Exploratory study of market entry strategies for digital payment platforms

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Acknowledgments

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Exploratory study of market entry strategies for digital payment platforms

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Abstract
The digital payment industry has become one of the fastest evolving markets in the world, but in the wake of its rapid advancement, an ever increasing gap between academic theory and the actual reality of this market widens - and especially so when it comes to entry theory. It is widely acknowledged that the world is moving towards an ever more homogeneous economy, but despite the fact that payment preferences differ greatly from country to country - research on this subject continues to revolve mainly around localized efforts. But as historical inequalities between poor and rich societies continue to dissipate - learning from nations at the forefront of technological advancement increases the likelihood that the developed strategy becomes applicable to an increased number of countries. By selecting a nation most conducive to technological growth, the purpose of this report is to map the present dynamics in its digital payment industry using both recent and traditional market entry theory. However, studies geared towards globalized strategy formulation cannot be assumed as having guaranteed access to internal company-data at all times. So in order to facilitate such studies, the level of dependency on primary data required for conducting such research needs to be understood first, which is why the work in this report is constrained strictly to data of secondary nature. This, not only to further map the characteristics of this market, but also to see how open the market is to public inspection. Ultimately, the academic contribution becomes that of providing a road-map towards adapting currently available market entry theory to suit the rapidly evolving conditions of the digital payment industry from a global perspective and, when failing to do so, the aim is to also explore avenues for further research towards this end goal.

1. Introduction

The explosion of wireless communication in the early 21st century has had an unprecedented influence on almost every industry - and for the retail industry in particular this has added what many consider an entirely new dimension to online shopping as it has enabled and simplified both purchases and sales [1]. With the growth of e-commerce, the digital payment market (including web-based payment solutions often identified as ‘platforms’ such as PayPal or Apple Pay) has become one of the world’s most rapidly evolving new markets [2, 3]. With this, cash payments are also becoming an ever more obsolete aspect in the daily life of the global population, where mobile transactions increase dramatically year by year [4]. In fact, between 2014-15, global non-cash transactions reached over 430 billion USD [5].

With the rapid yet unpredictable growth of this market, the theoretical landscape of strategies associated with its entry is not yet fully explored. Although authors such as Evans (2003, 2009), Eisenmann et al. (2009) and Rochet et al. (2003), have contributed with invaluable research in terms of creating a general taxonomy for this new market, as well as mapping the problem-areas and the various components for platforms in general [6, 7, 8, 9], few studies have focused specifically on the topic of market entry for such platforms.

Staykova et al. (2013, 2015) are among the few attempting to do so, outlining which factors determine the success of a digital payment platform. As one of the most essential components of a business venture that is looking to expand its operation is its ability to predict the optimal conditions for when to enter its chosen market [10, 11, 12, 13, 14], their research aims to give an answer to exactly that. But despite these efforts, there are still many unknowns. For instance, because of digital platforms are built they are easy to replicate [12]. And so, when entering this market, a platform runs the risk of experiencing low switching costs, since competitors easily can replicate a solution and steal market shares. The switching costs are also low because there is still insufficient knowledge on how to price the platform, and how to increase network effects - because, with an appropriate price and high network effects, the users would not seek out to switch suppliers. And perhaps most importantly, very few studies engage with the issues often raised by banks, consultancy firms, and industry researchers — that the broad diversity in payment preferences among different countries [15, 16] precludes the formation of a practical, universally fit entry-strategy. Presumably, this is what may have pushed most research efforts in this field to focus primarily on localized trends and strategies. But in order to form a more globally comprehensive market entry strategy for digital payment platforms, the question becomes - which nation’s preferences and customs should such the strategy be based on?
Identifying a country most beneficent to a company’s growth is one of the most critical decisions faced when moving operations abroad [17, 18, 19, 20, 21], but it seems that more often than not, many opt to move into a country with a similar language, culture or political system [22, 23, 24, 25] rather than what is perhaps the least apparent yet often - in the long term - more beneficial choice. Recent studies propose that internationalization into developed countries may greatly improve performance while doing so within a less advanced climate may in fact lead to the exact opposite [26, 20]. And because of how greatly a business endeavor’s competitive ability is tied to the specific environment in which it is developed [11, 27, 18] — by drawing experience from superior markets, learning from both their leaders and their competitors, a company can achieve an advantage over competitors at home [28, 26, 29].

To this, many intergovernmental economic organizations such as the UN, OECD and the World Bank uphold the fact that the world is moving towards a more homogeneous global economy, where long-standing historical inequalities caused by wars, colonizations or natural catastrophes are in rapid decline [30, 31]. Therefore, the question should not be focused on which is better - to standardize or adapt a strategy towards a specific country (a question wrestled since the 1960s [32, 33, 34]) - rather, the best strategy should be to begin with adaptation towards the markets that are at the forefront of the industry aiming to evolve within the most competitively fierce environment. This is not to say that globalization will come to form a perfectly uniform economy where customer preferences are exactly the same everywhere. But assuming a more idealistic world-view for the purpose of this report allows for a more comprehensive overview - for example, assuming that all nations are moving to a very similar political- and economical standard, then - the standardization of any strategy simply becomes a function of when the competing nations rise to the same economic and technological standards as the nation where the strategy is originally formed [35]. Under a simplified scenario, the wealthier and more technologically advanced the nation, the better the chance to find a globally generalized strategy.

1.1. Purpose

The purpose of this report is to formulate a generalized market entry strategy for digital payment platforms through the study of secondary data in a competitively fierce environment.
1.2. Choosing context for study

As the choice of country can in and of itself have dramatic impact for whatever strategy is developed, the following section details how that choice was made in this report.

Because wealth is a broad term in our society which often varies depending on context [40, 54, 55, 38], its meaning as used in this report has to be specified. Here, the definition of wealth follows from a composite of indices where the selection of these has been made in consideration of finding a nation with strong tradition of investment in technological resources, fostering innovation and freedom of information but, perhaps most importantly: a nation that is already spearheading technological advancement and serving as a template for other nations to follow. Therefore, the term wealth in this report can be considered as pre-conditions most favorable to digital economies.

Naturally, the choices made here could always be improved - one could for instance include a larger set of indices, as is done for the compound Good Country Index [41] and gain an even broader definition accounting for more aspects such as population health, longevity, or freedom of press. In this report, the amount of indicators was limited to an assessment of seven indices (see figure 2), and the significance of each is motivated in the upcoming sections followed by a list of the top 15 performing countries on each index.

A compound index of a selection of indices, showing how much each country on Earth contributes to the common good of humanity. [56]

<table>
<thead>
<tr>
<th>Gross Domestic Product / capita</th>
<th>Democracy Index</th>
<th>Literacy level</th>
<th>English Proficiency Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monetary measure of the market value of all final goods and services produced in a nation during a period of time per capita. In short it measures a nation's overall economic activity.</td>
<td>A weighted average based on the answers of a survey performed in 167 countries. Investigates electoral process and pluralism; civil liberties; the functioning of government; political participation; and political culture.</td>
<td>Assesses factors such as numbers of libraries in a country, newspapers, years of schooling, education inputs and outputs and computer availability in the countries.</td>
<td>Uses survey test data from approx. 1 million test takers. Standardized, objectively-scored test designed to classify test takers' language abilities into one of the six levels established by the Common European Framework of Reference.</td>
</tr>
<tr>
<td>Global Innovation Index</td>
<td>Internet penetration</td>
<td>Digital Money Index</td>
<td>Abbreviations</td>
</tr>
<tr>
<td>Combines wide range of elements that influence a country’s level of innovation, such as various institutions in a country, human capital, research, infrastructure, market- and business sophistication, knowledge and technology outputs and creative outputs.</td>
<td>Corresponds to the percentage of the total population of a given country or region that uses the Internet, where an Internet user is defined as a person that has available access to an Internet connection point, and has the basic knowledge required to use web technology</td>
<td>Measure of digital money readiness. Depends on action across four Index pillars - a supportive institutional environment, financial and ICT infrastructure, digital money solutions from government and private sector, and enthusiasm from consumers and businesses.</td>
<td>GDP - Gross Domestic Product/capita</td>
</tr>
<tr>
<td>DEM - Democracy Index</td>
<td>ENG - English Proficiency Index</td>
<td>LIT - Literacy Level</td>
<td>GIH - Global Innovation Index</td>
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<td>INT - Internet Penetration</td>
<td>DMI - Digital Money Index</td>
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Figure 2: Summarized descriptions of indices describing the wealth, level of innovation and technology in nations worldwide. Data were compiled from Refs. [36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51].
1 Introduction

Choosing context for study

Prior to this, a pre-study was made with 30+ indices so as to also determine the validity of the method where a majority of indices were later excluded due to overlap - leading in the indices ultimately used in this report.

A measure often used to estimate the economic well-being of a country is the Gross Domestic Product (GDP) of a nation, where especially the GDP per capita gives an indication as to how well the countries are performing relative each other. Many researchers however, find this measure insufficient as it focuses on economic output but not economic well-being — excluding human- and social capital, raw labor, education as well as collectively held assets [35, 40, 57]. The GDP per capita is therefore complemented with a literacy index and a democracy index in this report.

Limiting the study to the indices present in this report can be motivated as follows: Index data is often the result of compounding various studies into one model - these can often be derivative of one another, share relatively similar formulation or be closely related. Beginning with a large volume of index data ensures validity of the method as well as availability of the data - especially for the latter as global indices tend to suffer temporal gaps or simply pertain to separate time periods. So even though a large set of indices could be perceived as more accurate, because of the overlap in context - narrowing down to mutually exclusive components preserves the structure of the data but with a concentration on the differentiating factors between each sample. All indices and descriptions pertaining to each nation stem from publicly available archives and have not been altered for the purpose of this report (for source citation, see figure 3 caption).

The reason why the level of democracy (DEM) is so important for the subject of this report is because governments of democratic countries often support R&D, gender equality and diversity, and give access to public documents - affecting how well a country performs when it comes to innovation. Democracy also raises growth by economic reforms involving investment in primary schooling, better health, and taxation laws [42, 56]. To add to this, nations with autocratic regimes tend to perform worse in trading with and prospering from its natural resources due to the lack of well-functioning institutions [58]. A nation simply cannot thrive in the digital payment industry absent such institutions because nations wealthy in natural resources run the risk of falling under what is referred to as a resource curse [58, 59]. By setting up laws through the oversight of well-administered institutions, such laws often increase the chances of fostering a positive, conflict-free environment promoting economic growth. As such, a high score on DEM is a pre-condition to a working digital payment society.

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<table>
<thead>
<tr>
<th>GDP</th>
<th>DEM</th>
<th>ENG</th>
<th>LIT</th>
<th>GII</th>
<th>INT</th>
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<td>Norway</td>
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<td>Sweden</td>
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<td>Ireland</td>
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<td>Luxembourg</td>
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<td>13</td>
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<td>Germany</td>
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<td>Luxembourg</td>
<td>Iceland</td>
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<td>14</td>
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<td>Austria</td>
<td>Switzerland</td>
<td>Estonia</td>
<td>Japan</td>
<td>Canada</td>
</tr>
<tr>
<td>15</td>
<td>Netherlands</td>
<td>Malta</td>
<td>Portugal</td>
<td>New Zealand</td>
<td>France</td>
<td>Monaco</td>
</tr>
</tbody>
</table>

Figure 3: Top 15 countries on each index. Data were compiled from Refs. [36, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53]. For each index, the last data that has been made publicly available is included.

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1 Limiting the study to the indices present in this report can be motivated as follows: Index data is often the result of compounding various studies into one model - these can often be derivative of one another, share relatively similar formulation or be closely related. Beginning with a large volume of index data ensures validity of the method as well as availability of the data - especially for the latter as global indices tend to suffer temporal gaps or simply pertain to separate time periods. So even though a large set of indices could be perceived as more accurate, because of the overlap in context - narrowing down to mutually exclusive components preserves the structure of the data but with a concentration on the differentiating factors between each sample. All indices and descriptions pertaining to each nation stem from publicly available archives and have not been altered for the purpose of this report (for source citation, see figure 3 caption).

2 Resource curse - if a state lacks the necessary governmental infrastructure to properly administer regulation of its own natural resources, it often also lacks the means to effectively enforce restrictions for the exploitation of those resources by others.
Assessing the literacy level (LIT) of a nation is motivated by the fact that countries promoting strong literacy skills throughout their population are more successful in fostering growth and well-being than countries with larger gaps between high- and low-skill groups [60]. Human capital indicators based on literacy scores affect the growth path and long run levels of GDP/capita, as well as labour productivity in a positive way, affecting the level of innovation in a country [60] 61. To determine the literacy rate, instead of only assessing literacy achievement tests, research has focused on literate behaviour characteristics [62, 63], referring to numbers of libraries in a country, years of schooling, education inputs/outputs and computer availability in the countries.

To assess the business environment in a nation, the level of English proficiency (ENG) becomes an important consideration. Due to the British colonization, English has become and remained the official language of business, science, diplomacy, communications and IT and with USA’s cultural, economic, political and military influence during the 20th and 21st centuries English is now a key component of economic competitiveness [63]. A higher English proficiency often correlates with higher incomes, quality of life, more dynamic business environments, greater connectivity, and more innovation [47]. Countries that have better English skills also produce more high-technology exports and have high research and development intensity, which is why it is an important indicator for the topic of this report. [47]

And as for digital payment platforms in particular, three indices have been chosen to give an overview of the digitization level of countries — the Internet penetration (ITP), Global Innovation Index (GII), and Digital Money Index (DMI). As digital payment platforms by their nature only exist online, and as innovation, growth, GDP per capita and social prosperity is closely linked with the usage of Internet - it enabling businesses and individuals to do business globally and share information within and across borders [30, 36, 64, 65], the Internet penetration of countries is an important indicator as to which market is most suitable to enter [54, 66]. The Global Innovation Index has the particular focus to assess the level of innovation in a country [49]. With indicators aimed to explore a broad vision of innovation, including political environment, education, infrastructure and business sophistication, it becomes a necessity for this study. Finally, the Digital Money Index investigates how countries enable a digital economy by analyzing the government and market environment of each country, financial and technological infrastructure, the availability of government and private sector solutions that exploit digital money and the extent to which consumers and businesses adopt digital solutions [39].

Figure 4: A compound of all the indices, see figure 3. The resulting score is a sum of the what scores (1-15) a country received on each index. Only countries that are among the top 15 on any of the compared indices are shown.
In sum, while the GDP gives a bearing of the countries’ overall economic wealth, the DEM, ENG and LIT cover more intangible measures such as education, international trade-readiness, and openness to innovative solutions. The industry-specific indices GII, INT and DMI give further insight into which countries are currently most advanced in regards to digital payments in particular. The 15 countries in each index category form the compound result seen in figure 3.

Based on these results, there are several countries that could be chosen as the focus point of this report. As can be seen in figure 4, the Nordic countries compose the top three tier — Denmark, Sweden and Norway which appear in the top 15 on every of the chosen indices. Though all these countries are deemed suitable candidates as for the purpose of this report, the choice has been narrowed down to Sweden.

**Sweden - a cashless society**

Even though on a global economic landscape it may seem a quite insignificant player, Sweden’s history and current economic landscape makes it a uniquely suitable market for digital payment platforms to evolve within. As one of the first in the world to develop a functioning infrastructure for using the Internet nationally, the computer knowledge in Sweden is very high where, nearing the end of the 20th century, the Swedish government put forth a legislation subsidizing personal-computers to every working citizen which is an important factor contributing to the country’s business environment. The country’s dominant market player in the telecom-industry also set out to connect 1 million households to the Internet. All of this stems from an important event in the country’s political history - the decision to expedite its advancement towards becoming the first information society. But perhaps most importantly, the country’s hereditary strive for innovation has in recent years come to manifest in a private sector saturated by a broad variety of online payment alternatives to a level that is uniquely representative of this nation alone - in 2015, 80 percent of all retail payments in Sweden were made through credit card transactions, compared with around 52 percent in the UK and 45 percent in the US, meaning that Sweden is currently leading the race in becoming the first cashless society in the world.

![Figure 5: Data were compiled from Refs. [67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83]](image)

But despite its advantageous business climate and readily available resources, few non-regional payment platforms have come to actually invest greater effort into establishing a localized presence in Sweden. Although several digital payment giants like Apple Pay, Samsung Pay and Android Pay have been introduced to various degrees in Sweden, none have established even a similar market presence as in their home-country or have come close to their local competitors such as Klarna Bank AB (Klarna) or Getswish AB (Swish) [16]. Examining for instance Apple Pay — with its 23 percent market recognition in Sweden, although a seemingly high percentage, only 2 percent among these have actually used the product [16]. In contrast, Swish has a 96 percent market recognition where 59 percent of the survey participants are using it. To put that in a larger context, having launched in 2012, the company already has a user base of 5 million people only in Sweden, meaning that more than half of the Swedish population is currently using the service [84]. Therefore, it becomes the main objective of this work to, by the application of modern concepts, theories and beliefs, bridge the current gap in understanding how the unique conditions of this country’s market can be used as a template for the future of the global market as a whole.

2. Literature review

The following literature study combines traditional market entry principles with new research developed within the last two decades. Beginning with key considerations in market entry for digital payment platforms such as timing of entry, platform characteristics, network effects and pricing - the synthesis thereof later becomes the baseline for research questions.

![Figure 6: Main entry strategy components evaluated in this report](image)

2.1. Timing of entry characteristics

The timing of entry into a market has substantial impact on a company’s competitive ability. By extracting a cross-section of academic work on this subject, three dominant methods of market entry timing are revealed [85, 11, 10, 86] — where at the market, the company can either be a first mover, early follower or late entrant, as seen in figure 7.
2. Literature review

Platform characteristics

The timing of entry approaches can be described as:

First mover refers to a company that pioneers a market offering which in turn may generate an entirely new market in and of itself.\cite{85, 11, 10, 86}

Early follower is a company introduces a new product almost at the same time as a competitor, in order to restore competitive equilibrium.\cite{85, 11, 10, 86}

Late entrant encompasses companies that strategically opt to postpone their entry so as to acquire the time and resources necessary towards developing a solution that is better equipped to weather the unique conditions of its market. It also extends to companies that in one way or another have failed to assess their opportune moment of entry and have to face an already matured market where an absence of a robust solution may impose greater adversity for these types of ventures.\cite{85, 11, 10, 86}

There are certain advantages which are inherently available to the first mover\cite{86}. Having a higher potential of acquiring large market shares, building brand loyalty\cite{10}, locking up sales by relying on switching costs or defining the standards for new technology\cite{11}, the first mover often gains experience from the market before others. This becomes an important consideration in terms of loyalty and recognition of the brand where research shows that customers have a tendency to remain with the first brand they are exposed to rather than moving onto subsequent entrants\cite{87}. However, though being first comes with lucrative opportunities, in the absence of knowledge regarding the specific needs and preferences of the market ahead of entrance, the venture will at some point steer into uncharted territory. Doing so may of course carry broader consequences as an ill-prepared company’s entrance may entail significant loss of capital, valuable resources and time - only to map the course for those that eventually come in its succession.\cite{10, 87, 85, 11}

In pursuit of the first mover, the early follower enters the market with the intention to prevent the consumers from becoming too accustomed to the initial offer, to capitalize on the new surge in demand and to warn the competition that any new entry will be met with increased opposition\cite{85, 11, 10, 86}.

Delayed entry might seem less intuitive at first due to the increased saturation of the market. However, this approach too comes with certain advantages, for example — a company can strategically wait for the competition to test the market, and by observing, gain an understanding of the customers’ needs and the optimal market offering, without suffering substantial product and market development costs\cite{86}. Also, late entrants can take advantage of the latest technology, while already established competitors must rely on past investments\cite{85}.

2.2. Platform characteristics

The term platform has seen broad application in academia, and the definitions of it are many\cite{12, 7, 8, 89}. In this report, when referring to platforms, that means the following:

Platform a product or service that provides an infrastructure facilitating interactions between groups of users. Can for instance be physical products, like credit cards and authorization terminals, or services such as shopping malls or websites\cite{8}. Examples of platforms include Google, the Yellow Pages, and eBay.

DPP Digital Payment Platform, a specific type of platform, mediating monetary transactions between users of the platform, where a mobile payment is done by transferring money from one party to another by some digital means\cite{90, 12, 91}. PayPal, Google Wallet and Samsung Pay are all examples of digital payment platforms.
The platform market is often divided into categories, where the definitions thereof tend to vary, in this paper, three distinctions are made:

\[ \text{Platform} = \begin{cases} 
\text{1S}, & \text{one-sided} \\
\text{2S}, & \text{two-sided} \\
\text{MS}, & \text{multi-sided where, } M \in [3, \infty] 
\end{cases} \]

This definition assumes that: 1S-users can gain benefits from interaction with users on the same side of the platform whereas in a 2S, users gain benefits from interacting with a separate, complementary class of users on the other side of the platform. The MS is an extension of 2S to which one or many sides of users are added.

2.2.1. Homing- and switching costs

As mentioned in the introduction, the platform market is also characterized by the presence of switching- and homing costs, where the definitions for these are:

**Homing Costs** include the costs that network users incur when making a "home" at a platform, including adoption, operation and the opportunity cost of time.

**Switching Costs** refer to the costs the consumer is faced with when switching brands, suppliers or products, and are therefore one-time costs in contrast to homing costs.

The costs that arise when a customer begins using a platform are known as homing-costs, including the cost of creating an account at a platform, downloading a feature, or the cost of time spent when starting to use the platform. When a buyer repeatedly purchases a service/product, or finds it costly to switch from one seller to another - this is what gives rise to switching costs. These costs can be strictly monetary, meaning that it costs money to switch providers, or it can for instance relate to the time the consumer spends in switching supplier. Large switching costs can create lock-in effects, meaning that a customer would rather continue their affiliation with a platform provider, than switching to another. By offering services such as long-term contracts to the buyer or by selling bundles of goods which are compatible with one another companies can increase these costs. An example when switching costs create lock-in effects is in the case of mobile phone service providers — to switch brand often requires a timely research on which other brands offer better or cheaper services, meaning the consumer might instead choose to remain with its original provider.

2.3. Network effects

Evans (2009) describes the number of users a DPP has to gain in order to survive at the market as a critical mass, where he argues that the users on each side of the platform need to exist in the right proportions in order for the platform to grow fast and often exponentially.

Critical mass refers to the number of users required to secure the platform’s survival upon entry.

Prior to reaching critical mass, the platform is very vulnerable to competition, which is most often the case for 1S platforms. But, after reaching that amount of users, there is potential for cross-side network effects to arise — which is the value created for one group of customers that depends on the number of other customer-groups joining the same platform — and if positive, these can further incentivize the customers to continue using the platform. Network effects are often described as follows:

**NFX** Network effects - referring to when participants on either side of the platform are co-dependent on one another, such as consumers and merchants and rely on the platform to mediate transactions between them. There are two kinds of network effects - cross-side and same-side network effects, which can be either positive or negative.

**Cross-side NFX** if positive, refer to when members of one side of the platform exhibit benefits from an increase in the number of users on the other side platform. Negative cross-side NFX occur when an increased number of users on the one side of the platform affects the other side negatively.

**Same-side NFX** if positive, these occur when users from one side of the platform attract users on the same side of the platform by growing in size. If negative, more users on the one side of the platform repel more users from joining on the same side.
Positive cross-side NFX occur for instance when more people start using Google search, providing the company with more data which results in better search results [6, 8]. Another example of positive cross-side NFX is when an increased number of sellers on Amazon creates a larger selection of products for the user base on the other side of the platform — the buyers [95]. And vice versa, the more buyers that start using the site, the more attractive it becomes for sellers as their chance of selling their increases [95]. An example of negative cross-side NFX occur when a website allows too many advertisers, repelling the users on the other side of the platform. The stronger the positive cross-side NFX, the larger the initiatives for both sides to start and continue using the platform [8] - this also increases the chances of the platform remaining competitive upon entry.

Positive same-side NFX occur for instance when more people start using a gaming console on one side, resulting in more people to trade games and play online with on the same side [8]. Negative same-side NFX occur when a service becomes less attractive for users on one side of the platform, the more users enter it on the same side [8, 96]. Such is the case in for example the eBay-platform where, if more merchants enter the platform, the other merchants on that side are exposed to competitive pressure, effectively influencing the prices they can charge for their service [97].

2.4. Pricing

One important factor affecting whether or not the customers start and continue to use a DPP is of course the price of the service [8]. To set the optimal price, platform providers have to not only create strong positive NFX, but also consider each side’s willingness to pay and the factors influencing that [7, 8]. Based on that, the two sides of a 2S platform are often charged differently — for instance, Google’s users are not charged for using the platform’s search function, whereas advertisers interested in gathering the search data from the other side, are charged a fee [6].

The two sides are defined as follows:

Subsidy-side charged nothing or a lower price than the other side of the platform, i.e. the money-side [8].

Money-side charged a higher price than the other side of the platform, i.e. subsidy-side [8].

Determining the subsidy- and money-side most often involves looking at which side of the platform is most sensitive to price and quality [8], where that side is revealed by considering which side is most likely to discontinue involvement when exposed to increased charges.

2.5. How the components go together

According to Evans (2003) and Lilien and Yoon (1990) a first mover should build its expertise in R&D, engineering, production and marketing ahead of entering the market in order to successfully enter the market [35, 7]. As mentioned earlier, the first mover advantage is significant at the DPP market in particular, based on research showing that as soon as the first mover has entered the market, that action speeds up the entry of the early follower [12]. When demand for the product is made apparent at the market, Staykova et al (2013) and Thomas (1985) recommend for the early follower to launch its DPP as soon as possible after the first mover as the entry barrier of a large user base is often hard to overcome [12, 10]. This is supported by Lilien and Yoon (1990), stating that, unless the expertise in R&D, engineering, or production can be enhanced significantly by entering late, then the early follower should enter as quickly as possible after the first entrant.

On the other hand, Staykova et al (2015) are less compromising on this matter as they argue that, especially at the DPP market, the early follower should ignore stalling the entry altogether and instead immediately focus on imitating the first movers strategy due to the fact that the switching costs and lock-in effects are initially low. According to these authors, if the first mover offers a platform with low homing and switching costs, the early follower’s solution should do the same, as that can encourage the consumers to use several platforms at once - so called multi-homing. If the early follower would in fact offer a platform with high homing- or switching costs, it might deter users from the initial offer to migrate to another, later solution [12]. As such, by entering rapidly after the first mover and imitating its strategy, the early follower may therefore restore competitive equilibrium [10]. This seems especially true for the late entrant as presented by Thomas (1985) and Lilien and Yoon (1990), who argue that the penalty for late entry increases rapidly and the chance of benefiting from further market development decreases [10, 85]. Therefore, opting to become a late-entrant with the intention of creating a more competitive product seems to have predominantly negative consequences in this market [12].
After gaining a competitive advantage, the question becomes how to sustain that advantage in order to survive the whole entry effort. According to Eisenmann (2006), when a market exhibits NFX, a first mover tends to increase its market share to a point where it eventually takes over the entire market. Then, if homing costs are high for using several platforms at once, the user-base needs greater incentives to frequent more than one platform, creating further lock-in effects for the first mover. So, unless a competing platform offers its users a way to reach a side that they themselves cannot reach, or if the competitor’s NFX are stronger - then the user has few incentives to migrate to the alternative option. According to Eisenmann et al (2006), due this market’s low homing- and switching cost characteristic, the best strategy for a competitor is to offer cost- or differentiation advantages.

As for choosing the right platform category, though it may seem that DPP’s are inherently 2S platforms (as it is indeed the form in which they most frequently appear), when entering that market, the platform does not necessarily have to start as one. Given the fact that 1S platforms are easier to manage and often offered for free, the homing costs are often low, meaning that the company can rapidly acquire a large user base upon entry. But, due to their nature, they also have low switching costs, where it has been widely acknowledged that 1S platforms become easy to attack and imitate. Therefore, a prolonged stay in this state makes the company more vulnerable to competition over time.

On the other hand, entering as a 2S platform, the so-called chicken-and-egg problem has to be considered — referring to the difficulty in entering the market whilst having to accommodate two- or more sides within the platform itself, where the fact that each opposing side is strictly dependent on the actions of the other and has significant impact on the platforms success. As such, the obvious complexities inherent of a 2S platform may present hindrance to the growth of a new venture. This is perhaps best exemplified with the case of merchants and consumers involved in online shopping, where the platform thereof has to facilitate a broader level of trust between the parties in order to provide both with incentives to participate despite the inability to also guarantee the other side’s interest and exact involvement in the service. As for providing those incentives, here the presence of high homing costs may induce deterrents for either side to participate, especially in a market highly saturated with platforms competing at lower costs.

One way of addressing the chicken-and-egg problem is to enter the market as a 1S platform with the intention of later evolving into a 2S platform. In fact, this has often been deemed as the optimal entry strategy for a DPP. This of course varies depending on the company and market, but the point is that evolving the platform in stages increases the chances of remaining competitive upon entry, as it allows to prepare a more robust solution that is less reliant on trust and more likely to attract the other side whilst streamlining its progression towards becoming a 2S platform.

In literature, the pivotal point at which a company ought to consider transforming from 1S to 2S is when its platform has accumulated a critical mass. However, often this transformation might have to occur prematurely, far ahead of reaching the point of critical mass. This because, it is broadly recognized that as soon as the first mover detects competition, it should expand into a 2S platform as soon as possible in order to sustain its first mover advantage.

The literature review also reveals that, after acquiring a critical mass of users and during the transformation into a 2S platform, the pricing should be considered with care. Because most 1S platforms are offered for free, they are later priced upon expansion towards a 2S platform since charging customers in a 1S platform under competition of lower costs is not recommended due to its vulnerability to competition. As DPP’s rely on relatively substitutable product offerings, they often encounter difficulties in maintaining a sense of loyalty among their customers and thus, have low lock-in effects. For instance, merchants often have several payment options available at their websites where consumers often use, not one, but multiple platform options to pay for their goods online. According to Eisenmann et al (2007), the platform provider should charge the side that supplies the quality, rather than the side that demands it. Also, the side who’s demand for the service increases by the opposing sides growth, is the one that the platform provider should be charging. Similarly, Bolt and Tieman (2005) conclude that the price should be skewed towards the side of the platform that is most price-sensitive.

Furthermore, platform-pricing can in and of itself create positive cross-side NFX. By and large, if the platform is able to attract more customers on the subsidy-side, the money-side will pay more to reach those customers. This works both ways — if there are more users on the money-side, more customers will sign up to use the platform. However, if the platform provider presents a market offer of high cost to the subsidy-side while the money-side lacks the incentive to cover that cost in order to reach its customers, this may lead to a substantial loss of company resources in the process. And so, in order to make the right pricing decisions, cross-side and same-side NFX also have to be accounted for, where according to Eisenmann et al (2006), in those cases when negative same-side NFX arise, the platform provider should consider deliberately excluding some users from the service.
2.6. Research questions

- How does the timing affect the market entry?
- How does the platform category affect the entry within the market?
- How do platform characteristics affect the NFX?
- How does the price of the platform affect the entry within the market?
- To what degree is research in this field dependent on primary data?

3. Method

This chapter describes the data-collection methods in this report, what sources of information were used, scopes and constraints as well as an evaluation of the quality of this study.

Still being a very recent area of research, this work is mainly exploratory in that it offers new insights into this market but it is also explanatory as it incorporates traditional market theory as well [99, 100]. While the environmental analysis in section 1.2 is a cross-cultural study resting on data-sets obtained from a selection of intergovernmental economic organizations (such as the UN, OECD and the World Bank), in order to study the DPP companies, this report has assumed a case study approach [101, 102]. The companies are later compared with each other in a cross-sectional study, see figure 11.

Because market analyses are often based on primary data, such as survey results, interviews or internal company data — the road to entry from the perspective of an outsider, often having to rely only on secondary data, is in many ways left unexplored. As such, the method of investigation in this work rests primarily on data derived from case-company websites, annual reports, scientific journals and web articles published for each company. In order to corroborate any findings thereof, the data is triangulated and validated against peer-reviewed material sourced from the Linköping University electronic archives [103-107]. Although secondary data is readily available and free of intricacies involving publishing rights and non-disclosure agreements [108-109], it usually suffers extreme filtration and is often subject to interpretation even before it reaches the public domain. And though there are strict rules and regulations imposed on annual and quarterly reports, each company’s natural incentive is to present themselves in the best light possible - a process which cannot be said to guarantee objectivity of data. Corporate transparency being an academic research topic in and of itself, a question still worth asking is whether market entry strategies can be deducted based on secondary data only. The goal of doing so in this report has a two-sided purpose: for one, the idea is to show the obstacles that outside research-teams and companies meet when attempting to enter new markets so as to provide a pathway for overcoming those obstacles. On the other hand, merely studying the availability of such data can in and of itself lead to valuable insights like - what is the general stance of DPP markets towards public disclosure? How transparent are these companies with regard to their strategies and future plans? And perhaps most importantly, this also reveals the dependency on primary data continued studies will need to face in the future.

As such, the study in this report begins with a literature review to deduct a theoretical framework aimed at exposing the most important components of an entry strategy for DPP’s [110, 111]. But because the payment preferences differ greatly depending on nation and the theory is not always entirely applicable to this new market - where the current academic theory is lacking, the goal has been to formulate new theory through inductive research [110, 111, 112]. For example - with the aim of circumventing the shortage of data, this investigation has taken to analyzing the architecture of each platform’s web-based solution and mobile application. The motivation of doing so is heavily tied to one particular characteristic of this market - that the digital product itself acts as the one and only conduit by which the company’s offering is exposed to the customer, i.e. there is no physical equivalent of the company’s online offer, such as a storefront or warehouse. So, as the thought-process which has gone into the interface of each solution is fully contained within the interface itself - a backwards-engineering approach allows a glimpse at the companies’ internal decisions, strategies and overall approach towards the market as well as how the platforms retain their customers and increase switching costs.

![Figure 11: Simplified sketch illustrating case analysis methodology](image-url)
Evaluating how prone customers are to use one platform over another was done by establishing a method of measuring the usability - complying to criteria regarding a platform’s degrees of navigation, content, cognitive load, how errors are handled, assessment of input method and more. Not all of these factors were pertinent to the context of this report, for instance: error handling, design of the platform, content and input method relate more to the software development process itself. In this report, the solutions under examination were considered finished products, so the factor of highest importance was the degree of navigation from which it was possible to deduct the cognitive load.

Figure 12 shows the degrees of navigation - in this report referring to the amount of choices the user is presented with when attempting to either perform a payment in the company’s 2S solution or in the application.

Furthermore, any quantifiable data indicating a company’s timing of entry, platform characteristics, network effects and pricing strategy was collected for each case company. This included for instance detailed records of a platform’s pricing specifications or descriptions of platform characteristics. Here, the individual websites of the Swedish banks often proved to be a good source of information. Some of the data was qualitative in its nature, for instance - any articles stating that a company was met with adversity at its launch or described as revolutionary, innovative, new to the market - this type of information was used to determine its timing of entry.

In regards to how the case companies were chosen - an important prerequisite for this study was to establish a selection of study-cases comprising of both local and international firms. The purpose thereof was to create as much of an internationally applicable strategy as possible. Naturally, these companies also had to offer solutions for digital monetary transactions in order to qualify as a suitable case to study, being either a 1S- or 2S-platform (or both). The choice was made in accordance to constraints proposed by Eisenhardt et al. (2007) wherein, a minimum of four distinct cases are selected to increase generalizability and determine patterns in the data. With these prerequisites in mind, the companies that were selected to be studied in this report were Klarna, Swish, PayPal, WyWallet, and SEQR - as these are a mix of international and local companies, distinct in terms of market shares and brand recognition, but at the same time, similar in that they all provide digital platform-based solutions for transferring money.

3.1. Scope and constraints
The work described here is limited to the study of five case companies that have an established presence on the Swedish market. The payment industry is inherently subject to regulation, but due to present time constraints, such considerations with respect to entry strategy lay beyond its scope. However, provided there is substantial evidence in support of a competitive bias being introduced for a company under investigation as a result of either regulation or any other surrounding environmental aspect impacting the firms growth and success, only then will such aspects be taken into consideration.

Also, many of the studied companies offer multiple 1S-/2S-/MS-solutions - for example, PayPal offers whole packages to their merchant-side, such as the PayPal Standard - enabling merchants to create customizable checkout experiences and authorize transactions in real-time, or the Marketplaces offer which is specifically adapted to marketplaces, crowd-funding platforms and similar environments. In order to enable a cross-case analysis, a choice had to be made as to which one of these solutions was most pertinent for the purpose of this study. As such only the main payment solution was studied - i.e. the offer most often referred to in published material, for example: the majority of published articles refer to Klarna’s payment solution Klarna Checkout as the main source of the company’s revenue, as do the creators of the offer themselves.
3.2. Quality of study
The reliability, validity and generalizability of a study are concepts most often discussed when performing qualitative research, as its data is subject to interpretation to a much higher degree than quantitative data. As this research does not rely on the analysis of interviews or field data, and because it revolves around the assessment of factors that do not change much depending on day or observation - the risk of subject error and subject bias are significantly lowered than would be the case for a qualitative study. A well-known caveat of quantitative deductive research however, is the risk of introducing confirmation bias [114]. As such, the investigation in this report has used the theory only as a blueprint for data-collection and does not necessarily aim to confirm or contradict it, but rather to generate new theory where the available research proves to be insufficient.

The main element that has to be assessed for its validity is the data retrieved from analyzing each platform’s architecture, as that is the data in this report that has been most subject to interpretation [101] [115] [116]. There is naturally a risk of overestimating the relationship among variables that may in fact be only slightly related or not even related at all. For instance - are the switching costs really related to the degrees of navigation? And does the fact that a platform was a first mover at the market stand for all of its competitive advantages or are other factors, such as the market offer, responsible for high switching costs and the platform’s success? Rather than giving exact answers to what constitutes a perfect entry strategy on this particular market, the idea is to determine which parts of the current research are applicable to this type of market, where the theory can be deemed insufficient, as well as how it should be improved. In other words, the goal was not to determine the causality between a platform’s architecture and exact switching costs for a DPP but instead, by mapping all platforms’ architectures in the same way and comparing them to each other, gain insights as to how the underlying strategy affects the usage of the platform. And, with this, to what degree is that strategy able to retain customers for the company.

As mentioned before, this study aims to map an entry strategy for DPP’s by analyzing the conditions of a technologically advanced nation with the intent of increasing the chances that the strategy is in fact generalizable similar markets. Even so, naturally there is no guarantee that the conditions of another market will be a perfect mirroring of the market under investigation - that of course is not the intention behind this work. Instead, rather than adapting the strategy to one nation at random, the idea is that the choice of nation should be made in such a way that it maximizes the potential for the strategy’s generalization. Aiming therefore at countries with higher technological advancement, assuming an ever more globalized economy, this is done in an effort to increase the strategy’s long-term standardizability.

4. Empirical Material
This chapter provides an overview of each case company, the conditions at the market when it entered, and a description of the platform characteristics and pricing.

4.1. Case Company: I
Klarna Bank AB (Klarna) — a Swedish bank providing a wide suite of payment solutions, such as debt collection and credit payments to privately owned companies, online storefronts, organizations as well as private consumers [117]. Today, Klarna has approximately 1600 employees [118], integrates into approximately 65000 merchant-websites [119] and in Sweden, the platform processes around 40 percent of all online payments [120].

4.1.1. When Klarna entered the market
The company was founded in 2005 during a time when e-commerce suffered from a reputation of having low security [120] in a climate where many maintained that card payments were the future of the payment industry and that payments should be handled by banks alone [121] [122] [120]. The company first began signing on merchants [120] before turning to private consumers and in 2007, Klarna’s growth rate began to increase significantly, enabling an extension of its domain to Norway, Finland and Denmark [120].

4.1.2. Platform details
The architecture of both the web-based solution as well as the application is shown in figure 13, also showing how Klarna communicates with the bank.

Regarding the homing costs - to register as a new user, an account can be created by providing an e-mail and delivery address, which can be saved for later use, or at the company’s website, where an account is created using Bank-ID [123] — an electronic identification service that is developed by a number of large banks for use by members of the public, authorities and companies [124]. The service is connected to the customer’s bank, providing Klarna with the necessary information required to perform a transaction.
With Klarna’s Direkt/Pay Now option, the customer can pay directly at checkout, without having to provide their password or card details upon revisiting the service. The user-data is stored such that recurring customers, reducing the time between purchase-decision to actual transaction. By allowing the customer to buy a product and paying for it later through the Invoice/Pay Later solution, Klarna further incentivizes the consumer to go through with the purchase. It is the facilitation in performing a secure transaction that is considered the main selling point by the company itself. Klarna steps in-between the merchant and consumer, settling the bill within 14 days with no interest while maintaining assurance towards the merchant side that any credit or fraud will be absorbed by the service itself. Paying by Installment plans/flexible financing, the consumer can spread out the cost over several months, paying an interest rate.
1S solution

Most recently, Klarna launched their Europe-wide new Peer-to-Peer (P2P) payment service, called Wavy, see figure 14. It is an application separated from their main Klarna-application that enables users on the consumer side of the platform to send and request money from users on the same side of the platform. The service differs from similar such solutions mainly in that it enables money transfers and bill-splitting across 31 European markets (Swish is so far only available in Scandinavia), however it does not yet include the Swedish currency. The recipient of the transfer does not have to have a Wavy account to redeem the payment, as it can be sent to their bank account directly.

4.1.3. Pricing

Klarna charges their merchant-side a transaction fee and a monthly fee as well as a starting fee for offering invoices [127]. As for the consumer-side, a large part of the company’s offering is its invoice solution, charging their consumers whenever they choose the option of paying a month later. If the consumer chooses to pay with installment plans, this is associated with an interest rate. As Klarna is also a debt collecting company, whenever a customer neglects to pay on time, the company sends out a reminder with a fee, and then later a debt collection demand. In fact, a significant share of the company’s revenues come from reminder fees and debt collection [128] but the fees placed on the individual customer are significantly lower than what the company charges the merchant-side [129, 130].

4.2. Case Company: II

Swish — a collaborative effort between six of Sweden’s largest banks [131], enabling both P2P transfers, online purchases as well as QR code reading. The company’s market consists of both privately owned companies, online storefronts, organizations, and private consumers. Today, the company has a user base close to six million users, meaning that approximately 61 percent of the Swedish population is using the service [131, 132].

4.2.1. When Swish entered the market

Swish launched in 2012 and is often attributed characteristics of being ‘innovative’, ‘revolutionary’ and ‘unique’ globally - where although there were similar services available internationally at that time up until that point, none had yet created the same kind of collaboration between banks [133, 134, 132, 135]. It started as a 1S and evolved into a 2S two years later [131]. In 2014, the amount of Swish users grew to 1.6 million [136], which therefore marks this company’s critical mass of users, as it was at this point that the company evolved into a 2S platform. Within three years of launch, Swish gained over three million active users [137] and between 2014 and 2015, the company’s net sales increased by over 300 percent [137].
4.2.2. Platform details

The architecture of the platform and how it communicates with the bank is illustrated in figure [17].

In regards to the homing costs - as Swish interacts directly with a large network of banks, a particular trait of the application is the high level of security requirements to be fulfilled upon initial setup [138], increasing the platform’s homing costs. Users have to authenticate themselves using encryption technology and atop the proprietary decryption-device usually offered by the banks themselves – the users are required to own a desktop client software or a smartphone [138] [139] [131]. To start using Swish, a phone number has to be connected with a bank account [138] [139] [131]. The user has to log in to their bank where the Swish application can be accessed [138] [139] [131], the bank then sends a code via SMS to verify the phone number [139] [131], then the user has to install BankID, [139] [131], activate it, and download the Swish app, which should then be ready to use [138].

Swish-users can only send/receive money to/from other Swish users, as the bank account has to be connected to the senders/receivers phone number.

1S solution

A monetary transaction between two Swish users is achieved by one participant entering the others phone-(or specific Swish-) number, to whom the money is directly transferred. In this sense, Swish merely acts as a simplified layer atop the existing banking framework, connecting two bank accounts by means of a telephone number, where all the user has to do is provide the number, the amount and validate their own identity. The transfer happens in real time, meaning the money is available at the receiver’s account soon after the sender has confirmed the payment. It is not a requirement for the receiver to have the Swish application, meaning that the money can be sent even if the receiver does not have a smartphone. [139] [131]
Figure 17: The architecture of Swish’s platform - it communicates with the bank only with the use of Bank-ID, and the 2S solution has 1 TM and 1 SM, reaching a navigational degree of 2. As for the application, here there are 5 TM’s with 15 SM’s, amounting to a total navigational degree of 20.

2S solution

After achieving critical mass in 2014, Swish evolved into a 2S platform, offering a new side that would enable businesses to handle payments using Swish [131]. Much like the P2P option where a phone number is associated with the recipient, in order to pay at a merchant website the user has to provide the specific company-number in the Swish application. To complete the transaction, the user goes through the same validation process as in the 1S solution [139]. The amount of navigational steps that are needed to perform a payment is lower however, as the user skips the front-page of the app, thus not having to make any superfluous choices.

4.2.3. Pricing

With Swish, every bank is responsible for developing their own market offer, their terms of use and potential fees associated with their customers using the service [131]. When Swish launched its DPP, it was free of charge for the first six months, after which the banks were allowed to start charging their users [140]. Usually, the fees are higher for businesses/organizations than private users pay for each individual transaction [141].

4.3. Case Company: III

PayPal — a DPP enabling customers to send, receive and hold funds in 25 currencies worldwide [142]. Using this solution, the customer can perform purchases and receive payments for goods and services, transfer and withdraw funds [142], as well as postpone payments. Today, PayPal operates in over 200 markets where, in 2016, it had approximately 197 million active customer accounts [143, 144, 142]. According to DIBS (2016), 92% of the consumers at the Swedish market are familiar with the brand, where 37% have heard about the DPP but have not used it, and 55% of the ones that recognize the DPP have used it [16].

4.3.1. When PayPal entered the market

Although often referred to as a first mover globally, PayPal registered their company in Sweden in 2010 [145, 146] - meaning it entered the market before Swish, but after Klarna had already established a market presence. It started out as a 2S platform, but unlike its competitors at the Swedish market, at the time of its launch it entered a collaboration with eBay enabling it to offer its services to both sides of the platform, guaranteeing incentives that both sides will actually use it, solving the chicken-and-egg problem.

4.3.2. Platform details

The architecture of the platform is shown in figure 18, where instead of communicating with the bank via BankID, PayPal relies on credit-/debit card payments and an ACH-interface.

In terms of homing costs - to set up a PayPal account, the user first has to select whether they want to set up a private- or business account. Next step is to fill out personal information, such as country of origin, name, email, password, delivery address, and phone number. After confirming their email, the user has to link their bank account, credit card, or visa debit card to their PayPal account [148].

*ACH - electronic payments created when the customer gives an originating institution, corporation, or other customer (originator) authorization to debit directly from the customer’s checking or saving account for the purpose of bill payment [147].
By integrating this solution at a merchant’s website, PayPal aims to simplify the checkout experience for the buyers. The Express Checkout lets the buyer stay at the merchant’s website or mobile app throughout the payment authorization process — meaning that the consumer does not have to wait for being directed to a new website/environment to authorize the payment [113]. Similar to Klarna, PayPal also stores details about their customers, enabling a user to skip logging in and faster pay for their purchase.

Figure 18: The architecture of PayPal’s platform. The navigational degree for PayPal’s 2S solution reaches to 4 number of independent SM’s. With only one TM, the total for the 2S solution reaches a navigational degree of 5. As for the application, there are 9 TM’s with 22 SM’s, amounting to a total navigational degree of 31.

2S solution
PayPal’s main 2S aimed at the customer-side, that is also available in Sweden, is called Express Checkout. Of all its solutions, this is the only one that will be analyzed as the other solutions are aimed more towards creating customized experiences for merchant’s and in the consumer’s view (on the other side of the platform) - they don’t differ much in how they appear.

1S solution
PayPal has several 1S options: Email-transfers, PayPal.Me, and Moneypools. These solutions require that both the sender and receiver have a PayPal account, and that the two parties have each other’s email-addresses. In this report, only the email-transfer is discussed, as that is the P2P-solution that has existed for the longest period of time and is most comparable to the solutions offered by the case companies in this report. Also, PayPal.Me and Moneypools have only been available for a short amount of time and are, as of yet, not as widely used as email-solution. To send money through PayPal’s P2P solution, the sender has to enter the recipient’s email or mobile number from their computer or phone, and add an amount to send [149], shown in figure 19.

Figure 20: PayPal’s Checkout solution.
4 Empirical Material

4.3.3. Pricing

The customers are not charged to fund or draw from their accounts, save for having to pay exchange fees when shopping internationally [150]. There are no additional fees if transferring money locally to other users if paying with the balance available at their PayPal account however, if transferring money using a credit- or debit card, the user has to pay a transaction fee that varies depending on which country the money is transferred to/within. Also, the consumer has to pay a relatively small transaction fee (in comparison to the fee placed on merchants) when choosing to pay internationally with their PayPal balance, and these fees are a percentage of the transaction sum. Merchants always pay a fee per transaction, which are volume-based meaning that the more the merchants sell, the less they pay. [150]

4.4. Case Company: IV

**WyWallet** — a 2S platform, where a payment is made by sending a text message to the receiver. This SMS-payment feature is made available to both smart- and standard- cellphones — as long as the texting feature is supported. In order to pay online, the merchant receiving the payment has to be a WyWallet user. WyWallet made 21 million SEK (approx. 2.6 million USD) in sales in 2014, however it also had 70 million SEK (approx. 8.7 million USD) in losses [152]. In 2015, WyWallet had 1,5 million users, and was only available at the Swedish market. According to DIBS, 55 % of the Swedish DPP market recognizes the brand, while 45 % have heard of the service, but never used it, and 10 % have used it [16].

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**Figure 19: PayPal’s Application.**
4.4.1. When WyWallet entered the market

WyWallet was developed by four Swedish mobile operators in 2011 [152], and was launched in 2012 at a time when Klarna and Swish were already established at the market. As the platform does not exist any longer, no information has been made publicly available as to whether WyWallet started as a 1S or 2S platform.

4.4.2. Platform details

The platform’s architecture can be seen in figure [21]. No information can be retrieved in terms of homing costs, as this platform is no longer available for download.

2S solution

Upon choosing to pay with WyWallet, the user types their own phone number, receive a verification code via text message, which is then typed in the checkout at the merchant’s online storefront [153]. The money is added to the user’s phone bill by mobile invoice, drawn from their WyWallet balance or credit payment.

The payment options include Mobile Invoice, Account- and Credit payment [153]. Only consumers with a private mobile subscription can pay using mobile invoices, where the invoice is sent to the phone network operator on a monthly basis [153]. If a consumer chooses to pay through their WyWallet account instead, this is done by first adding money to that account, using a card or bank transfer. The money is drawn automatically when a payment is performed, either directly from the bank or credit card that is connected to the account, or taken from the balance previously added to the WyWallet account [153]. There is also the option to pay with credit, whereupon the company sends out a monthly invoice to the consumer [153].

1S solution

Although WyWallet no longer offers P2P payments, it did in 2012. The process of sending money to another WyWallet user is shown in figure [25], where upon opening the application, the user selects the “Person-to-person”-option, specifies a phone-number, amount, and confirms the payment.
4.4.3. Pricing
WyWallet charges their consumer-side approx. 2 USD if the user chooses to pay with invoice [154][155]. If the consumer transfers money to another user’s private bank account, or performs a payment using their WyWallet account balance, there is no fee associated with that [155]. The company charges their merchants at all times, where the fee depends on the price of the sold product [155].
4.5. Case Company: V

**SEQR** — enables users to perform payments in physical stores, restaurants, parkings or online, as well as to send and receive money without any fees [156]. The DPP communicates with the bank through Bank-ID, where the consumer first tops-up their account with money and confirms with their personal Bank-ID. After this, the user confirms each payment with a personal PIN-code. In Sweden, 4000 merchants have started using SEQR, and internationally the DPP is available in 16 different markets. According to DIBS, 27% of the Swedish market are familiar with the brand, where 21% recognize the brand but have never used it, and only 6% have used it [16]. In 2016, the company recorded a loss of 65 million SEK (approx. 8 million USD), in 2015 - 120 million SEK (approx. 15 million USD), and the year before, 78 million SEK in losses (approx. 10 million USD) [157].

4.5.1. When SEQR entered the market

SEQR added a 1S option one year after the launch of its 2S solution [156], and deployed the solution internationally 4 years later [158, 159]. It was launched in Sweden in 2012, and at that time, there were in fact similar options available at the market that offered payments with the use of QR codes [160]. However, according to SEQR's CEO, none of the available options were sufficiently competitive [160] and that the company was unique in offering a solution that had a direct connection to the central bank of Sweden, Riksbanken — other companies focused on payments via card companies, making the solution unique on the global market as well [161, 162].

4.5.2. Platform details

SEQR’s platform architecture can be seen in figure 24 as well as how it interacts with the bank.

Regarding the homing costs - setting up a SEQR account, the user has to download the company’s application, create a PIN, type their phone number, social security number, e-mail address, and type a verification code that is sent by text message. The user then has to link their SEQR-account to a bank account or activate an invoice feature in order to be able to pay. To verify their identity, the user is requested to take a photo of some sort of identification card (such as ID, passport or driver’s licence).

![Figure 24: The architecture of SEQR's platform. For this company, the 2S solution does not have any TM’s or SM’s, as the QR code and NFC machine are physically based and do not exist online. Therefore, upon scanning a QR code or tapping an NFC machine, all subsequent steps occur within the application, which is why the degrees of navigation will only be analyzed within the application. With 6 TM’s, and 23 SM’s, the total navigational degree is 29.](image-url)
2S solution
SEQR’s DPP rests on one main feature to perform payments — its solution for scanning QR-code to perform a payment, available both online and in physical stores. The user can scan a QR code generated at a merchants website or in a physical store with the SEQR app in order to perform a purchase. It is then confirmed with a PIN-code within the app. Their NFC-option only works in physical stores and to use this, the user has to activate a so called “blip & pay” feature within the SEQR-app, turn on NFC on the phone, and then near their phone to a NFC reader.

1S solution
SEQR’s 1S offer enables P2P transfers, where both sender and receiver have to download the application and connect it to their bank account for a transaction to go through. Users transfer money based on phone number, whereupon the money is registered in their bank account one working day later.

4.5.3. Pricing
SEQR charges only the business-side of its platform, where the pricing differs depending on each merchants individual terms and agreement negotiated prior to integrating the solution.

Figure 25 shows all the solutions in one image, with amount of top- and submenus, as well as how each solution interacts with the bank.
5. Analysis

In this chapter, a cross-case analysis is performed for each case company to identify a market entry strategy most suitable for the DPP market.

5.1. Timing of entry

At the time of Klarna’s launch the general consensus at the market was that card payments would become the main form of payment method in the future [121, 122, 120]. This suggests an absence of digital payment methods to say otherwise, something which Klarna’s offer would eventually do - it is therefore categorized as a first mover. In much the same way, Swish can also be categorized as a first mover, where at the time of its launch, no company offered similar services in collaboration with multiple banks and it is also often described as unique both internationally and locally [133, 132, 135, 134]. As for SEQR, the company’s solution was said to be unique at the market due to the collaboration with Riksbanken, where it was stated that the company was also first at the Swedish market to offer contact-free (NFC) payments [161, 160]. Although the company was not first at the Swedish market in offering QR code reading, some maintain that its overall solution was unique at the time of its launch [160], which would indicate that it is a first mover. And in some ways is this true - at the parking tickets segment and the market of in-store purchases, SEQR entered as a first mover although less successful than Klarna’s and Swish’s first mover entries. However, in terms of digital money transfers (shopping online and P2P transfers) the market had already been catered to. As SEQR did not attempt to copy the competing companies offers (as an early follower might do [10]), it seems more correct to assume that the company took its time to study the success and failures of the competition, gaining insight of which market segments remained free of competition - from the position of a late entrant [10, 85, 7].
As for WyWallet, launching six years after Klarna and one year after PayPal, the market demand was already populated with similar offers. Based on the company’s current predicament - the fact that it has gone into foreclosure - combined with the later arrival to the market suggests it to be a late entrant [10][85][2]. With the many caveats that come with this entry approach, aside from potential product-derivative issues, it could be that the company failed to assess the timing-factor, or (unlike SEQR) that it did not draw knowledge from its competitors prior to its entry so as to tailor the product to the actual market demand.

The market entry theory which has been studied revolves mainly around the entry decisions of local endeavours, not focusing on the influence from foreign entrants. PayPal is acting almost independently of any of the Swedish companies where, having a net worth of 300 billion USD [165], Klarna becomes a small player in comparison with a worth 2,5 billion USD net worth [166]. With this, PayPal is able to survive through its off-shore dealings and so, because the company operates mostly independently of the local efforts, analyzing whether it is a first mover, early follower or late entrant in Sweden therefore becomes somewhat ambiguous. It is not a first mover as already existing, similar solutions were available at this market prior to its entry. Neither is it an early follower, as there is nothing to suggest that it entered under the banner of following or imitating the strategy of a particular first mover. Classifying it as a late entrant would be inconsistent as well, as it seems unlikely that the company withheld its entry under the intention of creating a more suitable product to this market (nothing in their current product suite would suggest this) or that it missed its opportunity of entering at the right time.

5.2. Platform characteristics

It was stated earlier that according to the literature, a DPP should first enter as a 1S, gain a critical mass of users, and then transform into a 2S platform [12][6][8]. Almost all case companies (both successful and less successful) started as 2S platforms, all except Swish which is the only company that adheres to the strategy presented in the literature review - in that it entered as a 1S only to later evolve into a 2S platform. Even though it is said that relying on a 1S-only solution for an extensive period of time increases the platform’s vulnerability to competition due to low switching costs, Swish did exactly that, evolving into a 2S after operating for 2 years. It bears recall however, that this company has been dealt advantages largely unavailable to its competition. Having a pre-established strong tie with Sweden’s largest banks — it seems entirely plausible that this solution was aimed as a preemptive move to secure a dominant market position by the banks themselves. So it seems that being a 1S for an extensive period of time still remains difficult due to the low switching costs and the high competitive threat, that is - assuming the effort is not supported by a country’s banking network.

In terms of homing costs - most of the platforms require some sort of personal authentication when performing a payment, where Klarna, Swish and SEQR rely primarily on BankID. This, in and of itself, adds another layer of complexity to the registration process, greatly increasing the initial homing costs. PayPal is able to bypass such extraneous registration- and authentication-steps by instead relying on the ACH interface. This is exactly where it becomes important to consider the degrees of navigation for each solution. Despite having a difficult setup process - Swish still enjoys an unprecedented level of users in comparison to the other DPP’s, but it also has the fewest amount of navigational degrees, which could be taken to indicate that the users of this particular market tend to overlook a more convoluted setup with the promise of a simple and expedient payment solution.

5.3. Network effects

Analyzing the cross- and same-side NFX for all case companies shows similar results for each, i.e. the more customers that use a certain DPP to pay for their purchase, the more data it receives on what that specific user prefers to buy [6], enabling for the creation of more customer-tailored offers, which further increases the positive cross-side NFX [85]. Also, the more users that join on one side of a platform, the easier it becomes for users on the same side of the platform to send money to those users - creating positive same-side NFX [8] (which is especially true for Swish’s platform). Some DPP’s, such as Klarna, seem to actively create positive cross-side NFX through exclusivity, by collaborating with merchants so that their payment solution is the only one that is offered in the merchant’s shopping cart. By doing so, the consumers have to register as Klarna users in order to go through with the purchase. Naturally, this increases the positive cross-side NFX where, the more merchants that offer Klarna, the easier it becomes for Klarna-users to shop online [8]. As for Swish, being integrated into the online-banking service of each bank from day one, the company would become a household name almost overnight. Because it was instantly made readily available to every consumer registered with a Swedish bank account - with the surge of users on one side of the platform - it is not surprising to see positive cross-side NFX in this solution.

Coming in with a large suite of signed international merchants with a fully established 2S solution, PayPal has positioned itself on the Swedish market as the go-to platform for international shopping, creating positive cross-side NFX between international stores and Swedish consumers. And where PayPal, Swish and Klarna all focus on online merchants, the positive cross-side NFX generated by SEQR is a function that mostly depends on
how many deals the company is able to make in its particular market segment - non-digital merchants such as: supermarkets, parking facilities and restaurants. As for WyWallet, it becomes difficult to objectively assess the exact nature of its NFX save perhaps for saying that it is fair to assume that these could not have been very strong, given the company’s current predicament as well as the consecutive profit-losses prior to being phased out of the market.

5.4. Pricing

Klarna’s merchant-profits consist of monthly fees, transaction fees and a separate charge for invoices, whereas consumers only see charges related to invoices and installment plans. If their business model was altered to instead charge the consumer directly at checkout, a reasonable outcome is that this would come to act as a strong deterrent for spontaneous shoppers, signalling that this side is currently the most price-sensitive, i.e. Klarna’s money-side is the merchant-side. In fact, all case-companies primarily charge their merchants, where differences appear largely on the subsidy-side. Therein, the subsidy-side has been made free of charges (Swish and SEQR), others prefer to add a fee associated with invoices or installment plans (Klarna and WyWallet), while others still add fees related to currency exchange and international money transfers (PayPal).

6. Conclusion

In order to formulate a generalized market entry strategy for digital payment platforms through the study of secondary data within a competitive environment, this study set out to investigate how the timing, platform category, network effects and price of a DPP affect the entry. Although no definitive conclusions can be drawn regarding which platform category is preferred upon entry, nor which side of the platform should be charged the most, this study has revealed several new insights with regard to the timing of entry, homing- and switching costs, platform architecture, and NFX of DPP’s.

First of all, contrary to the arguments presented in the literature review - it is in fact possible for a 15 entrant to withstand competition for an extensive period of time while remaining a 15 despite low switching costs and high vulnerability to competitive threat. In this, Swish offers unique insights about the DPP market, clearly showing the upper-hand advantage to be gained in being first to secure a strong cooperation with a country’s banking industry. And in terms of timing of entry - given that the two companies with the largest market shares and brand recognition on the Swedish market were both first movers (Klarna and Swish), the first mover advantage is indeed confirmed as significant, something that is further supported by the fact that the less recognizable and less successful companies were not. Including PayPal in the study has also revealed a rather overlooked aspect relating to timing of entry theory for platforms, where it has been shown that companies of its kind do not necessarily fall within the first mover/early follower/late entrant definition. Naturally, the competitive pressure has greater impact on the timing of entry of local and small endeavours than it does for a global enterprise such as PayPal where in the end, the timing of entry-category a company falls under is not only determined by the actual timing itself but also - by the underlying motives behind that entry. In PayPal’s case, it could even be that the company’s motive to enter the Swedish market arose purely out of the idea of solidifying itself as a global brand. This is seen in the design of their digital product as well where - in contrast to most of its Swedish competition - the application presents its user with numerous options and high cognitive load. It is interesting to note that PayPal’s application follows a very similar design-strategy to that of WyWallet, one which has not been able to survive the local competition. Based on this, it could be deducted that PayPal is a lot less concerned with adaptation of its product towards the Swedish market than the local competition, as it instead presents a standardized solution seemingly averaging the requirements of a global consumer. In the end, competitive pitfalls at the Swedish market which could rock even the largest local player would likely only pose minor threats to PayPal - its overall operation in comparison to the local competition measuring a ratio of 120:1 in terms of net worth, the company is understandably able to approach this market rather indifferently without great fear for any consequences thereof. Where small- and local endeavours speed up or slow down the entry timing of each other, PayPal has the luxury of biding its time, study its market from the position of a late entrant but with the operational capacity of a successful first mover. As such, either this company is simply not a suitable candidate for these types of comparisons or, perhaps (atop the first mover, early follower and late entrant) there may be room for a separate, fourth timing of entry category - a sovereign entrant - an outside entity with the potential to shift the competitive paradigm among the local players upon entry while also being able to survive and maintain virtually unaffected by the dynamics of the market under investigation. Ultimately, given the reality of this rapidly growing market, there is a need for more comprehensive models able to accurately chart the intricate dynamics between the foreign and local competition. Especially so, now that many corporate giants such as Google and Apple have managed to successfully deploy nationwide payment solutions across North America - where it seems companies like Swish, SEQR and Klarna should no longer contemplate if these companies pose a threat, but rather, prepare for when they arrive.

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Studying the platform architectures and comparing them with respect to one another has shown the level of collaboration each DPP has with the banking industry. This has revealed two distinct groups - one which processes payments primarily through BankID, and the other that goes through card or a bank-interface. As both PayPal and WyWallet are the only case companies that do not process payments using BankID, coupled with the fact that PayPal’s and WyWallet’s market shares and brand recognition are low in Sweden - it is fair to assume that an integration of BankID signifies a deeper level of cooperation with the banks themselves, something that most certainly could have a decisive influence on the success-rate of a DPP. Mapping the platform architectures and determining the degrees of navigation also shows that Swish has the highest focus on simplifying the buying experience for its users, where Klarna’s overall solution is a close second. Klarna, Swish and PayPal all focus on optimizing the online shopping experience by lowering the amount of choices the customer needs to make in order to perform a payment. This - coupled with the fact that PayPal and WyWallet both have the highest number of navigational degrees, where WyWallet even has recursive menus - signals that consumers on this particular market are in fact deterred by an overly complicated application.

In regards to the NFX - most researchers seem to be in agreement that negative cross-side NFX occur when a platform allows an over-abundant amount of advertisers, leading to a cluttered view that detracts from the user-experience. But, beyond this frequent example, there are few that manage to come up with another scenario where negative NFX occur. After all, what is the distinction between negative NFX and simply a bad solution? For example, the term revenue cannot be negative (in fact, we have other definitions for this: debt, deficit, obligation or any other suitable synonym depending on exact context) and in much the same way - the same goes for NFX. In this report it is argued that the commonly adopted positive / negative appendage to NFX is misleading and therefore, to a large extent, incorrect - as it should instead be defined as always positive and binary: it either is there, or it is not. At the very least, when it comes to the DPP market, a discussion around negative NFX is largely academic without any practical use and so, from now on, all descriptions assume positive NFX whenever this term is used. So, as for how the NFX affect the market entry - one way of actively increasing the likelihood of surviving the entry effort, apart from establishing collaboration with the banks such as Swish, is to follow Klarna’s way of becoming the exclusive payment option at merchant’s websites. Creating such collaborations with merchants offers opportunities for increased cross-side NFX, at the same time also increasing the incentives for consumers on the other side of the platform to use Klarna over other DPP’s.

Moreover, in the analysis section it was mentioned that Swish enjoys a vast amount of users in comparison to its competitors despite having high homing costs and that this could be taken to indicate that the users of this particular market tend to overlook a more convoluted setup. While this may be true in this particular instance, given the security requirements leading these platforms to present higher cognitive load during the initial setup for the user (high homing costs), it is easy to also assume scenarios in which this can induce high switching costs - where the user is no longer willing to overlook the cost of a new setup. For example: If a user waiting for a train has to purchase a ticket with either Klarna or Swish and is already registered with one of these solutions, due to the time constraint, it seems unlikely that the transaction will occur with the other platform, as this would involve going through the lengthy process of setting up a new account - only to then perform the purchase. This is also applicable in the case of companies targeting parking facilities (such as SEQR): Being in a rush and if the particular parking facility supports a different mobile-payment solution than what the user has installed - here too it seems far more likely for the user to instead defer to either card payment or, even park in a different facility all-together, rather than switching DPP supplier.

This becomes an interesting dilemma for the DPP market which in many ways is comparable to the Swedish banking industry’s stance towards cash-withdrawals during the early 90’s. During this time, a client of a bank withdrawing money from an ATM owned by the bank’s competitor would subsequently be charged a fee by the competitor. And while this increases the switching cost it also creates a stagnation effect: the market is segmented through walls made up of high homing costs where clients of Bank A have very little incentive to use the services of Bank B. The change came when the banking industry realized that, rather than punishing the client for using the ‘wrong’ ATM - removing these types of fees all-together meant an increased total volume of cash-withdrawals, and so - larger turnover for the banks themselves. Though the decision may have understandably seemed quite unintuitive at the time, beyond short-term benefits there are also broader after-effects to consider - such as cultural impacts. Before, ATM-fees provided incentives to search out the ‘right’ ATM - but being given more time to reflect over a particular purchase is not necessarily conducive to spending. Allowing a whole population free-of-charge-access to personal funds regardless of location on the other hand - promotes that. So not only did this decision come with added short-term benefits for the banks, but in the long run, the decision also shifted the societal mindset with regards to fiscal spending. With the rise of digital transaction platforms, seeing as there are many similar players offering similar services, history seems to repeat itself. It also seems merely a matter of time before the same realiza-
tion occurs here as well - introducing a new market dynamic, one where DPP players thrive not through market segmentation - but perhaps on additional services and benefits offered to the customer, much like Swedish banks today compete on interest rates and loan benefits.

Overall, much like observing the tip of an iceberg, the analysis of secondary data only provides a glance at the supposed strategy of each venture, and as competition seldom is an incentive for full public disclosure, obviously - there is far more hidden beneath the surface. An absence of publicly available data is not necessarily cause for great concern for already developed and stable markets as these usually have been put under the academic microscope several times already, backed by decades and even centuries of aggregated, primary data. But considering that the digital payment platform market is very much in an early stage and that the events occur in a nation at the brink of traversing into becoming possibly the first cashless society - here, the apparent shortage of academic material on the subject becomes an important issue.

The reason why Sweden was chosen for this study has been motivated by its score in a compound index based on indices revolving around societal progress, innovation and technology. But this choice was also influenced by other reasons as well. Those are somewhat less quantifiable than index-data and so, their inclusion could therefore be dismissed as favoring one nation over another. Because, the success behind the Nordic nations' has often been accredited to aspects such as: its business culture, societal mindset towards technology and a politically conducive climate for its growth as well as non-hierarchical business structures.

And for this specific nation, the lack of data becomes an even more pressing issue especially because there are many similarities between the business climate currently seen in Sweden (not unlike the remaining Nordic nations) and the precursors of Silicon Valley. Much like the Valley, these countries are currently experiencing a boom of venture capitalist-investment with close collaboration between scientific institutions and large economic corporations. And with the entry barriers to start a company also being extremely low, this has fostered the emergence of experimental new business ventures to arise allowing efforts such as Spotify and Skype to grow into global mega-corporations. But perhaps what is most comparable to the very early days of the semi-conductor industry is the fact that few have come to realize the same. Those that have made an attempt at entering this market, like PayPal, seem either not entirely convinced of its potential, or lack a more profound understanding of its conditions where, instead of tailoring their product to this nation’s specific needs, deploy offers with myriads of functions in an attempt to sway a population that is picky and both understands and demands more of technology.

It might very well be that the current knowledge vacuum is precisely what has lead larger firms to abstain from greater involvement in the Nordic markets. And in no way is this surprising, after all - absent the groundwork exploration of scientists and engineers into the true potential of the silicon based chip, it seems few would have seen the value of investing in early experimental computer research projects - efforts which today have come to be celebrated for laying the foundation for the global computer industry. And in much the same way, without more comprehensive, global studies performed into the digital payment industry, there simply is no basis of realization to push larger players towards establishing greater market presence in these fragmented markets, currently dominated of mostly small players. While investing in these types of markets comes with relatively low short-term profits - there is also a low investment cost - lower risk for larger, international contestants. So as these markets compose some of the world’s most developed infrastructures, with populations of high technological proficiency - nations like the Nordic countries present low risk opportunities for conducting highly advanced research and development efforts towards globally sustainable products and strategies.

Finally, one of the underlying questions which lead to the formulation of this report was - exactly to what degree is research performed within the digital payment market dependent on primary data? While answering this question from the standpoint of a secondary data analyst provides the tip of the iceberg, revealing a great deal about how much there is left to explore - the true magnitude of what is hidden beneath the surface requires primary data. It is reasonable to assume that, save for a limited core of scientists and engineers, few could have been equipped to fully anticipate the geo-financial revolution to be brought in by the rise of the computer industry. And with lessons from the past, seeing similar trends and preconditions within a fraction of the world’s nations - at this junction, it seems that there are two paths to follow: either academic institutions will have to play catch-up to a new economic reality, or the decision could be to act proactively. These relatively small nations have optimal conditions for reduced-risk entry as well as offering grounds for experimental research efforts. Given the current digital payment landscape, rather than entering markets with a focus on quantity - targeting highly populated nations offering promises of fast and substantial revenues - focus should instead be geared towards quality market entry, accelerating the company’s global growth by evolving within markets of the future. It seems that, at the very least, more studies should be devoted towards the exploration of these ideas.


[79] Sweden-cashless-society-cards-phone-apps-leading-europe


6. Conclusion


