inventions. Many businesses rely on strategic patenting to restrict or control new competitors (Mansfield et al. 1981; Singh et al., 1998).

Exclusive control over strategic resources

Many key resources may be secured in many ways, including strategic acquisitions. Incumbents may be able to prevent new competitors by gaining ownership of the best ores, sites, or management, to mention some (Karakaya & Stahl, 1989; Shepard & Shepard, 2004).

Packing the product space

A portfolio of branded products might fill the product area, leaving little room for new businesses to establish themselves. Although this strategy appears to increase customer choice, it also prevents entrance (Schmalensee, 1978).

Research on entry barriers is highly situational. Entry barriers can affect markets in two ways according to Yip (1982, p. 3). Either by preventing entry all together, or dampening the success of those who do enter the market. In order to identify barriers, there is a need to define what constitutes an entry barrier. A barrier to entry can be a cost and output disadvantage to the new entrants relative to incumbents, or that deter entry independent of costs or output.

The different perspectives agree that there is a difference between structural and strategic barriers to entry, and that the two different categories have the possibility of being coherent. In order to distinguish between barriers to entry, typologies are used to create an overview of different areas that can be the source to entry barriers.

The aim of this study is to recognize the hurdles that Fintech companies are facing and hinder their entry into the Norwegian payment service market. In this exploratory research, an entry barrier needs to be defined broadly to not exclude ancillary barriers or other market specific traits that can be identified as an entry barrier but risk being excluded, for example for not being a cost disadvantage. Therefore, a good definition would be a literal one that keeps the definition open to most market traits. The definition by Shepherd and Shepherd (2004, p. 191): “*Barriers are the conditions -of all kinds- that make entry difficult.*” provides the research with a broad definition on what can be defined as an entry barrier in this research. Furthermore, there is a need to distinguish between structural- and strategic entry barriers. This is important to display an overview of what are naturally raised entry barriers by the market/industry, and what are strategically done by incumbents to raise the barriers to entry.

4 Methodology

4.1 Methodological approach

According to Sekaran & Bougie (2016) there is no single design that is superior in all circumstances. One needs to create a design that is suitable for the study at hand. The research topic of choice is a topic where there is a limited number of academic studies available, thus a limited amount of data available. Because the topic is rather new and there is a lack of available data it was necessary to gather data to get a better understanding of the barriers to entry, and how it affects the Norwegian payment service market. Literature regarding barriers to entry have been used throughout the research, and the interview guide has been built on this literature. Even though the research has been built on existing theories, the research approach is inductive as it seeks to create a deeper understanding of a topic not yet investigated. The thesis also includes a comprehensive description of PSD2 and the essence of the regulation. This was done to develop an understanding of how the regulations affect the Norwegian payment service market. We also found it important to include a descriptive element as there is little general knowledge on the topic.

When considering whether to use a quantitative or qualitative method there was more natural to lean towards a qualitative approach. One key reason for choosing a qualitative method was the threat to the research's internal validity. The internal validity is the degree to which a study establishes the cause-and-effect relationship (Slack & Draugalis, 2001, p. 1), and in the case of this research question there were too many factors that could affect the data.

According to Mack et. al. (2005, p. vi) qualitative research provides culturally specific and contextually rich data. PSD2 was implemented in the year 2019 in Norway and is therefore a rather new regulation. This could mean that the full effect of the regulation might not yet be present. Because of this, the PSD2s effect on the entry barriers in the Norwegian payment service market needs to be analyzed by looking at the experiences and future anticipations to get a complex description of the research question at hand. This argues for the use of a qualitative approach to this study.

Qualitative research is time-consuming as the data gathered is complex and the data can be highly subjective. Another complication of the research method chosen is the possibility of

misinterpretation of data gathered from the interview objectives as the approach produces complex and rich data sources. This has required us to be systematic in the approach of gathering research. The data has therefore been gathered from multiple sources, from people with different experiences with the PSD2 regulation.

4.1.1 Method of data collection

The thesis is built on two different sources of data. It is the data collected from in-depth interviews and secondary sources that consists of academic articles, books, and reports. The secondary data, in the form of sources from academic articles, books and reports will complement the data gathered from our interviews, and substantiate the research and identification of possible entry barriers in the Norwegian payment service sector. Literature that was found reliable as the purpose of secondary data is not to answer our research question specifically, but for other purposes of research. Furthermore, the review of the literature was important as to understanding the topic of entry barriers and the relevance of the PSD2 regulation on the payment service market in Norway.

In-depth interview

11 semi-structured interviews have been conducted in this study, and is the primary data. Semi-structured interviews are when the interviewers prepare predetermined questions, but the interview with the participant unfolds in a conversational manner. This presents the participants with the opportunity of exploring issues that are felt important for the research (Clifford et al., 2016, p. 143). Clifford et al. (2016, p. 367) also states that semi-structured interviews are well suited when the topic is in an uncharted territory where one suspects there to be unknown issues to be examined and allows the interviewers to ask probing questions. As PSD2 has newly been implemented there was a need for us to uncover possible barriers to entry in the Norwegian payment service market, and since the full effect of the PSD2 regulation might not yet be known. Furthermore, the interviewees in this study might possess information through first-hand experience that has not yet been investigated, and possibly be valuable for this research.

The interviewees in this study are subject matter experts regarding PSD2 and the payment service sector in Norway. They can be grouped based on different experiences on the subject of PSD2, and are as follows:

Fintechs	Banking experts	Neutral consultants
Fintech 1	Banking expert 1	Neutral consultant 1
Fintech 2	Banking expert 2	Neutral consultant 2
Fintech 3	Banking expert 3	
Fintech 4		
Fintech 5		
Fintech 6		

Figure 5: Overview of research participants

A total of 11 interviews were conducted: 6 FinTech companies, 3 banking experts, and 2 neutral consultants. The six fintech companies that were interviewed consist of both firms that have a PSD2 license, and firms that are in the process of applying for a license. Approximately 50% of the licensed TPPs in Norway have been interviewed in this research. The representatives of the fintech companies were either founders or executives who possessed the necessary experience and information on entering the Norwegian payment services market. They have first-hand information of barriers encountered when entering the market. Another part of the payment services market is the banks, as they have been imposed a regulation, and can be viewed as incumbents in this case. It was important for this research to include banking experts, as they may have different views of the entry barriers and problems regarding the payment services market. The three banking experts consist of representatives from three Norwegian banks with national presence. The banking expert representatives were executives in either the open banking division or head of API development. Additionally, the research study also collected data from two leading consultants on PSD2 and open banking. They were included to establish a middle ground regarding opinions on the entry barriers, and were done with the intention of minimizing bias in the data gathered and analyzed. The two consultants are representatives from two large worldwide operating consultant firms. The individuals interviewed have been carefully chosen, and have been selected to prevent a bias as the different groups possibly hold different opinions on the entry barriers to the Norwegian payment service market. The mix of participants with each their competencies and experiences produced a lot of value to the research.

In order to make the interaction with each interviewee as natural and fluently as possible we opted to use an audio recorder. This was chosen so that we would not be at risk of missing any valuable information, as well as giving a more accurate presentation of our findings than taking notes during the interviews. All interviews were conducted digitally to make the process more flexible for both the participants and ourselves, as most interviewees were located rather far away from our base of operation.

Interview guide

According to Taylor (2015, p. 122) an interview guide is something most researchers use in multiple-informant studies. This is to make sure that topics of interest are explored with a number of interviewees. The format of the interview is not to be done in a structural schedule. It should rather be used as a list of general topics to be covered with all the participants of the interviews. Our interview guide (Appendix 1) was prepared beforehand and used to facilitate an overview of what needed to be investigated in a structural manner. Even though the guide was systematically structured it was important to let the conversation with the participants be as flexible as possible if needed to. The guide was therefore only used as a checklist of topics investigated, rather than a rigorous template for the interviews. The questions were constructed to be as open ended as possible to promote the participants to explain and describe situations from the different interview sections as they want. It was also done so to engage the participants to inform about interesting subjects, experiences, facts, and views regarding the topic that could be of interest to our research. The way of structuring open ended questions also contributed to our research as it allowed us as interviewers to delve deeper into new findings brought up by the interviewees. If the interviewees brought up topics it could be further investigated with follow-up questions related to previous answers, thus providing us with findings not revealed otherwise.

Given that the participants of the interviews contributed to the research with different experiences regarding the PSD2 directive and possibly stood on different sides of the entry barriers to the payment service market, the interview guide had a need to be slightly adjusted according to the different participants. A combined interview guide is presented in the appendix of this paper.

4.1.2 Method of data analysis

Semi-structured interviews present the researcher with qualitative data that often consist of rich, in-depth information. After each interview the interview was transcribed from oral to written form the same day, to prevent misinterpretation. This way the data became more structured and easier to interpret and analyze. Analyzing the data involves examining a large number of transcriptions, in order to find similarities and differences. This is done to find themes and categorize the data, in order to reduce the amount of raw information and identify significant information and build a logical chain of evidence (Wong, 2008, p. 1). The transcription was written word for word excluding filler words, and the work of analyzing similarities, common themes, patterns, and differences. To make sure the analysis was rigid the examination was done separately, and later on compared and categorized.

Inductive content analysis

The method used in analyzing the data was a qualitative content analysis. As a research method, content analysis is a systematic and objective way of describing and characterizing occurrences. The researcher can use content analysis to investigate theoretical difficulties and gain a better grasp of the data (Elo & Kyngäs, 2008; Krippendorff, 1980).

Content analysis is a method that can be applied to both qualitative and quantitative data, along with inductive and deductive reasoning. The goal of the study determines which of these is used. The inductive technique is advised if there is insufficient prior knowledge about the phenomenon or if this knowledge is fragmented (Elo & Kyngäs, 2008). This thesis utilizes qualitative content analysis in an inductive way. The reason for opting for an inductive approach is that there is previously no research on entry barriers in the Norwegian payment services market. The categories in this research are therefore derived from the data gathered.

The analysis is carried out in three phases: preparation, organizing and reporting. In the preparation phase we selected our unit of analysis, as described in chapter 4.1.1. After the interviews were conducted, we began by going through your transcripts and establishing a list of your initial observations of entry barriers, and tried to spot common threads and get an overview of the data. After that we went over to the organizing phase, where we thoroughly read each transcript. Open coding, category creation, and abstraction are all part of this process (Elo & Kyngäs, 2008). Open coding refers to the practice of writing notes and

headings in the text while reading it. The written information is read again, and as many headers as are needed in the margins to summarize all parts of the text are put down. Following the open coding, the categories are organized into higher-order headings. The goal of data grouping was to reduce the number of categories by combining those that were related or dissimilar into categories. Abstraction is the process of generating categories to form a general description of the research issue. Content-specific words are used to name each group. Subcategories containing comparable events and incidents are combined into categories. Finally, our reporting of the results will be presented in the next section, chapter 5.

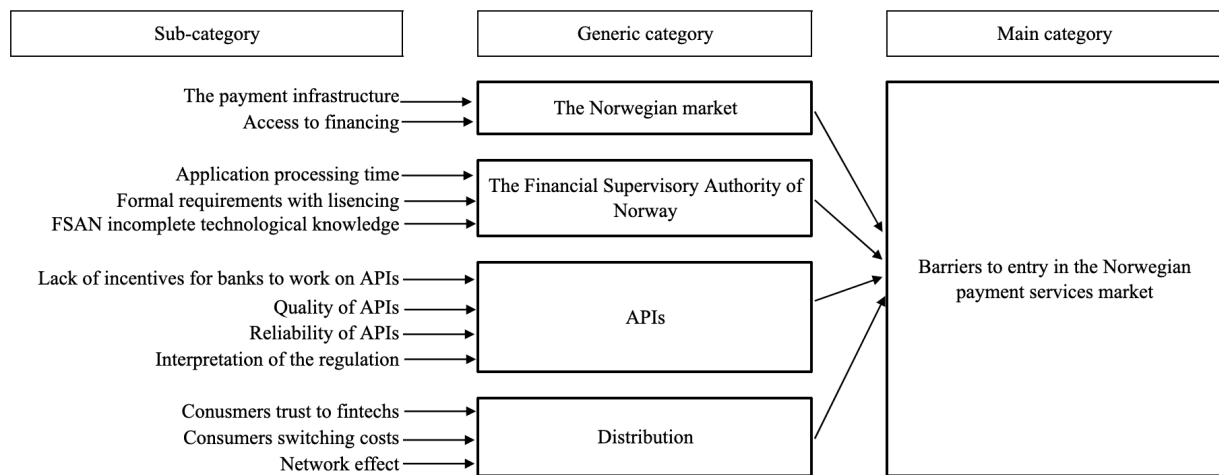


Figure 6: Abstraction process of the thesis

4.2 Evaluation of methodology

4.2.1 Validity

Validity refers to whether the data material acquired is relevant to the research question, and it is critical to have a high degree of validity in qualitative case studies. As a result, the degree of validity indicates whether one has measured what one meant to measure. In our case, this means that the conclusion must match and be legitimate based on the evidence collected (Johannessen et al, 2011, p. 73). Adjusting the research question throughout the data gathering process can help to improve the study's validity. This is something we did since we weren't convinced, we had chosen the right topic for our thesis. It can also be beneficial if

data obtained throughout the data collecting process turns out to be irrelevant to the research question, even if it is relevant to the thesis's topic.

Internal and external validity are two types of validity. Internal validity assesses how accurately the findings are presented and whether they can be linked to the intended cause. It is also critical to ensure that our conclusion is based on genuine data and that we present facts appropriately in order to attain a high degree of internal validity. External validity refers to whether the knowledge gained from the study may be used in other studies or disciplines. That is, if the findings have a high degree of external validity, they can be generalized (Johannessen et al, 2011, p. 328, 411).

4.2.2 Reliability

Reliability deals with the consistency of results over time and an accurate representation of the total population for which are under study. It also deals with if the results of a study can be done again under similar conditions (Golafshani, 2003, p. 4). According to Saunders et al. (2012, p. 381) the concern regarding reliability in this type of methodology is bias. They specify three potential biases to consider and are interviewer bias, interviewee bias and participation bias.

Interviewer bias concerns the interviewer's behavior and could possibly create bias in how the interviewee responds to the given questions (Saunders et al., 2012, p. 381). When conducting the interviews, we tried to compose a neutral appearance in both body language and voice. Likewise, not comment anything that could raise the probability of creating bias in the way interviewees responded to our questions. Another concern regarding interviewer bias is the imposing of one's own beliefs through the questions. We made sure to formulate the questions as open ended as possible and to avoid leading questions, thus limiting the risk of interviewer bias. When conducting a semi-structured interview there is a risk that there is bias in what the interviewee discloses with the interviewer, to paint a favorable image. The interviewee can possibly be biased regarding the topics of discussion as well, and refrain from discussing parts of the topic to avoid unfavorable points. In order to prevent these types of bias the interview guide was an important tool to make sure everything was answered properly. The last type of bias that is concerning when conducting exploratory research is participation bias. Given the limited time and resources of the thesis there is a risk that the

sample of interview objects are biased. Even though we have conducted interviews with approximately 50% of the licensed TPPs in Norway there is a risk that the sample size is too small to encompass the experience of the industry in its entirety. there is also a risk of subjectiveness from the participants as there usually was between one and two representatives from each company.

5 Results

Because of the little research on entry barriers to the Norwegian payment services market, we wanted to get some knowledge about this market and the challenges that fintech companies encounter in this market before conducting our interviews. We started early on by reaching out to some experts in the market and had an informal interview/conversation with some representatives. We got valuable information from one large and experienced fintech firm with a PSD2 license, one small recently started fintech firm in the process of applying for a license, and one neutral market expert from a large global consultant-firm. In addition to this, the Financial Supervisory Authority of Norway together with Fintech Norway, an interest organization established for fintech companies as a result of PSD2, and NCE Finance Organization, a non-profit fintech cluster, invited interested parties to a conference. At this conference, the Financial Supervisory Authority of Norway discussed together with fintech companies and different market experts, why there are such few companies with PSD2 license in Norway. We acquired valuable knowledge from this conference and the meetings with the people mentioned above, before continuing our research. Based on the result of our literature review, the conference and consulting with experts, we then made our interview guide.

5.1 The Norwegian payment services market after PSD2

All interviews started with an introduction of the purpose of our research, followed by an introduction from the interviewee. To get an overview of the payment services market in Norway, and to make sure that our research question actually is relevant and important to this market, we started all interviews by asking the participants to what extent they would say that the Norwegian payment services market has changed following the introduction of PSD2. The results from the introductory question displayed the case that not too much had happened after the introduction of PSD2 and up until today.

Most of the interview participants pointed that the change looked to be moving slowly and that Norway was a country that was falling behind. On the other hand, all participants argued that change was going to happen.

“Not that much yet. A lot of people talked about PSD2 in advance, but then nothing happened, like a flop. I think it's going to happen very much very soon, and that people will be aware of it.” - Fintech 4.

“I would argue that so far no huge changes have taken place. Open banking and PSD2 should not be like this - but the whole thing is more or less a proof of concept. Then it can never be dominant.” - Fintech 5.

“If we assume the goal of PSD2 was increased competition and innovation, then it has happened. It has also not happened to the same extent as one had expected and to some extent hoped for. My answer there is that I hope that we will see an increase in the degree of change in the future. Yes, it's going in the right direction, but it's going too slowly. I think that pace will change going forward.” - Fintech 2.

The number of TPPs in Norway is today nine, and it was a definite agreement that this number was low. The change was also argued to have a reversing effect on the innovation in the payment services market for some of the participants of the research as presented by Fintech 3.

“To a very small degree. We have remarkably few new players, very few services that work, and banks that do not dare. We have even had an effect in the banks that they do not launch new things. Because if they launch new functionality, it will also be offered to 3rd parties. It is almost a driving force to say that not innovate, because then you do not have to expose it. It seems to have a bit of an opposite effect.” - Fintech 3.

The APIs which are provided by the banks are in many ways what the fintech companies build their business on. Without the APIs the TPPs cannot function properly. This was a recurring answer to why things moved slowly in the Norwegian market, as stated by Fintech 6.

“I do not have full control on the private side, and that is where I feel it has happened the most. On the corporate side, things have hung a bit behind because they have

been slow to make it happen, but now we are starting to reach a tipping point, the banks can no longer be half-functioning. Now we're finally in a place where it's actually possible to use the APIs.” - Fintech 6.

Even though the payment services market seemingly moves slowly in Norway up until now, it was without a doubt that the outlook on future development of the market was present. Both fintech companies, banking experts and neutral consultants pointed out that the change was going to move faster in the future.

“There has been hope of well-functioning solutions, but there have not been any huge changes yet. As we get better functioning solutions and time to develop better apps and services, it is clear that there is a need to make new payments solutions. I have three different banks, and think it is a pain to have to jump between them. There have not been any clear major movements yet, but we believe it will fall into place when technical frameworks and a little more economic development are in place.” - Fintech 1.

“I think that PSD2 started an absolutely fantastic process in the Norwegian banks. Now there has been a lot of innovation. Could mobile pay have been established without PSD2? of course. Could Vipps have been established without PSD2? yes quite obviously. The question is whether it had been established without them getting a push. I think it has had a completely insane impact, but it is not the direct impact of PSD2 but rather a more call to action.” - Neutral consultant 2.

“Not really that much. We have got some new players trying to enter the market. What exciting things are happening now, in my opinion, is in the corporate market and ERP. I think there are good opportunities there, where you also make money.” - Bank expert 2.

“We have seen it as a change and an indication that big things will happen in the future and that these players will find ways where they will jump into the value chain where the banks have had greater control in the past. But I think we have the biggest changes ahead of us, especially in Norway.” - Bank expert 3

As seen from the answers, almost everyone agrees that there has been little change in the payment services market in Norway so far. The introductory question provided the research with further areas of the payment services market that could be identified as entry barriers. It was pointed out that APIs were an issue when entering the market as it provides the TPPs with their key resource for operations. This data lays the foundation for our thesis, and confirms that our research question is highly relevant.

5.2 APIs

The Revised Payment Services Directive has been a highly relevant topic within the payment services market the last few years, especially the APIs that banks were required to have implemented and ready for use for TPPs back in 2019. Throughout our research, we find the problems regarding the APIs to be one of the most dominating factors mentioned by the participants. There have been pointed out several different challenges regarding the APIs.

5.2.1 Quality and reliability of APIs

As described in chapter 2 of this thesis, the APIs is how TPPs can connect themselves and get access to the consumers data from the banks. Without the APIs, TPPs cannot offer any services. When coding our data, two types of problems have been mentioned on several occasions. That is problems regarding the quality and the reliability of the APIs. Fintech 5 has a clear opinion of what they regard as the biggest challenge as of today.

“The biggest challenge is still API quality and the banks' work on this. We are 3 years behind and not a single bank is compliant. In the beginning there was no access, period. It varies greatly from bank to bank, but there is a lot of work left.” - Fintech 5.

It began with the APIs not being readily available at the deadline in July 2019. The banks then got the deadline postponed to September the same year, but still without any further progress according to Fintech 5. Fintech 1 shares the same thoughts on the APIs as fintech 5. They also want to point out that it has been better if we compare the APIs today against the APIs in 2019.

“It is considerably better now compared to when we first launched payment services. Then we were completely shocked by the quality. It's our reputation that gets a hit when a customer cannot use our payment service that is dependent on the bank's APIs. It is our reputation that matters and not the bank. We have a lot more errors with our payments services than the banks have themselves.” - Fintech 1.

Another problem pointed out by the fintech participants is the fact that it is the fintechs reputation that takes a hit with all problems regarding APIs. The fintechs are dependent on the APIs provided by the banks to be able to operate. The interesting issue here is that the banks have been obligated to provide for a service to someone who potentially might be a competitor towards the bank's own products. There is no doubt that the banks have exclusive control over the consumers' data. Exclusive control over strategic resources pointed out among others by Karakaya & Sthal (1989) and Shepard & Shepard (2004) to be a strategic entry barrier, where an incumbent can prevent new competition by strategically utilizing their control over resources. The bank's control over strategic resources has been pointed out by the fintech participants, where they also have converging opinions regarding the APIs as the heart of the problems.

“Now we are at the heart of the problems here. It is very easy to understand from a competition perspective why banks refuse to share information. But now it is the case that they have to do it under PSD2. We have unfortunately seen that they pull a lot on the legs.” - Fintech 2.

The fintechs also acknowledge that from a competition point of view, they understand why the banks have not been prioritizing the APIs, and further say that they have the impression that the banks willingly have dragged this out. The banks on the other hand do not agree that they have been using their control over consumer data strategically.

“This regulation came into force in Norway in 2019, and then all the PSD2 APIs were to be in production and cover the entire scope required by the regulations. The banks were relatively sure that they were compliant with the regulations when it was launched in 2019. It has taken too long, and it is a fact that 3rd parties have been frustrated with how long things have taken. But there has not been, and certainly not on our part, any ill will behind it.” - Banking expert 1

The fintechs and banks have quite contradicting views on this matter. Banking expert 1 states that the banks have not strategically used their position to reduce competition, and rather explained another issue regarding this regulation - that the regulative needs to be interpreted to fit into the Norwegian banking system.

5.2.2 Interpretation of the regulation

Banking expert 1 states that the banks have been relatively sure that they have been compliant all along, and explains that the regulation is a relative set of rules that needs to be interpreted.

“The challenge with PSD2 is that it is not a categorical set of rules, but a relative set of rules that must always be balanced against its own channels and what type of products that you offer. In addition, there are many definitional questions in what to include - what is a payment account, what type of payment product, what type of information related to payment to be offered?” - Banking expert 1

The question of interpretation is also mentioned by the fintech companies as an endeavor that has postponed entry into the market. The fintech participants highlight that the regulation needs to be customized for the Norwegian market, and the fact that it is the FSAN that must do the interpretation and come up with clarifications.

“I think maybe it's mostly because the authorities have not been able to think about all the scenarios that may arise. There are many times where we seek advice from the Financial Supervisory Authority of Norway on questions of interpretation where they are also uncertain. It has been an ongoing issue for a long time. I think many banks have made a conscious choice not to take any action until the authorities are ready with the whip.” - Fintech 1.

“That's part of the problem. It is certainly a question of interpretation. The banks read the paragraphs and interpret them in one way, then the Financial Supervisory Authority of Norway has another interpretation and comes up with clarifications. This can still be seen, for example, there are different interpretations of the accounts at the

various banks. Some provide access to payment accounts, some only savings accounts, some include credit cards while others do not. It should be the same, but it is not.” -Fintech 2.

They further explained that when the banks are trying to interpret everything in their favor, and the FSAN at the same time uses time to publish clarifications, this is resulting in a time-consuming process that is frustrating for fintechs and other parties that need the APIs.

Likewise, the banking experts agree that the interpretation of the regulation postpones the complete adaptation of PSD2 in Norway.

“An example of such an area that there has been a lot of discussion about - in last year there was a clarification about what goes under the tax deduction account. Banks interpreted that this is not a payment account, you cannot make ordinary payments through this account, so it is outside of the scope of PSD2. Then came a clarification from the FSAN that this is within the regulations.” - Banking expert 1

Banking expert 1 further explained that what happens then is that the banks must put in place that functionality, and that is not done by a snap. It requires significant development to make sure the systems that operate payments in the banks are exposed as an interface that runs internally, then it must be exposed externally in an API. The banking expert says that he understands all the frustration from the fintechs, but the banks on their hand do everything they can to be compliant at all times.

The neutral consultants also confirmed that the lack of clarifications in the regulation makes the completion of APIs more time consuming, and that this has resulted in a barrier to entry. Neutral consultant 1 points a finger towards the EBA. He explained that the banking system and underlying infrastructure are different across Europe, and criticized the EBA for not making enough tailoring to avoid situations like in Norway.

“There are very complex systems at the bottom, and it is not the case that all the underlying banking infrastructure is the same all over Europe. There is some tailoring on different solutions, but the fact is that the EBA has chosen an approach where the market would need to find the solutions themselves. I do not think they have

taken it very seriously, because it is complex and there are good reasons why it is complex.” - Neutral consultant 1.

Neutral consultant 2 also points a finger towards the EU and EBA. He used the Norwegian accounting system as an example of how the regulation is not specific enough. In a lot of countries, the consumers typically have two accounts, one current account for payments, and one savings account. In Norway on the other hand things are a bit different, here we typically have several accounts for payments and several accounts for savings, and the consumers can also make payments from every account. Regardless if it is a current account or a savings account.

“Some will say that we have had a fundamental problem with those who made the regulations. In Europe you typically have a current account that you use for payments and you also have a savings account. In Norway, we do not have the same restrictions, here we can go to the online bank and pay the electricity bill and take money from any account. Such questions will be raised much more often in Norway, and that may be why it takes a longer time here.” - Neutral consultant 2.

5.2.3 Lack of incentives

The problems with the APIs have been a hassle for the fintechs through the years, and are still a problem. The EU set a new deadline for banks for their APIs to be ready by the end of April 2021, and threatened with issuing fines (Skjelsbæk, 23.02.2022). Even though the EU tried to set a harsh line last year, there are still problems with the APIs, and there has still not been issued a single fine to any bank in Norway because of the lack of compliance. It came to show early on in the process of doing interviews that banks were to a limiting degree incentivized to work on the PSD2 APIs. Several participants point out the fact that banks do not have any incentives to make these APIs.

“There are no incentives to prioritize PSD2 for the banks. If you look at it as a business case, they will never make direct money on PSD2. But you earn on your own payment services for example. Those who work with PSD2 in the bank must then make arrangements for competitors.” - Fintech 3.

“I think that banks are not very incentivized. But at the same time, if you turn it the other way, it can be negative for them not to be part of the things that can happen.” - Fintech 1

Fintech 4 says the banks do not see the possibilities in open banking, and by working alongside the fintechs, they can together create new products and services. They rather have the impression that the banks do what they can to delay this process.

“It is quite obvious that this directive has not been prioritized by the banks. I think it is strategically wrong of the banks that do not see the possibilities. But rather try to counteract this innovative opportunity that lies in going open banking. They are not interested in developing good and mature APIs. They are afraid of the competition that may come. Our experience is that they have dragged their feet after them, they have not complied with the law.” - Fintech 4.

“To this day, we have a list of 70-80 issues with various banks that have implemented errors. It is always first a legal battle with the banks, then a legal battle with the authorities. What has been painful - one thing is that the banks are slow, but we experience the authorities as weak. It has been 3 years, and no one is compliant. It varies from bank to bank, but banks are very fond of slowing things down.” - Fintech 5.

Fintech 4 and 5 shared the views that there are little incentives for the banks to work on the APIs, but they also pointed out the fact that this is not optional for the banks. They have been imposed this regulation, and even though there are no direct incentives or rewards for being compliant, they have no choice. The fintechs also criticized the FSAN for not supervising the regulation strictly enough.

Porter (1980) argues that governmental policies can be an entry barrier to a market. In this case of PSD2, several of our participants criticize the fundamentals with the regulation. The fintechs, banking experts, and the consultants agree that all this need for interpretation of the regulation is one of the main reasons for the delay in the APIs usability. Both interpretation of the regulation and the lack of incentives can be categorized as structural entry barriers.

5.3 The Financial Supervisory Authority of Norway

One key party in the payment services market is The Financial Supervisory Authority of Norway. The PSD2 regulative is a supranational law, and it has been the job of the FSAN to transpose the regulative to national legislations. It is also the FSAN that is the authority that processes and reviews the applications of potential TPPs and assesses if a fintech company can be a TPP.

5.3.1 Formal requirements of PSD2 licensing

The Financial Supervisory Authority of Norway is the authority that processes and reviews the applications of potential TPPs and assesses if a fintech company can become a TPP. The requirements for becoming a licensed TPP is a necessity in order to maintain a well-functioning payment market and protect consumers. Since there has been a decline in new fintech start-ups after the transposing of the regulative, the research participants were therefore asked about their interpretation of the formal requirement for becoming a licensed TPP.

“I would basically say that they are as strict as they should be. On the one hand - once you have obtained a PSD2 license as either PISP or AISP, it entails a certain responsibility. It should not be anyone who should be able to get this access. I am very aware that sometimes, with insurance coverage that has been in the media, it can be discussed to be relatively strict on some points. But my general opinion is that it is as strict as it should be. It has a bit to do with this trust one should have in these fintechs.” - Fintech 2.

“There were no major roadblocks, it was just a very lengthy process, which took almost a year with conversations with the authorities. - Fintech 4.

The results show that there was an agreement that the requirements itself are justified and help apply trust and credibility to the new TPPs. The problem seems to be with the process of applying to the FSAN. This is a new application process for the FSAN, and some of the fintech companies give them credit and some think they could have done a better job. This is also an understanding that the neutral consultants and bank experts had.

“I do not think the requirements are disproportionately strict. It is a complex question, TPPs can empty your account and credit the account, they gain insight into potentially sensitive personal information and such on. You have to build a level of security and a proportionality and an expectation that it is at a high enough level. I think the authority has been old fashioned, who were just concerned about companies fitting in. If we have a square then you have to fit into the square or you do not fit at all. The way they work in the authority is purely procedural. It is very time consuming, and if you look at the companies that have been applying you will see that they have spent a very long time. A little because there have been a lot of new people to the market from the Fintechs side who have not understood that this is a regulated business, and a little because of supervisory practices.” - Neutral consultant 2.

“I know that a lot of 3rd parties experience, if not that the requirements are too strict, but as heavy and difficult to relate to. There are many requirements and they overlap, there are many laws and regulations that regulate this. You will not find everything in one single Norwegian law, they must comply with many different requirements and laws. Then you have the Financial Supervisory Authority on the other hand who wants to get the application in a certain format that is easy for them to read, and often the 3rd party is a startup with very few employees and they have not done this before. That process is often very long and time consuming. Whether it is mostly the fault of the third parties, or mostly the fault of the authority, I do not know. But the fact is that it takes a very long time, and it creates a lot of frustration among the players.” - Bank expert 1.

During the PSD2 conference on the 29th of March 2022, the representative from FSAN stated that it might be more difficult to obtain a license in Norway compared to other countries. The reasoning was that it provided Norwegian TPPs with greater trust than relatively to other TPP originating in other EU member states. The literature on entry barriers finds that governmental policies as an entry barrier can limit entry or even prevent it altogether. In this research governmental policies limit the entry into the payment services market through required licensing. Nevertheless, the licensing scheme of PSD2 is not viewed as an entry barrier even though it imposes costs to comply with requirements. The barrier regarding formal requirements is linked with the sunk costs that follows with the possibility of obtaining a license for the fintechs. The task of obtaining a license incurs necessary costs

for the fintech, and if the application is denied those costs cannot be recovered. According to previous research these costs are a deterring factor for the fintech companies.

“This was a cost issue for us. Based on 3rd party information and what other TPPs have spent on it, we have seen that it could cost millions. One thing is the initial cost, but it takes quite a lot of effort and time as well. For us who are a start-up company, if there is one place we have limitations, it is time and what we should spend resources on. The fact that we would have to spend time, lots of energy and focus on a legal process, it feels more challenging than the actual amount of kroner.” - Fintech 6.

5.3.2 Incomplete knowledge regarding PSD2

The application process of fintech companies that seek to obtain a PSD2 license takes approximately 12 months according to the participants of this research. The cause for long processing time in Norway is argued to be a lack of knowledge to process these applications and understand the business plans of the fintechs applying for a PSD2 license.

They spend significantly more time processing applications than they do in Sweden and Denmark, and this is due to a lack of competence and resources. Everything else is in place for us to be able to create 4-5 times as many companies.” -Fintech 4

One participant of the research explained that the lack of knowledge imposed costs in that they needed to find similar cases in other regulated countries in order to gain access to the payment services market in Norway. In the literature on barriers to entry, asymmetries of information usually relate to the fact that new entrants have less information than incumbents by nature and that obtaining the necessary information is costly in order to gain entry. In this case, the asymmetries in information are placed on The Financial Supervisory Authority of Norway, yet it does impose costs on the new entrants in order to gain access to the market. The asymmetries of information also appear in the area of technological knowledge on API quality as presented in chapter 5.2. It is a recurring theme that the supervisory authority is not up to date on how to check the quality of the APIs presented to the fintechs by banks.

“What has been painful - one thing is that the banks are slow, but we experience authorities as weak. It has been 3 years, and no one is compliant, there has been virtually no supervision of it. One of the things they have enormous expertise in is AML and CTF. But when it comes to PSD2, the authorities have said that they do not have the expertise to check the APIs, they depend on us telling about the weaknesses that exist. It is fine as far as they are concerned that they must acquire competence, but if they do not acquire their own competence but are solely dependent on reporting, we must report on the banks that we depend on. That creates a pretty bad relationship between us and the banks. The Financial Supervisory Authority must acquire competence to be able to supervise.” - Fintech 5

Concerning the supervision of API quality, it is clear that a full entry into the Norwegian payment services market can be postponed for the new entrants. When questioned about the processing time it was also apparent that the barrier of asymmetries in information might not be a sustained entry barrier.

“They must balance the demands and expectations that come from the third parties and what they get from the banks, and try to look at the totality. We are now noticing a lot of focus from the Financial Supervisory Authority of Norway, and they have been open about the fact that they have a continuous dialogue with the banks to question production. They also come up with new updates as they receive information about what is within and outside the regulations.” - Banking expert 1

“It feels much more transparent now if you compare it with 2019 and 2020. We find that they are much more cooperative. I will not say that it is still not a problem, because it is an unnecessary barrier. But we have at least had a better dialogue with the banks and the Financial Supervisory Authority now, and we are in regular meetings together. The status of the banks' APIs is always on the agenda in meetings with the Financial Supervisory Authority of Norway. We find FSAN very open and surprisingly cooperative. It is quite clear that things take time, and sometimes unnecessarily long.” - Fintech 2

The fintech participants seemed to be in agreement that the collaboration with the FSAN was a frustrating venture. Much of this frustration was rooted in a lack of technological

knowledge regarding the assessment of APIs and that the FSAN are dependent on reporting from the TPPs. Despite the frustration, the adoption of the 33 Report, a standardized reporting tool on lacking APIs and other relevant issues, have streamlined the communication with FSAN for both the TPPs and banks. This reporting system of 33 Report, is again dependent on mass adaptation from all sides. The relatively long processing time of PSD2 applications is also an entry barrier that postpones the entry to the payment services market for the fintech companies. These entry barriers are arguably not an economic entry barrier, but rather an antitrust barrier per definition by McAfee et al. (2003) since it incurs costs on the fintech companies that need to use resources on reporting and training of the FSAN, and delays full entry.

5.4 The Norwegian market for payment services

One key reason for undertaking this research was the number of TPPs that came out of Norway compared to the other countries that are also regulated by PSD2. Throughout the research, we understood that there were special traits in the Norwegian market that made entry difficult.

5.4.1 The Norwegian payment and banking infrastructure

The PSD2 regulation was put forth in order to establish an integrated market, and increase the efficiency of payments in the member states (The European Union, 2015). The banking industry in Norway was already quite uniform. We have one common banking and financial industry's infrastructure company, called Bits (Bits, n.d.). Both the consultants agreed that the Norwegian infrastructure already was quite well developed, especially when compared to other countries in Europe. They pointed out that the PSD2 regulative is made to solve issues that might not be present in Norway, and that our infrastructure is a clear barrier for the PSD2 as a whole in Norway because we have already solved many of the problems that PSD2 wanted to improve.

“We have actually solved those problems. Norwegian banking infrastructure for close cooperation among Norwegian banks where something so efficient and cheap has been built up. So what PSD2 was supposed to solve in Europe are problems we do not

have in Norway. It may be a bit small, but if you look at the big picture, it is actually a solution looking for a problem that is a bit the other way around.” - Neutral consultant 1

“There are several ways to count costs, but if you count in the simplest way that the Central bank does when they publish “what do payments cost”. There is no doubt that the Norwegian payment system is cheaper. Then there is cross-subsidization, and aspects of where you pay for it, the calculation from the Central bank does not say anything about that. Nevertheless, I believe that the Norwegian payment system is extremely efficient.” - Neutral consultant 2

The banking experts agreed with the neutral consultants and their view that the creation of an integrated and efficient payment system was a task already solved in Norway. There looks to be little competition on transactions among the banks as the margins on payments are low and that there is little profit to gain. Nevertheless, they acknowledge that there is money to be made on transactions in the business market.

“For our part, it is not on payments that the large margins come from. This can be seen in the annual accounts, which are linked to net interest income, which is the major driver of the banks. Of course, payment is important for the banks, but that is not where the large margins are in Norway.” - Banking expert 1

“The banks have invested heavily in infrastructure that is doing very well. Then they invested in Vipps, which was at the forefront of PSD2, which has taken a lot of online payment, where Vipps has done very well and simplified that process. Where I think TPPs may make it easier to enter is in the corporate market.” - Banking expert 2

The fintechs had somewhat different thoughts on this topic. Fintech 3 and 1 state that this well-developed common infrastructure we have in Norway is clearly a barrier compared to a more fragmented system we find in other countries.

“When it is as strange as with the common systems we have here in Norway, which do not exist in other countries, it is an entry barrier. If you enter a fragmented market, it is easier to find a place, but in Norway a common system has been built to control the

market. Although everyone perceives it as nice, efficient, fast and cheap, it has not renewed itself in many years.” -Fintech 3.

“The barriers for establishment are perhaps greater with the fact that there are large established players here in Norway, but there is probably just as much room for something new. Norway is a small country where a lot of people know each other, and this is noticeable in the industry as well. The banks have close ties and there are groups here and there with common interests that help to make it more complicated for new players to gain access.” - Fintech 1.

Interestingly, fintech 4 and 5 had quite the opposite opinion regarding the Norwegian infrastructure. They stated that Norway rather is a good place to enter because of our well-developed infrastructure, and the fact that we have the foundation and the prerequisites for a successful utilization of PSD2.

“I do not think Norway is necessarily a bad market. In many ways we are a pretty good country. The UK are the ones that are at the forefront, and the ones that started with the open API at the earliest, but the Nordics are a good number 2. It is also a nice place to mature its technology. Everyone thinks that the market should be as large as possible, and yes in a way, but if you think technologically you want a smaller sample size to test things.” - Fintech 5.

“I do not think this is an entry barrier, it is rather because of the authorities. The exponential growth in innovation will go faster and faster, and the Financial Supervisory Authority of Norway does not understand this. It has nothing to do with the fact that it is a small market, but that we struggle with supervision that does not have the real competence or resources.” -Fintech 4

As we can see from the results above, there is some disagreement whether the Norwegian infrastructure constitutes an entry barrier or not. But some of our participants clearly point out some entry barriers. Vertical integration can be a source of entry deterrence as it in some cases can force new entrants to enter a market at more than one level of the production column. This demands larger investments, and greater commitment to entry, thus raising the barriers to entry in a market (Shepherd & Shepherd, 2004). Even though the infrastructure is

well developed and implemented, it is the case that this vertical integration can constitute an entry barrier for new fintechs. To be able to succeed in this market, there seems to be a need for economies of scale. When a firm's capacity is raised, economies of scale result in lower production and distribution costs per unit of output. This can force a new player to enter with a large market share, which will raise total capacity in the industry and most likely make prices drop (Bain, 1956). An example used by several of our participants is Vipps. Where they have huge market shares on this kind of service, and they do not charge the consumers anything directly.

5.4.2 Access to financing

A crucial part of creating any given company is the access to capital. Without access to capital and funding there is a big limit to what one can accomplish. Throughout our interviews, several respondents made it clear that financing of new fintechs could be an explanation to why there are few TPPs in Norway.

“Norway has a low threshold for investing in companies initially, but we are miserable on the growing side of entrepreneurship. Be endurance enough to keep the entire wayout, this is a weakness. We have very good entrepreneurs in Norway who are good at kicking things off, but when you want to grow and become predictable, it's not as easy.” - Fintech 3.

“It depends very much on what price level you are at. There are often smaller investment companies or public financing where we have received good support. When you go up to the 0.5-1 billion class, you notice that Norway is lagging behind, and you have to look at foreign venture capitalists. This is because the appetite in Norway is too low in that price range.” - Fintech 1.

Fintech 3 and 1 points out that Norway has several good public systems for in the initial start-up phase, there are several government funding opportunities like Skattefunn and Innovasjon Norge. The problem with the payment services market in Norway seem to be more prominent in the scaling phase. Several of the participants pointed out that the Norwegian investor community does not understand the opportunities in this market, and that Norway lag quite

far behind other countries. Most of the fintechs we interviewed had to look to foreign venture capitalists for financing.

“The Norwegian investor market is also very little venture oriented. All our funds except the very initial one that goes through friends, families and fools, come from international investors. Norway is not able to follow the silicon valley model where you invest and make it grow. In general, the economic understanding of this is very low, it applies not only on the investor side, it also applies to the retail market.” - Fintech 5.

The fintechs' views of the access to finance in Norway was also supported by the consultants.

“The challenge in Norway is that it is relatively easy to get money initially when you start something. The next step is that if you have made something and you have proven that it works and you have some customers but do not make money yet. You have to scale up with marketing and get it rolled out, then it is difficult to find money. Investors would prefer to invest in companies that have proven to have positive cash flows.” - Neutral consultant 1

“I think that traditional willingness to take risks has been a little worse in Norway, but it seems that it is growing. We see examples with Kahoot, Cognite and such, so there is a lot of change but I think that risk appetite in Norway has been worse than in other countries.” - Neutral consultant 2

Some participants also pointed out that a reason for the limited access for finance in the fintech market could have something to do with the fact that Norway has been driven by oil, gas, and fish for a long time.

“For Fintechs, this is a problem in Norway. Given my experience, there is low understanding in general among investors in Norway in connection with payment services and fintechs in general. They do not understand the pricing, scalability, or open banking potential. There is a lot of knowledge about many areas such as oil and gas, and for fishing, but I have several times struggled with the fact that there are people who should basically be professional investors who do not understand what we

do and do not see the potential. We are now working specifically to obtain financing among foreigners, because that is where we gain understanding.” -Fintech 4.

It looks to be an agreement among the participants that access to funding is no hindrance in the initial start-up phase in the Norwegian payment services market. Continued, in the second phase of funding when it is necessary to scale the business, the access to funding diminished. It looked to be necessary for the TPPs to reach outside of the Norwegian borders in order to obtain venture capital. Naturally, it is key to acquire funding in order to operate a company. None of our participants did think this is a problem that is being strategically used to deter entry, but rather a structural problem with the market. This problem can be placed under capital requirements, one of the entry barriers reviewed in the literature. It would be almost impossible for a start-up to develop or distribute their product or service without any capital or funding. This entry barrier is clearly a major barrier for fintechs in Norway.

5.5 Distribution

According to previous literature by Porter (1980) and Yip (1982) access to distribution is one of the major barriers to entry for new entrants. If a distribution network is filled by incumbents, it is a high likelihood that costs of production increase or distribution to consumers become more difficult or costly for the new entrants. This research finds access to distribution in the payment services market as an aspect that is highly important, with an emphasis on the distribution to consumers. The participants of the research put emphasis on that a key to success in the payment services market is a volume of transactions or number of customers. As stated by McAfee et al. (2003, p. 463), an ancillary barrier is a barrier that reinforces other barriers if they are present. This concept is found in this research as the entry barrier of distribution is reinforced by the issue of a small payment market in Norway with a small population, and a network effect that reinforces the switching costs of consumers. This distribution barrier was brought up by both the fintech participants and banking experts.

“You can make the world's best app - if you do not know how to get people to use the app, it does not matter how good that app is. Access to distribution is therefore a key. There are two ways to go, it is to create your own distribution with lots of marketing

and building a brand. The other way is the ecosystem's way, by having such a good service that fits in with others, so that you enter the market with partners.” -Fintech 3

“There is a limited number of people living here. Alternatively, fintechs, which do not necessarily have much to do with PSD2, have cooperation agreements with the banks to obtain distribution via them. It may be a better entrance.” - Banking expert 2

It seemed to be a barrier that consumers perceive the payment market to be free, in order to create a sustainable revenue in the long run. Both the consultants participating in our research mention the low willingness to pay for these services, and it therefore requires a volume game. Vipps was repeatedly used as an example on this, where they do not charge the consumers anything on their B2C solutions. It was then mentioned from several participants that they thought we would see the biggest changes and new solutions on the B2B market.

“It very much depends on what the solution is and who the customers are. In general, such things that go out to most people, it is also a limitation that Norway is a small country. The world has also become very much so that consumer solutions are free. If you find something that works more for the B2B market, it can have a completely different price per customer and then it is possible to get it to fly in Norway.” - Neutral consultant 1

“This is a volume game where a lot of muscle is required to succeed. Transaction no. 1 and 2 cost a lot, transaction no. 10 million costs nothing.” - Neutral consultant 2.

Claessens (2009, p. 88) states: *“that network effects is in many aspects of the supply, demand, or distribution of financial services.”*. Neutral consultant 2 also made us aware of the potential network effects in this market. Vipps was again used as an example in Norway, where Vipps started off as an app to transfer money between people, a product they did not make any money on. They are now working on checkout solutions, a B2B solution. When they already have a large customer base from their initial product, it would definitely be a network effect and a high switching cost for the consumers to switch over to another service.

“When it comes to Vipps, it started with money transfer between people that they do not earn anything from, but cost a lot. What they are working on is the trading

platform and getting access to the checkout. Klarna is another example of this, they are going to work on to take it further and be able to subjugate mass in an ecosystem.” - Neutral consultant 2.

One aspect of the switching costs for consumers is their trust in new products or services. Previous research on online payments have found the switching costs of consumers to be one of the major barriers to the growth in the payment market. This research finds customers trust in online payments to be a barrier that has faded away today. It looks to have been a change in consumer perception towards alternative payment solutions, but it seems to be dependent on the value proposition of the companies delivering such solutions.

“Given that one can slam these licenses at the bottom, fintechs will create trust. People have trust in the Financial Supervisory Authority of Norway, that's one thing. The second is that given that the perceived value you get from the service is large enough, you are probably willing to agree to a lot. It is a perpetual question of convenience versus privacy.” - Fintech 2.

“Who does not leave their card details everywhere? I would rather say that consumers have great confidence. But again, it depends on who you ask. If the quality of service is high enough, people have enough trust. That barrier is gone, if you ask me.” - Banking expert 3

The consumers' trust towards TPPs could possibly be an ancillary barrier that reinforces the switching costs for the consumer, yet cannot be seen as a barrier unless the value proposition of fintech companies does not deliver substantial value. This ancillary barrier and others such as network effect reinforce a primary entry barrier of switching costs. Likewise, the entry barrier of distribution is reinforced by the consumers perception of costs that are associated with payments.

6 Discussion

The purpose of the Revised Payment Services Directive was to ensure efficient and integrated financial services, and to increase market competition and innovation across the EU and EEA (European Commission, 2018). PSD2 was put forth to lower the barriers to entry for the payment services market, hence allowing new entrants to compete with incumbents, and incumbents to compete with each other to increase both competition and innovation. Based on what the PSD2 regulative has opened for, one could say that the entry barriers to the payment service market undoubtedly have been lowered, where special agreements with the operators of the payment infrastructure was a requirement. This research found that there are still entry barriers to the market, and these might not have existed previous to the implementation of PSD2. This study sought to identify the most prevailing entry barriers in Norway's payment services market, and found a number of entry barriers with a varying degree of importance.

The payment services market in Norway is in many ways affected by governmental policies. Governmental policies are usually implemented to improve the current state, but can at the same time also create entry barriers (Blees et al., 2003; Porter, 1980). In the payment services market, the PSD2 regulation has opened up the market and is arguably for the better. Limitations with the governmental policies have also raised barriers to entry. The regulation was put into effect not more than 3 years ago in Norway and brought new application processes and new entrants with new types of businesses. The barrier of asymmetries of information (Milgrom and Roberts, 1982) have been identified regarding the FSAN who is new to the topic of APIs and PSD2. Their incomplete knowledge on the matter has incurred costs on the new entrants who the FSAN relies on for guidance on lacking APIs. Much of the issues stemmed from a lack of technological understanding of API evaluation and the fact that the FSAN relies on TPP reporting. There looks to be a gap in the knowledge or information required to effectively supervise the payment services market after the implementation of PSD2. Despite the frustrations, the introduction of the 33 Report appeared to provide standardized reporting on missing APIs and to streamline TPPs and banks interactions with the FSAN, hinting that this is not a sustained entry barrier, yet a barrier today. The barrier of governmental policies is also reinforced by sunk costs for the new

entrants when the supervisory authority lacks technological knowledge (Harrigan, 1981; Shepherd & Shepherd, 2004). The question of whether the formal requirements of obtaining a PSD2 license in itself were a barrier to entry the findings was clear that this was not the case. The formal requirements are contrary to an entry barrier, rather seen as a mark of credibility in the eyes of TPPs. This credibility is viewed as a helping hand in creating consumer trust among the TPPs. The barrier created by formal requirements is linked with the sunk costs that follows with the possibility of obtaining a license for the fintechs. The task of obtaining a license incurs costs for the fintech, and if the application is denied those costs cannot be recovered. According to previous research these costs are a deterring factor for new entrants.

Other findings in our study regarding the governmental policies are related to the interpretation of the regulation, and the lack of incentives for the banks or the lack of supervision of the regulation by the FSAN. There has been a long and ongoing process of discussion between TPPs, banks, the FSAN and the EBA on how to interpret the regulation. Both the fintechs and the consultants also point out the lack of incentives for the banks to work on their APIs. The banks have been imposed a regulation which took control over their strategic resources, in the form of consumer data, and had to let new firms compete with them. It is understandable that the banks are reluctant to this regulative, but the fact is that they are required under the PSD2 regulation. It is the FSAN who are the responsible authority to supervise this regulation and make sure both banks and TPPs are compliant at all times. This long and still ongoing process of interpretation and weak enforcement from the FSAN has led to an entry barrier regarding the quality of the APIs. The financial data that is provided through the APIs is in this case the resources necessary for the TPPs operations. Banks had previously an exclusive right to this data, and according to the result the resources are still being guarded to a certain extent through interpretation of the PSD2 regulation. The quality of APIs is a collective term that encompasses the availability and reliability. Today the issue of API quality surrounds two problems, the first is the reliability of the APIs, and the second regards what information is required to be available through the APIs. The reliability of the APIs was a concerning factor to several of the fintechs. There have been several cases where the APIs do not work as they are supposed to. This barrier can be categorized as a strategic barrier used by the banks as they guard their exclusive control over strategic resources (Karakaya & Stahl, 1989, & Shepard & Shepard, 2004). These problems with the APIs have been, and still are, one of the major barriers to entry for fintechs. On the other hand, strategic barriers are not easily identified in an objective manner, and we would

argue that in order to provide the claim of guarding exclusive control over strategic resources with more weight there is a need to study this phenomena at a later point in time.

It has been found that several aspects of the Norwegian payment services market can constitute structural entry barriers. The PSD2 regulation was put forth in order to establish an integrated market and increase the efficiency of payments in the member states. The payment infrastructure in Norway was already relatively uniform and well developed. Regarding the Norwegian payment infrastructure our research finds somewhat different views among the participants, where some of them viewed this as an opportunity and some as already fixed problems. Vertical integration can be a barrier to entry since it forces new entrants to access a market at multiple levels of the production column in some situations. This necessitates higher investments and a deeper commitment to entry, boosting the market's entry barriers (Shepherd & Shepard, 2004). Even though fintechs do not need to enter at multiple levels of the production column, some fintechs find that vertical integration in light of the infrastructure can be a barrier to entry in this market.

There appeared to be agreement among the participants that funding is not a barrier in the early stages of the Norwegian payment services sector, because there are several government funding opportunities such as Skattefunn and Innovasjon Norge. Furthermore, access to finance in the second phase of funding, when it is critical to scale the business, the access to financing becomes more problematic. In order to get venture funding, the TPPs appeared to need to look outside of Norway. Naturally, obtaining funding is critical to run a business. The participants believe this is a problem that is a market structural problem with the Norwegian market. With the problem of acquiring funding, it is difficult to operate a business no matter which market one enters. There are certain capital requirements that need to be met in order to pay wages and invest in necessary equipment. Without necessary funding it is difficult to meet the capital requirements to enter the payment services market, hence making capital requirements a barrier to entry with the source being obtaining funding.

Economies of scale also appear to be required to compete in this sector. Economies of scale result in cheaper production and distribution costs per unit of output when a company's capacity is increased (Bain, 1956). A reinforcing factor of the necessary economies of scale factor in the Norwegian payment services market is linked to consumer perceptions. The Norwegian market is rather small considering the number of inhabitants. With this, the

competition for customers is fierce considering the small customer base that is available. In some areas of the payment services market, it seems consumers expect payments to be free, which incurs problems of generating a required level of revenue. Previous research finds that there is a level of customer switching costs in the payment services market regarding concerns towards online payments. This research also finds switching costs to be an entry barrier, but for different reasons. There are in certain areas of the payment services market strong network effects that make the threshold of switching from one product or service to another higher. This network effect is identified to be an ancillary barrier that reinforces the switching costs of consumers.

Identified barriers to entry	The source of the barrier
Governmental policies	Interpretation & enforcement of the regulation
Exclusive control over strategic resources	Banks control over consumers' data
Sunk costs	Process of licensing
Asymmetries of information	FSAN possesses incomplete technological knowledge
Capital requirements	Access to financing
Economies of scale	Small market, with a developed infrastructure
Distribution	Switching cost and network effects

Figure 7: Identified barriers to entry in the Norwegian payment services market

6.1 Limitations

This research study has potential limitations and challenges. First and foremost, the PSD2 regulation has only been in action for almost 3 years, but from this study we find that in practice the regulation might not be fully implemented and adopted. Secondly, strategic entry barriers can often be difficult to identify in an objective manner. There are arguably no incumbent firms that want to admit that they raise strategic entry barriers, as it can display them to be less ethical. With the knowledge that the regulation is still in the process of full implementation, this research faces the limitation that some of the entry barriers identified might not exist in a few years time. Given that entry barriers have the possibility of not being sustainable there is a possibility that the barriers to entry identified in this research might disappear over time. The time constraint that follows writing a master's thesis did not give us

the opportunity to investigate the barriers over a longer period to distinguish between sustainable and not sustainable barriers to entry. Additionally, the strategic barriers identified in this research should be investigated at a later time to provide more weight on whether they are sustained and whether they are used strategically by incumbents or not.

6.2 Future research

The goal of this master thesis was to identify the major entry barriers to the payment services market after the implementation of PSD2. After studying the subject and identifying key barriers to entry in Norway, we have developed suggestions for future research on the matter.

Given that the PSD2 regulation is rather new and has only been in full effect for almost 3 years, there exists a possibility that the entry barriers identified in this research are temporary and not sustained. We therefore recommend similar research to be done in order to establish an even stronger conclusion on the entry barriers present in the payment services market. Furthermore, it can produce greater value to the research on the topic of entry barriers in the payment services market to include a larger number of interviewees to create a greater overview of the whole market.

The study on the payment services market can be extended to other areas than just entry barriers. The PSD2 regulation likely affects other aspects of the overarching financial market. An example would be a study on to what extent the PSD2 has created an interconnected payment market across the EU and EEA member states. A part of the PSD2 directive is to allow TPPs to operate across member states' borders and this has not been given little research attention. We believe this is an important topic in order to assess the success of the regulative and would add value to the research topic. The PSD2 regulative was put forth to give consumers a greater choice of payment methods and it would be valuable to know if it has changed the preferred payment methods among consumers after the implementation. This would provide the field valuable insight on the strategic importance of payment methods.

7 Conclusion

People rarely consider the economics of payments or the system that supports them in their daily lives. Nonetheless, it is a significant issue that affects many aspects of society. We are currently witnessing a transformation in the way payments are made, which is being driven by digitalization and how we conduct business with one another. Banks and a small number of companies have historically operated the payment system in Norway. Special agreements between the bank and the organizations who wanted to become payment providers were required if they wanted to participate in the payment service sector. The objective of PSD2 was to increase the competition in the market, improve the quality of payment services, make payments safer for consumers, to include new services and players, and extend the scope of already existing services. As a result of PSD2, banks were required to open their data on consumers to TPPs.

The research undertaken has identified entry barriers of different kinds that new TPPs have faced or will face when entering the payment services market in Norway. As we have seen through our research on the entry barriers in the Norwegian payment services market, the barriers to entry have been lowered because of the PSD2 regulation. The PSD2 regulation has made it possible for new entrants to take part in the market that previously required special agreements between the PSPs and the operators of the infrastructure which in the case of Norway is the banks. Even though the entry barriers in large have been lowered, it does not mean that no entry barriers exist. We would argue that the number of entry barriers are more plentiful than previously. The fact that entry barriers need to be considered in different markets and situations motivated us in researching the topic on this specific market, and contribute to enrich the research on entry barriers.

This research has identified banks exclusive control over strategic resources as a strategic entry barrier as the financial data to be delivered through the APIs is a subject of interpretation, this hinders TPPs access to resources that are key in their survival. Linked with this barrier is the reliability of the APIs. The TPPs are in risk of having downtime on their products or services because of not warned maintenance on the APIs from the banks side.

This research has also identified gaps in information and knowledge to be a structural entry barrier in the Norwegian payment services market. The gap in information lies in all parties that are affected by the PSD2 regulation. What the regulation opens up for is uncharted territory and the FSAN is not as knowledgeable as they may should be. This gap in information and knowledge raises the capital requirements for the TPPs as they need to use time and resources on supporting the FSAN to supervise the banks on compliance.

Another structural entry barrier that exists in the Norwegian market is that the payment infrastructure is well developed and already interconnected. This has made payments less expensive and well-functioning than many other countries, hence competition in Norway is less attractive. This is further supported by the fact that there is a need for large volumes of transactions to be successful in the B2C market, and this coupled with a low population and customer switching costs it is rather difficult to achieve.

The access to financing in the payment services market in Norway is also a structural entry barrier fintechs encounter. In the initial start-up phase, we have several government funding programs in Norway. The problem with financing to the payment services market seems to be more prominent in the scaling phase, where the business needs to scale up.

Entry barriers have the possibility of preventing further development of the payment services market, or other markets for that matter. Entry barriers can deter or limit new entrants from creating new products or services which have the possibility of increasing competition and economic growth. We would argue that for an initiative such as PSD2 to have the strongest effect for what it is created for, entry barriers need to be limited. There is a need to ensure that authorities responsible for supervising markets have sufficient technical understanding as well as regulatory knowledge. Without a strong supervisor of regulated markets, the risk of structural entry barriers is more prevalent, and easier to raise strategic entry barriers. This can prevent development that increases economic growth and benefits for the consumers.

Reference

Bain, J. S. (1956). *Barriers to New Competition*. Cambridge: Harvard University Press.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99. <https://doi.org/10.1177/014920639101700108>

Baumol, W. J., & Willig, R. D. (1981). Fixed costs, sunk costs, entry barriers, and sustainability of monopoly. *The Quarterly Journal of Economics*, 96(3), 405-431. <https://doi.org/10.2307/1882680>

Bits. (n.d.). *Dette gjør Bits*. <https://www.bits.no/om-bits/>

Black, N. J., Lockett, A., Ennew, C., Winklhofer, H., & McKechnie, S. (2002). Modelling consumer choice of distribution channels: an illustration from financial services. *International Journal of Bank Marketing*. <https://doi.org/10.1108/02652320210432945>

Blees, J., Kemp, R., Maas, J. & Mosselman, M. (05.2003). *Barriers to Entry*. SCALES-initiative. <https://ondernemerschap.panteia.nl/pdf-ez/h200301.pdf>

Boden, A. (12.01.2018). *Explaining PSD2 without TLAs is tough!* <https://www.starlingbank.com/blog/explaining-psd2-without-tlas-tough/>

Burnham, T. A., Frels, J. K., & Mahajan, V. (2003). Consumer Switching Costs: A Typology, Antecedents, and Consequences. *Journal of the Academy of Marketing Science*, 31(2), 109–126. <https://doi.org/10.1177/0092070302250897>

Carlton, D. W. & Perloff, J. M. (1994). *Modern industrial organization*. (2nd edition). HarperCollins College Publishers.

Claessens, S. (2009). Competition in the Financial Sector: Overview of Competition Policies. *The World Bank Research Observer*, 24(1), 83–118. <https://doi.org/10.1093/wbro/lkp004>

Clifford, N. J., Cope, M., Gillespie, T. W., French, S. (2003). *Key methods in geography*, (3rd edition). Los Angeles: SAGE.

Comanor, W. S., & Wilson, T. A. (1967). Advertising Market Structure and Performance. *The Review of Economics and Statistics*, 49(4), 423–440. <https://doi.org/10.2307/1928327>

Dallerup, K., Delzi, F., Grunberger, E., Lasa, A. N., Taraporevala, Z. (2017). *The future of customer-led retail banking distribution*. McKinsey & Company.
<https://www.mckinsey.com/industries/financial-services/our-insights/the-future-of-customer-led-retail-banking-distribution>

Demsetz, H. (1982). Barriers to Entry. *The American Economic Review*, 72(1), 47–57.
<http://www.jstor.org/stable/1808574>

Dixit, A. (1980). The role of investment in entry-deterrence. *The economic journal*, 90(357), 95-106. <https://doi.org/10.2307/2231658>

Donnelly, M. (2016). Payments in the digital market: Evaluating the contribution of Payment Services Directive II. *Computer law & security review*, 32(6), 827-839.
<https://doi.org/10.1016/j.clsr.2016.07.003>

Eaton, B. C., & Lipsey, R. G. (1980). Exit Barriers are Entry Barriers: The Durability of Capital as a Barrier to Entry. *The Bell Journal of Economics*, 11(2), 721–729.
<https://doi.org/10.2307/3003391>

EBA. (05.04.2022). *Final report on draft RTS amending the RTS in SCA & CSC*.
https://www.eba.europa.eu/sites/default/documents/files/document_library/Publications/Draft%20Technical%20Standards/2022/EBA-RTS-2022-03%20RTS%20on%20SCA%26CSC/1029858/Final%20Report%20on%20the%20amendment%20of%20the%20RTS%20on%20SCA%26CSC.pdf

EBA. (21.03.2021). *Technical Standards on the EBA Register under PSD2*.

<https://www.eba.europa.eu/regulation-and-policy/payment-services-and-electronic-money/technical-standards-on-the-eba-register-under-psd2>

Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of advanced nursing*, 62(1), 107-115. <https://doi.org/10.1111/j.1365-2648.2007.04569.x>

European Commission. (12.01.2018). *Payment Service Directive: frequently asked questions*. https://ec.europa.eu/commission/presscorner/detail/en/MEMO_15_5793

European Commission. (n. d., A). *Payment Services*. https://ec.europa.eu/info/business-economy-euro/banking-and-finance/consumer-finance-and-payments/payment-services/payment-services_en

European Commission. (n. d., B). *Single euro payments area (SEPA)*. https://ec.europa.eu/info/business-economy-euro/banking-and-finance/consumer-finance-and-payments/payment-services/single-euro-payments-area-sepa_en

European Payment Council. (n. d.). *Understanding the final regulatory technical standards*. https://www.europeanpaymentscouncil.eu/sites/default/files/infographic/2018-04/rts-infographic_April%202018.pdf

Ferguson, J. M. (1974). *Advertising and Competition: Theory, Measurement, Fact* (1st edition). Ballinger Publishing Company.

Finans Norge. (26/06/2019). *PSD2 eller betalingstjenestedirektivet*.

<https://www.finansnorge.no/tema/bank/psd2-eller-betalingstjenestedirektivet/>

Fjørtoft, L. E., Presttun, H. & Tvedt, K. (03.06.2019). Open Banking i Norge – samarbeid som konkurransefortrinn?. *Praktisk Økonomi og Finans*: Vol. 35 utg. 2.

<https://doi.org/10.18261/issn.1504-2871-2019-02-04>

Fritsch, P., Marechal, O. & Christov, A. (2018). *The revised Payment Service Directive (PSD2). What you need to know*. EY. https://assets.ey.com/content/dam/ey-sites/ey.com/en_gl/topics/banking-and-capital-markets/bcm-pdf/ey-regulatory-agenda-updates.pdf

Geroski, P., Gilbert, R. J., & Jacquemin, A. (1990). *Barriers to entry and strategic competition*. Routledge.

Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The qualitative report*, 8(4), 597-607. <https://doi.org/10.46743/2160-3715/2003.1870>

Han, J. K., Kim, N., & Kim, H. B. (2001). Entry barriers: A dull-, one-, or two-edged sword for incumbents? Unraveling the paradox from a contingency perspective. *Journal of marketing*, 65(1), 1-14. <https://doi.org/10.1509/jmkg.65.1.1.18133>

Harrigan, K. R. (1981). Barriers to Entry and Competitive Strategies. *Strategic Management Journal*, 2(4), 395–412. <https://doi.org/10.1002/smj.4250020407>

Holm, J. & Hellström, V. (n.d.). *PSD2 – Strategic opportunities beyond compliance*. https://ctmfile.com/assets/ugc/documents/PMK_Evry_psd2.pdf

Horde. (2022). *Om oss*. <https://horde.no/om-oss>

IMD. (2021). *IMD World Digital Competitiveness ranking 2021*. IMD World Competitiveness Center. <https://www.imd.org/centers/world-competitiveness-center/rankings/world-digital-competitiveness/>

Jennings, M., Vurm, M., Santamaria, V. & Ratkovsky, R. (09/2016). *PSD2 in a nutshell*. PwC. <https://www.pwc.com/cz/en/bankovnictvi/assets/psd2-nutshell-n01-en.pdf>

Johannessen, A., Christoffersen, L., & Tufte, P.A. (2011). *Forskningsmetode for Økonomisk-Administrative Fag* (3. utg.). Abstrakt Forlag

Johnsen, B. (11.04.2018). PSD2-kravene om sterk kundeautentisering og kommunikasjonssikkerhet ble publisert i EU-tidende 13. mars. <https://www.bits.no/psd2-kravene-om-sterk-kundeautentisering-og-kommunikasjonssikkerhet-ble-publisert-i-eu-tidende-13-mars/>

Karakaya, F., & Stahl, M. J. (1989). Barriers to entry and market entry decisions in consumer and industrial goods markets. *Journal of marketing*, 53(2), 80-91. <https://doi.org/10.2307/1251415>

Kessides, I. N. (1986). Advertising, Sunk Costs, and Barriers to Entry. *The Review of Economics and Statistics*, 68(1), 84–95. <https://doi.org/10.2307/1924931>

Krippendorff, K. (1980). *Content analysis: An introduction to its methodology*. Sage publications. Newbury Park.

Konsentus. (31.01.2022). *Q4 2021 Konsentus Third Party Provider Open Banking Tracker*. Konsentus. <https://www.konsentus.com/resources/tpp-trackers/q4-2021-konsentus-third-party-provider-open-banking-tracker/>

Lutz, C. H., Kemp, R. G., & Gerhard Dijkstra, S. (2010). Perceptions regarding strategic and structural entry barriers. *Small Business Economics*, 35(1), 19-33. <https://doi.org/10.1007/s11187-008-9159-1>

Mack, N., Woodson, C., MacQueen, K. M., Guest, G., Namey, E. (2005). *Qualitative Research Methods: A Data Collector's Field Guide*. North Carolina: FLI.

Mansfield, E., Schwartz, M., & Wagner, S. (1981). Imitation Costs and Patents: An Empirical Study. *The Economic Journal*, 91(364), 907–918. <https://doi.org/10.2307/2232499>

Matthews, C. (2009). Switching costs in banking: The regulatory response. *Department of Economic and Finance*, Massey University. https://www.researchgate.net/publication/228790340_Switching_Costs_in_Banking_The_Regulatory_Response

McAfee, R.P., Mialon, H.M. & Williams, M.A. (2003). *Economic and Antitrust Barriers to Entry*. <http://dx.doi.org/10.2139/ssrn.594601>

McFarlane, F. W. (1984). Information technology changes the way you compete (pp. 98-103). *Harvard Business Review*.
<https://hbr.org/1984/05/information-technology-changes-the-way-you-compete>

Milgrom, P., & Roberts, J. (1982). Limit pricing and entry under incomplete information: An equilibrium analysis. *Econometrica: Journal of the Econometric Society*, 443-459.
<https://doi.org/10.2307/1912637>

Needham, D. (1976). Entry Barriers and Non-Price Aspects of Firms' Behavior. *The Journal of Industrial Economics*, 25(1), 29–43. <https://doi.org/10.2307/2097895>

Netter, J. M. (1983). Political Competition and Advertising as a Barrier to Entry. *Southern Economic Journal*, 50(2), 510–520. <https://doi.org/10.2307/1058222>

Nicolaisen, J. (2018, November, 1st). *Challenges for the payment system*. Norges Bank.
<https://www.norges-bank.no/en/news-events/news-publications/Speeches/2018/2018-11-01-payments-conference/>

OECD. (2005). Barriers to Entry. (DAF/COMP(2005)42) [Rundskriv].
<https://www.oecd.org/daf/competition/abuse/36344429.pdf>

OECD. (2007). *Competition and Barriers to Entry*.
<https://www.oecd.org/competition/mergers/37921908.pdf>

Polasik, M., Huterska, A., Iftikhar, R., & Mikula, Š. (2020). The impact of Payment Services Directive 2 on the PayTech sector development in Europe. *Journal of Economic Behavior & Organization*, 178, 385-401. <https://doi.org/10.1016/j.jebo.2020.07.010>

Porter, M. E. (1980). *Competitive strategy: Techniques for Analyzing Industries and Competitors* (1st edition). Free Press.

Porter, M. E. (1985). Technology and Competitive Advantage, *Journal of Business Strategy*, 5(3), pp. 60-78. <https://doi.org/10.1108/eb039075>

Robinson, K. C., & Phillips McDougall, P. (2001). Entry barriers and new venture performance: a comparison of universal and contingency approaches. *Strategic management journal*, 22(6-7), 659-685. <https://doi.org/10.1002/smj.186>

Saunders, Lewis, P., & Thornhill, A. (2012). *Research methods for business students* (6th ed.). Pearson.

Schmalensee, R. (1978). Entry deterrence in the ready-to-eat breakfast cereal industry. *The Bell Journal of Economics*, 305-327. <https://doi.org/10.2307/3003584>

Schmalensee, R. (1981). Economies of scale and barriers to entry. *Journal of political Economy*, 89(6), 1228-1238. <https://doi.org/10.1086/261031>

Schmalensee, R. (1982). Product differentiation advantages of pioneering brands. *The American Economic Review*, 72(3), 349-365. <https://www.jstor.org/stable/1831537>

Schwartz, M., & Thompson, E. A. (1986). Divisionalization and entry deterrence. *The Quarterly Journal of Economics*, 101(2), 307-321. <https://doi.org/10.2307/1891117>

Sekaran, U. & Bougie, R. (2016). *Research methods for business: a skill building approach. (seventh edition)*: Chichester, West Sussex, United Kingdom: John Wiley & Sons

Shepherd W. G. & Shepherd J. M. (2004). *The Economies of Industrial Organization (fifth edition)*. Waveland Press, Inc.

Singh, S., Utton, M., & Waterson, M. (1998). Strategic behaviour of incumbent firms in the UK. *International Journal of Industrial Organization*, 16(2), 229-251. [https://doi.org/10.1016/S0167-7187\(96\)01044-2](https://doi.org/10.1016/S0167-7187(96)01044-2)

Skjelsbæk, J. (23.02.2021). *Nytt EU-krav: Bankene må få på plass PSD2 før utgangen av april – ellers blir det bøter*. Shifter. <https://shifter.no/nyheter/nytt-eu-krav-bankene-ma-fa-pa-plass-psd2-for-utgangen-av-april--ellers-blir-det-boter/203603>

Skjørten, T. (10.03.2022). *Hva er API og API-integrasjon?* <https://www.visma.no/blogg/hva-er-api-sporsmal-og-svar/>

Slack, M. K., & Draugalis Jr, J. R. (2001). Establishing the internal and external validity of experimental studies. *American journal of health-system pharmacy*, 58(22), 2173-2181. <https://doi.org/10.1093/ajhp/58.22.2173>

Spence, A. M. (1980). Notes on advertising, economies of scale, and entry barriers. *The quarterly journal of Economics*, 95(3), 493-507. <https://doi.org/10.2307/1885090>

Stigler, G. J. (1968). *The organization of industry*. Chicago, IL: University of Chicago Press.

Stulz, R. M. (2019). Fintech, bigtech, and the future of banks. *Journal of Applied Corporate Finance*, 31(4), 86-97. <https://doi.org/10.1111/jacf.12378>

The European Union. (2007). *Directive 2007/64/EC of the European parliament and of the council of 13 November 2007 on payment services in the internal market amending*. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007L0064&from=EN>

The European Union. (2015). *Directive (EU) 2015/2366 of the European Parliament and of the Council of 25 November 2015 on payment services in the internal market*. <https://www.eumonitor.eu/9353000/1/j9vvik7m1c3gyxp/vk08zjxn4fx8>

Taylor, S. J., Bogdan, R., & DeVault, M. (2015). *Introduction to qualitative research methods: A guidebook and resource*. John Wiley & Sons.

https://books.google.no/books?hl=no&lr=&id=pONoCgAAQBAJ&oi=fnd&pg=PR11&dq=interview+guide+qualitative+research&ots=Qiwjcu5E5P&sig=GIAOWIWRaqB12wbgAHyodgXZCJs&redir_esc=y#v=onepage&q=interview%20guide%20qualitative%20research&f=false

Weizsäcker, C. C. (1980). A welfare analysis of barriers to entry. *Bell Journal of Economics*, 11(2). <https://doi.org/10.2307/3003371>

Wong L. (2008). Data analysis in qualitative research: a brief guide to using nvivo.

Malaysian family physician, 3(1), 14–20.

https://www.researchgate.net/publication/26610126_Data_Analysis_in_Qualitative_Research_A_Brief_Guide_to_Using_Nvivo

Yip, G. S. (1982). Gateways to entry. *Harvard Business Review*, 60(5), 85-92.

<https://hbr.org/1982/09/gateways-to-entry>

Appendix

Appendix 1 - Interview guide

Hi,

Welcome to this interview regarding PSD2. This project is a master thesis at the University of Agder. We would like to investigate if PSD2 has had an impact on the competitive landscape in the Norwegian banking- and finance market. More specifically, we want to investigate the barriers to entry in the Norwegian payment service market after the implementation of PSD2 and the availability of customer information.

The interview will be recorded, and there will therefore not be any note taking during the questioning. The recording of the interview will be transcribed afterwards and then deleted when the project is completed. All the information regarding the project will only be available to Didrik Knudsen and Mons Haraldsen, in addition to our supervisor Andreas Erich Wald. Attached to this Email is a consent declaration form that needs to be signed before the interview can be conducted, where there is more information regarding personal data.

You will be given the opportunity to get back to us with follow-up questions and/or additional information after the interview has been conducted.

1. Could you in short tell us about yourself and the company you represent?
2. To what degree would you say the Norwegian payment service market has changed after the implementation of PSD2?
3. Is your company PSD2 licensed?

Points of discussion:

- a. What type of license? PISP or AISP
- b. If no – Do you plan or are you working on getting licensed?

4. What is your purpose of being PSD2 licensed?
5. What is your perception on the formal requirements on obtaining a PSD2 license?
6. What is your view on the status regarding the access to APIs available to third-party providers?
7. How is the cooperative relationship between banks and third-party providers?
8. What are your thoughts regarding consumers' trust towards third-party providers and access to financial data?
9. Do you have any thoughts regarding Norway as a market to enter?
10. What is your view on barriers to entry in the Norwegian financial service market after the implementation of PSD2? What are the biggest challenges regarding entering this market?
11. Is there anything else you would like to add that we have not discussed?

Appendix 2 - Discussion papers

Responsible - Mons Haraldsen

The Payment Services Directive

Banks now have a well-established role in society as a reliable manager of money. As a result of technological improvements, banks' roles are changing, and the distribution of financial products and services is being reformed. As a result, new and updated data sharing, privacy, and payment policies are necessary. Open banking allows for more efficient data exchange among industry players, as well as new value propositions, business models, and strategic possibilities. Digital platforms are rapidly being utilized in the banking business for communication, data storage, and general operations. The many operating systems that make up this digital infrastructure are tailored to the needs of each individual bank. For a concept like open banking to thrive, the operating systems of the various banks must be able to communicate and interact with one another.

There are primarily three primary drivers for change in the open banking trend. First and foremost, with the emergence of the computer and the internet, all sectors have undergone substantial technological progress. Changes in client behaviour and expectations for digital distribution of financial products and services are another impetus for open banking. This shift has been aided tremendously by the adoption of mobile solutions in the form of smartphone applications. The third driver for open banking is the implementation of new and amended payment, data sharing, and privacy legislation, like PSD2 (Fjørtoft, et al., 2019).

As we can see from Fjørtoft's paper above about the open banking in Norway, one of the drives for the change towards an open banking industry is the implementation of new and amended payment. This is where the Payments Services Directive comes into the picture. The first Payment Service Directive (PSD1) was enacted in 2007 as part of the Single European Market in order to unify financial payment services in EU and EEA member states (The European Union, 2007). The directive's goal was to provide efficient and integrated financial services across the EU and EEA, as well as boost market competitiveness and innovation (European Commission, 2018). Throughout 2013, the European Commission suggested

revising the directive (European Commission, 2018), and the new and updated directive was implemented in the EU in 2018, replacing PSD1. In September 2019, it was incorporated in Norway (Finans Norge, 2019). The goal of the Revised Payment Services Directive (PSD2) was to include new services and players while also expanding the reach of current ones. PSD2 forced banks to open their consumers data to third-party providers (TPPs), and there was a lot of discussion about the vast opportunities for new competitors in the payment services sector. PSD2 is viewed as a driver for technological innovation in the financial services industry, which will impact both consumers and enterprises.

Responsibility

The term responsible is wide and can be used in different settings. There are legal responsibilities, personal responsibilities, moral responsibility or social responsibility, to mention some. From a previous course on our master program, TFL-400 Sustainable Capitalism, we were introduced to business ethics, among other topics. In that course, Christian Becker (2019, p. 78) defines the concept of responsibility in a business aspect as *“the ability and moral obligation to respond (in action or verbally) to normative questions concerning the rightness and wrongness of actions or states of affairs.”* Further, Becker (2019) defines how we can establish that someone is responsible for something, and gives five sets of conditions that typically constitutes responsibility:

1. Causality

One of the most important conditions for being held accountable for an occurrence is that one caused it in some way. Actions have repercussions, and a person or corporation that takes an action may be held liable for the consequences of that action.

2. Knowledge

Even if there is a causal link between the act and an occurrence, the level of accountability is determined by how much information the person had or could have had about the causal link. That is, some either intended the consequences, or didn't intend it, but knew that it could happen.

3. Free will

A person is not liable for activities that he or she was forced to take and did not want to perform by him/herself.

4. Position and relational role

A person's or an entity's responsibilities can also be linked to a certain role, position, or function.

5. Ability and power

Persons or organizations with specialized expertise, abilities, or power to act in certain situations may be held to a higher level of accountability than others who lack such expertise, ability, or power.

Considering this new payment services directive, there are several parties that must respond to a number of different questions concerning the rightness and wrongness of actions or states of affairs. To start off with, this is a supranational law that is imposed by EU on all EU and EEA member states. The first and initial part in this case is the European Union, which are those who has imposed this new regulation. The EU checks of on all of Becker's five conditions, of what constitutes responsibility. There is a causality between the EU's implementation of this regulation, and the effects this gives. The EU has clearly knowledge on this topic and their actions. One might say the EU has been pushed by consumers and/or industries to implement this regulation, but they have done this of free will. They have also done this from a position as the highest political and economic union in the Europe, and they have the ability and power to do so. There is no doubt that the EU can and must be held responsible for the actions that follows the implementation of this regulation.

We have limited our master thesis to the Norwegian payment services market, therefore the remaining of this discussion paper will also be using Norway as a point of discussion. Because Norway is part of the EEA, they are obliged to implement this regulation from EU in the Norwegian laws. In Norway there is the Financial Supervisory Authority of Norway that has the responsibility to implement and make sure all related parties are compliant with the regulation. To determine the degree of responsibility of the FSAN, we can use the 5 above mentioned conditions; and we can pretty easily determine that the FSAN has the causality,

knowledge, position/role, and ability and power towards the implementation of the regulation in Norway. When it comes to free will, the FSAN cannot be held responsible, as they are obliged to implement the regulation through Norway's participation in the EEA.

But what responsibility does PSD2 actually lay on the Norway? The directly affected parties are already existing banks, and new players (Third Party Providers (TPPs) / FinTechs) that wants to utilize the new opportunities in the market. Indirectly, PSD2 has also but a responsibility towards everyone with a bank account. If we start with the banks – they have been required to open up their information on their consumers data, and to make it possible for TPPs to initiate payments directly between the consumer and the banks, without the need for a traditional card scheme. The banking industry has for a long time been a highly regulated industry. This is because they play a vital role in the society. The issue in the banks case now, is that they have to “give away” personal information on their consumers economic history, and they have to do it to totally new players in the market. To reduce the responsibility of the banks, the FSAN has required TPPs that wants to utilize the opportunities from PSD2 to apply for a licence, the same way as banks has had to do. This will take away some of the responsibilities of banks, as they do not need to worry about or run a KYC (know your customer) on all the TPPs that wants access to the consumers data. The way TPPs is getting access to the banks data, is through APIs. An Application Programming Interface (API) is a code that allows two systems or apps to share data with each other. An API integration allows systems to communicate without the need for human intervention. This means that the banks are still responsible for the fact that the APIs only are used for the correct purpose, and not being abused.

With the opportunities for market innovation and new services, the TPPs is also given a tremendous responsibility. To deal with this responsibility, and to make sure the opportunities is not being abused, the TPPs that wants to utilize the opportunities from PSD2 need to apply for a licence from the FSAN. With this licence, the TPPs are being subject to legislations like the Financial Contracts Act, the GDPR (General Data Protection Regulation), and AML (Anti Money Laundering), among others. The TPPs that are operating in this market are managing sensitive data about private persons and other entities economy. Even if the licencing does not take away the responsibility of the TPPs, the fact that they are subject to the same regulations as banks are, gives them at least some credibility to the market.

This regulation is fairly new. Even though it was implemented in Norway late 2019, we're still waiting for the big changes in the market that was anticipated. In our thesis we will try to answer why that is. When this discussion paper is written, we still have to process the results from our research. But we have gotten some indications that because PSD2 is subject to this heavily regulations, it contributes to delay the opportunities and changes that was meant to come.

References

Becker, C. U. (2019). *BUSINESS ETHICS: Methods and Application*. New York: Routledge.

European Commission. (12.01.2018). *Payment Service Directive: frequently asked questions*.
https://ec.europa.eu/commission/presscorner/detail/en/MEMO_15_5793

Finans Norge. (26/06/2019). *PSD2 eller betalingstjenestedirektivet*.
<https://www.finansnorge.no/tema/bank/psd2-eller-betalingstjenestedirektivet/>

Fjørtoft, L. E., Presttun, H. & Tvedt, K. (03.06.2019). Open Banking i Norge – samarbeid som konkurransefortrinn?. *Praktisk Økonomi og Finans*: Vol. 35 utg. 2.
<https://doi.org/10.18261/issn.1504-2871-2019-02-04>

International – Didrik Knudsen

When the European commission introduced the Payment services directive (PSD1) in 2007 it was to provide a legal foundation for a single European union market for payments. It was put forward to make payments safer, more innovative and make cross-border payments easier and more efficient; as well as promoting competition. Fast forward to 2013 and the European commission proposed to review PSD1 and make it more modern to include new types of payment services (EU, 2018). One thing that caused the most commotion when PSD2 was introduced was that banks were required to open their payment services to other organizations, also known as Third Party Payment Services Providers (TPPs). When the news of the third-party providers possibilities it was said that a lot of changes would happen to the payment service market. It was speculated that banks would be rendered obsolete, and that Fintech TPPs would take over the market (Fjørtoft, n.d).

When we first heard of the PSD2 regulative we thought that this would lead to huge innovations in the payment market, but we also noted that there were little changes to be seen since the implementation of PSD2 in 2019. Therefore, we sought to find indications to why there was so little that had happened the first 2-3 years after the implementation of PSD2. There were seemingly few TPPs with a PISP or AISP license registered in Norway. It was also apparent that it was a tedious process to establish a Fintech company with a PSD2 license when it came to the application process and the cooperation with banks and their APIs. We then found it interesting to investigate the barriers to entry in the payment service market after the implementation of PSD2. Entry barriers were particularly interesting as PSD2 somewhat deregulates the payment service market as previously one needed a special agreement with banks to facilitate payments. This deregulation could create the possibilities for new markets as well as increasing competition in already existing markets. One key part of increasing competition in a market is the barriers to entry in establishing oneself in either a new or existing market. Our thesis is limited to the Norwegian payment services market, but that does not mean PSD2 is not a matter of international interest.

The concept of “international” in light of PSD2

According to the Oxford English Dictionary, international is a “Designating or relating to relations between two or more nations or organizations made up of nations; agreed,

recognized, carried on between, or constituted by nations or national governments”. (Oxford University Press, 2022). PSD2 regulative fits quite well within the definition of the word international. The whole concept of the regulative is to streamline the payment solutions across Europe and make the world a little bit more connected. The regulative moves across borders, so that an organization based in the Netherlands with a PSD2 license can expand its operations to other countries where the payment systems are regulated by the EU and EEA.

PSD2 only governs the member states of EU and EEA, but it is not the only regulative that has been put into place to change the payment services market. Singapore has implemented a similar regulation called the Payment services act of 2019. The reason for this regulation is similar to the PSD2 to encourage innovation and growth of payment services and FinTech (Monetary Authority of Singapore, 2019). In Australia these aspects of sharing data have been implemented on an even broader scale through open banking regulations. The concept of open banking is not just limited consumers allowing third parties to access payment data, but also other financial data such as rates and fees (Australian Banking Association, n.d.). It shows that the concept of a more open banking market is not exclusive to the EU and EEA, but a concept which is of interest to several nations.

The topic of the PSD2 regulative could possibly be a contributing factor to a global innovation in the payment service market in Europe and maybe indirectly for the rest of the world. Over the last years we have seen changes in the way people conduct retail shopping in both Norway and the rest of the world. In 2021 e-retail sales was estimated to account for almost 20% of the worldwide retail sales and indicated to cover 25% by 2025 (Daniela Coppola, 2022). With the growth of e-retail it is also bound to be a growth in online payments across the world. The main way of conducting consumer payments has long been using physical money in the form of cash, checkbooks, and as most people are familiar with today the debit and credit cards. In recent years we do see payment options become more varied with introductions of buy now pay later checkout options such as Klarna offers, or other payment options that the PSD2 regulation facilitates for. These payment options have gathered attention especially in the e-retail market, and some of this attention might be because of the covid-19 pandemic. The pandemic forced people to stay at home and made online shopping more convenient compared to physical stores. The pandemic might have been a catalyst for change in consumer spending habits and facilitated innovations in the

payment services sector. This could be a factor that pushes countries to encourage implementation of more innovative payment solutions globally.

A practical aspect of the PSD2 regulation that have the possibilities of making payment services transnational is the possibility of passporting one's license to other PSD2 regulated countries. If an organization established in Norway wanted to expand their operations into other countries it could do so. This aspect of the PSD2 regulation could possibly increase the internationalization of payments within EU as the internal payment services in different member states can be more connective through payment services providers that expand outside of the borders of their home member state (EBA, 2016). The concept of interconnected payment systems does sound like a great innovation that could make payments across borders more convenient for consumers. On the other hand, this passporting mechanic could be a potential threat to the security of consumer data. As a third-party provider one can access customers banking data when requested from the customer. This makes the data available in more places for the customer, but also for potential attackers wanting to obtain the data. Passporting also makes the job of keeping track of customer data more complex. Nevertheless, the security threats that follow increased connectivity should not be a hindrance, but rather an opportunity in developing innovations within the field of data security.

Barriers to entry is a term within economics and business that deals with the obstacles that make it difficult for a firm to enter a market. With third party payment services providers having the possibility of becoming international organizations that operate across borders the barriers to entry can vary depending on the market. Barriers to entry are in many cases country specific, and this poses the question of how well third-party providers are equipped to enter a different market than their home member state. Even though PSD2 is a supranational law it is still a need to implement it into national legislation. There are nuances in the interpretation of the regulation by each member state and financial institution that it affects. With inconsistencies in law interpretation among the different member states could cause problems for third-party providers that operate in numerous countries and must manage subtleties on a country-by-country basis. This could argue that the PSD2 regulation might not contribute to the internationalization of payment services to the extent that it was put forth as.

According to Kahn and Roberds (2009) payment systems are the plumbing of the economy and are seen as quite boring until there is a malfunction in the system. Seemingly, there has been little interest in the studies of payment systems, up until recent years when the payment technology and infrastructure saw big changes. Over the last few decades, globalization has seemed to advance relentlessly. The globalization of money, labor, ideas, products, and services has made the world more connected or in other words smaller. The globalization of financial services on the other hand has not been revolutionized. Nations have their own dedicated infrastructure, and those do not always communicate properly between each other. This issue should arguably not be an existing problem in the digital era. The EU has made efforts in creating cross-border systems among the member states in many areas, and the PSD2 regulation is the beginning of creating a cross-border system for financial services. Perhaps the experience of attempting to construct a harmonized system among heterogeneous countries and governments that can position Europe to be the leader of global financial systems. PSD2 might just be a catalyst for further development of a world where banking is open. With such a global system for financial services we would also need trust on a global level. Trading products and services across national borders would possibly become easier and faster if a global financial scheme provided trust among partners. A globally recognized legal framework and compatible technological infrastructure are required for a global digital trust system to function properly. Because many worldwide players sometimes have opposing viewpoints as we have seen in cases such as the handling of the covid-19 pandemic and now the war in Ukraine, the construction of these systems will take time and might not even work. Maybe starting in the small and altering individual parts of the economic infrastructure is the most feasible strategy when working towards a digital single financial market. We are probably in a transition where steps are taken to improve the economic environment and make it more user-friendly for the almost 520 million people that live in the EEA member states. It promotes improved transparency, accessibility, and security for all types of financial transactions by utilizing technology solutions and digital innovation.

The prospect of payment services seems to be moving in a positive direction concerning efficiency and innovation globally. The PSD2 regulation has been the starting point for this change in EU and EEA member countries. We do also see similar legislations pushing for open banking in countries that are not subject to the PSD2 regulation. Even though the move to open banking looks to be positive it does not mean that it emerges without concerns. Nevertheless, the concerns and issues that can be tackled and be overcome. I would argue

that the positive changes that can arrive with the PSD2 regulation and move towards open banking is far superior to the concerns that may emerge. We are now in the beginning of a transition and have most likely not seen changes on a large scale, yet the future will show.

References

Australian Banking Association. (n.d.). *What is Open Banking?*. Australian Banking Association. <https://www.ausbanking.org.au/priorities/open-banking/>

Daniela Coppola, (2022, February), *E-commerce as share of total retail sales worldwide 2015-2025*. Statista. <https://www.statista.com/statistics/534123/e-commerce-share-of-retail-sales-worldwide/>

EBA. (2016, 14th. December). *EBA Final draft regulatory technical standards*. European banking Authority. <https://www.eba.europa.eu/sites/default/documents/files/documents/10180/1694291/7a77aa22-dcc8-44a7-89ec-5779eb1c4bbc/Final%20draft%20RTS%20on%20passporting%20%28EBA-RTS-2016-08%29.pdf?retry=1>

EU. (2018, 12th. January). *Payment services directive: frequently asked questions*. European Commission. https://ec.europa.eu/commission/presscorner/detail/fr/MEMO_15_5793

Fjørtoft, L. E. (n.d), *PSD2 er starten på en ny fremtid for bankene*, PWC. <https://www.pwc.no/no/bransjer/bank-og-finans/psd2.html>

International, adj. And n. (2022, March). *Oxford University Press*. Sourced April 20th 2022. www.oed.com/view/Entry/98072

Kahn, C. M., & Roberds, W. (2009). Why pay? An introduction to payments economics. *Journal of Financial Intermediation*, 18(1), 1-23. <https://doi.org/10.1016/j.jfi.2008.09.001>

Monetary Authority of Singapore. (2019, 15th. April). *Payment Services Act*. Monetary Authority of Singapore. <https://www.mas.gov.sg/regulation/acts/payment-services-act>