

## **Finding the strategic fit to organize innovation around FinTech - Case study of Nordea Bank**

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Recent changes within financial industry have forced incumbents to re-think how they organize their innovation. The classical reactions are incubating, accelerating, etc.

Since there were no clear benchmarks in Financial industry in 2015, Nordea reacted relative early. During 2015 to 2019 they organized three programs where the first was an incubator model and second incubator and in the last year they turned the flow to inside out. This research studies those flows in detail and the outcomes of each structure.

The theoretical framework is built on knowledges. Early on, Nordea identified that they were lacking in entrepreneurial and technological knowledge so it would combine those with the knowledges it had. Over the course of time it would gain those knowledges to be able to then first make a better version of the program and then shift the direction of the flow.

Finally in the end we summarize how Nordea worked towards strategic fit through the 3 programs it went through.

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## **1. Introduction**

Many incumbent companies engage in collaboration with startups to explore new knowledge and ideas and enhance their innovation performance (Kohler, Matzler, & Füller, 2009; Narayanan, Yang, & Zahra, 2009; Weiblen & Chesbrough, 2015). Startup collaboration enables incumbents to overcome internal barriers and explore novel markets and technologies (Bruneel, Van de Velde, & Clarysse, 2013; Keil, Autio, & George, 2008), which is particularly beneficial in times of disruption, where companies compete with radically new products and services (Anderson & Tushman, 1990; Cozzolino, Verona, & Rothaermel, 2018).

Establishing accelerator and incubator programs for startups has emerged as a key means for startup collaboration (Kohler et al., 2009; Moschner, Fink, Kurpjuweit, Wagner, & Herstatt, 2019; Weiblen & Chesbrough, 2015). They are based on the idea of corporate sponsorship: by providing startups with knowledge and resources, incumbents may improve their chances of survival and growth (Breivik-Meyer, Arntzen-Nordqvist, & Alsos, 2020; Flynn, 1993). For incumbents to acquire innovation benefits from accelerator and incubator programs, the achievement of a strategic fit between startups and the incumbent becomes critical (Narayanan et al., 2009; Shankar & Shepherd, 2019). A good strategic fit allows the incumbent to learn from technologies and markets that are relevant for its strategic innovation goals (Keil et al., 2008; Sapienza, Parhankangas, & Autio, 2004).

The current understanding of achieving innovation benefits from accelerators and incubators has limitations. The relative advantages of different collaboration modes with startups have received

limited attention in general (Selig, Gasser, & Baltes, 2018). Many incumbents set up accelerators, but it is argued that they rush headlong into startup collaboration without informed decision-making (Hogenhuis, Van Den Hende, & Hultink, 2016, p. 39). Based on previous research (Narayanan et al., 2009; Shankar & Shepherd, 2019), we argue that a critical question is how to organize collaboration so that a strategic fit between startups and the incumbent is achieved. Further, the question of if specific organizational or industrial contexts are more suited for certain types over startup collaboration has been poorly addressed (Shankar & Shepherd, 2019).

In this paper, we report a case study of Nordea Bank, the largest retail bank in the Nordics, who organized three accelerator and incubator programs during four years. The financial industry has traditionally been considered as conservative and risk-averse (Capgemini & Efma, 2019; Vermeulen, 2004) mainly because of legal and compliance constraints (Schueffel & Vadana, 2015). In the past years, it has gone through turbulence from digitalization to financial crisis and later to an invasion of new market entrants called “fintech” (financial technology) startups. The practical motivation for the study is that, while the fintech startups have an increasingly important role in responding to the disruptive changes in the banking industry, there is little understanding of how incumbent banks gain strategic benefits from working with them. Theoretically, we are interested in how the disruptive changes in the banking industry come in to play and thus respond to the research gap presented by Shankar and Shepherd (2019) concerning the contextual considerations in startup collaboration. As it is found that the collaboration mode may evolve over time (Enkel & Sagmeister, 2020), we adopt a longitudinal perspective to answer the following research question:

RQ: How an incumbent bank organizes for collaboration with fintech startups?

## **2. Literature review**

### **2.1 Disruptive changes in the banking sector**

The banking industry is facing disruption due to three main drivers: digital transformation, the emergence of fintech startups, and regulatory changes. First, the digital transformation of traditional banking services, such as payments, identification, and risk modelling, has provided ample opportunities for innovation and stimulated customer demand for better services. Second, new competitors have emerged to challenge traditional banks. On the one hand, incumbent banks face competition from big IT companies such as Facebook, AliBaba, and Google who have entered the industry with their payment services (Bughin & Van Zeebroeck, 2017). On the other hand, numerous fintech startups have emerged that challenge incumbent banks by providing unique, niche, and personalized services (Lee & Shin, 2018) disrupting the incumbent banks' business models (Gomber, Kauffman, Parker, & Weber, 2018). It has been predicted that traditional financial service providers may lose over 650 billion dollars in revenue to new fintech companies in the areas of payments, crowdfunding, wealth management, and lending (Terry, Schwartz, & Sun, 2015). Third, a driver that applies to banks operating in the European Union, a PSD2 (Revised Payment Service Directive) regulation is implemented that demands banks to open their Application Programming Interfaces (APIs). This means that for banks to meet the requirements of the directive, they need to build the technical possibility for third party providers (when given permission) to access account information, make transactions and check for the balance of the account. This allows new service providers to innovative services on top of the banking data.

The trends above undermine the competitive advantages of the incumbent banks. The regulatory changes lower the barriers to entry in the banking industry as new entrants may develop domain-specific financial services without adopting the full responsibilities of established banks. Digital transformation in the industry offers new opportunities for innovation. It enables the fast scale-up of

new services to occur (Zachariadis & Ozcan, 2017), and large corporations with economies of scale and agile fintech startups are thus well-equipped to challenge the incumbents. When new technologies disrupt an industry, they enter an era of ferment where technological development develops along multiple trajectories (Anderson & Tushman, 1990). Companies compete with their versions of radically new product and service concepts. This era is characterized by high technological and market uncertainty, and it lasts until dominant designs, i.e. operational principles or product architectures, emerge and gain a majority of the market and the dynamics stabilize into an era of incremental innovation (Murmann & Frenken, 2006).

## **2.2 Open innovation using accelerators and incubators**

Open innovation, defined as “the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively” (Chesbrough, 2006, p. 1), has been identified as a strategy to respond to disruptions (Cozzolino et al., 2018). Traditionally, banks have mainly focused on closed innovation (Schueffel & Vadana, 2015), but recently, to respond to the increasing pace of change, they have started to engage in open innovation (Chesbrough, 2003; Fasnacht, 2009) with fintech startups in particular. Both of the two main modes of open innovation, the outside-in (inbound) mode, where external knowledge acquired, and the inside-out (outbound), where internal knowledge is exploited externally, have been observed (Athanassopoulou & Johne, 2004; Fasnacht, 2009; Gianiodis, Ellis, & Secchi, 2010; Gianiodis, Ettl, & Urbina, 2014; Oliveira & von Hippel, 2011).

### **2.2.1 The outside-in mode: accelerators**

Corporate *accelerator* programs are defined as “company-supported programs of limited duration that support cohorts of startups during the new venture process via mentoring, education, and company-specific resources” (Kohler, 2016, p. 348). Almost all top banks have launched accelerator programs to engage in collaboration with Fintech startups (Mohan, 2016). Accelerators typically scout of startup ideas that are directly related to the organizer’s business activities and internal

problems (Moschner et al., 2019). They are hence seen as a method to tap into startups' knowledge resources and innovativeness. Accelerators are also an effective way to resolve uncertainty around a company (Yu, 2019). Formal arrangements may include the incumbent licensing of the startup's new technology or co-developing new products (Weiblen & Chesbrough, 2015). In the latter case, the created intellectual property may be shared with both parties. Accelerators also provide opportunities for spin-ins, i.e. acquisitions of the startups (Becker & Gassmann, 2006).

Accelerators may take various forms (Moschner et al., 2019). Traditionally, they are organized in-house and tightly connected with the organizer's business units and their challenges. More recently, hybrid accelerators have emerged that include internal teams alongside with external startups. The operations of an accelerator may also be outsourced to an external service provider or shared with a consortium of multiple corporations. Moschner et al. (2019) argue that the strength of in-house accelerators lies in their ability to provide startups with a committed customer with and an actual need for their product, but that independent accelerator programs often provide better knowledge for professionalizing startups, for example by providing workshops for setting up business plans.

### **2.2.2 The inside-out mode: incubators**

In corporate *incubation* programs, internal business ideas are developed to spin them out as new ventures (Weiblen & Chesbrough, 2015). Sometimes, employees may independently decide to leave the organization and start their own company, or parts of an organization may be detached as part of a strategic restructuring. However, increasingly spin-out are actively supported as a way for incumbent companies to exploit opportunities in unfamiliar markets or technologies (Bruneel et al., 2013). Incumbent companies with abundant technology and knowledge bases generate opportunities beyond what they are willing to exploit. Internal innovation activities tend to have barriers such as a focus on short-term business logic and the not-invented-here syndrome that make it difficult for them

to exploit novel ideas internally (Keil et al., 2008; Pihlajamaa, 2018). Spinning them out may enable experimentation without the rigidities of a large corporation.

The primary purpose of spin-outs is to promote the birth and success of companies that have capabilities and resources that are complementary to those of the originating organization. Incubators may thus help organizations leverage their tacit corporate knowledge in the creation of new business (Becker & Gassmann, 2006). Sometimes new applications may be sought for internal core technologies, but perhaps more often non-core technologies, such as unused patents, are developed into spin-outs (Becker & Gassmann, 2006). Linkages to the spin-outs are maintained through partial ownership, license agreements, and strategic partnerships (Helm & Mauroner, 2011; Parhankangas & Arenius, 2003).

### ***2.2.3 Choosing a suitable open innovation mode***

Hogenhuis et al. (2016, p. 39) argue that “large firms frequently pursue collaborations with young ventures without a clear action plan, neglecting the challenges that such asymmetric partnerships may bring”. Weiblen and Chesbrough (2015) contend that accelerators are typically suitable for problems that are close to the organizer’s core business, and the collaboration is driven by achieving short-term benefits. In contrast, incubation programs tend to have weaker links to the core business and imply a longer time horizon. Other authors pay attention to the different scopes that accelerators may have. Vandeweghe et al. (2019) propose that accelerators may have two types of orientations: *open* accelerators aim to create benefits beyond a predefined set of organizations, whereas *closed* accelerators focus on improving the performance or gains of a small number of central actors. Accelerators may also focus on promoting individual entrepreneurial ventures, or the broader ecosystem (Vandeweghe et al., 2019). Further, they may be oriented more strongly towards supporting the incumbent’s current business or to promoting the startup’s success (Shankar &

Shepherd, 2019). On a more detailed level, accelerators and incubators may vary in size and duration, the services they provide, their strategic focus (industry/sector or geographical focus), selection process, funding structure, role of the incumbent company, and alumni relations (Cohen, Fehder, Hochberg, & Murray, 2019; Pauwels, Clarysse, Wright, & Van Hove, 2016; Richter, Jackson, & Schildhauer, 2018; Shankar & Shepherd, 2019).

#### **2.4 Resource-based view**

The different approaches to accelerators and incubators may be explored by adopting the resource-based view (RBV) of the firm (Barney, 1991). From an inter-organizational viewpoint, the RBV addresses how a firm's critical resources "extend beyond its boundaries and enable resource flows (knowledge flows) with external firms" (Vanhaverbeke, Van de Vrande, Cloudt, de Vrande, & Cloudt, 2008). By connecting their complementary resource and knowledge bases, startups may increase their chances of growth and survival and incumbents may receive a boost to corporate innovation (Breivik-Meyer et al., 2020; Narayanan et al., 2009).

Accelerators can be considered as intermediaries that provide new ventures with external sources of knowledge and resources (Vandeweghe et al., 2019). This act is referred to as *corporate sponsorship*, and it is believed to improve the ventures' chances of survival and growth (Breivik-Meyer et al., 2020; Flynn, 1993). Startups are limited in their financial resources, labour, management skills and know-how of regulatory requirements (Klus, Lohwasser, Holotiuk, & Moormann, 2019; Zaremba, Bode, & Wagner, 2017), but they tend to have higher innovation potential than incumbent banks (Gozman, Liebenau, & Mangan, 2018). Corporate sponsorship may reduce risks associated with the 'liability of newness' that explains why startups fail (Shepherd, Douglas, & Shanley, 2000; van Weele, van Rijnsoever, & Nauta, 2017). This liability comprises the lack of experience in running a company and the costs of learning about new tasks, markets, and technologies. Corporate sponsorship may also have a bridging role, where startups are connected with other organizations and encouraged



to attract resources from them (Amezcuca, Grimes, Bradley, & Wiklund, 2013; Breivik-Meyer et al., 2020). Another role is sheltering the startups from the environment's threats by offering them resources, knowledge, mentoring, and consulting so that they can safely grow and develop new capabilities. By alleviating new companies' resource scarcity with carefully targeted support measures, corporate sponsorship may increase their survival rates (Amezcuca et al., 2013).

Resources that incumbents may provide to startups include physical capital such as office space and access to technology and raw materials, financial capital, social capital (social structures, networks, and memberships), legitimacy, knowledge, and various services (Lai & Lin, 2015; van Weele et al., 2017). Becker and Gassman (2006) argue that beyond financing and infrastructure, knowledge is the most important strategic resource that incumbents may provide startups. They further identify four categories of knowledge that various kinds of corporate incubators and accelerators may offer: *entrepreneurial knowledge* on how to establish a company and build needed business plans, skills and capacity, *technological knowledge* on which new technologies are valuable and how they can be exploited, *market knowledge* on how to meet customers' demands and how to segment the market into different technological value propositions, and *organizational knowledge* on the incumbent company's organization and its operations for establishing strong ties with relevant departments that can support the collaboration in the future. The authors find that corporate incubators and accelerators are typically specialized in one of these 'knowledge modes'. Internal corporate incubator programs, for example, focus on leveraging entrepreneurial knowledge for fast exploitation of internal non-core technologies. Depending on the open innovation mode, the startups may already have sufficient knowledge of some of the categories and the role of the incumbent is to provide the missing knowledge. The availability of various knowledge resources to the incumbent also determines how feasible each approach is.

From an incumbent's vantage point, accelerators are a means for *corporate innovation* (Vandeweghe et al., 2019). Large companies tend to suffer from organizational inertia that forces them to continue on a predetermined trajectory, restricting their ability to innovate radically and adapt to the needs of the digital age, and acquiring external knowledge may help overcome this issue (Hill & Rothaermel, 2003; Klus et al., 2019). Accelerators are considered a way for companies to explore new knowledge and ideas that can be used in their internal innovation efforts (Kohler, 2016). By engaging in collaboration with startups, incumbents may gain strategic knowledge of new markets and technologies, promote the emergence of innovations that are complementary to theirs, and integrate new knowledge to spur corporate innovation (Weiblen & Chesbrough, 2015). This implies that in accelerators, the knowledge and resource flows are not only directed from the incumbent to startups. The incumbent also receives technology and market knowledge that can be used to explore new resources or exploit existing ones (Chesbrough, 2002; Narayanan et al., 2009).

To ensure that accelerators lead to corporate innovation, a *strategic fit* is needed between the startups and the incumbent (Narayanan et al., 2009; Shankar & Shepherd, 2019). The concept of strategic fit refers to the extent to which a startup could have a positive impact or be useful to one or more of technologies/innovations that could impact or be useful to the incumbent's business units (Shankar & Shepherd, 2019). A good strategic fit benefits startups by enabling them to capitalize on the specific knowledge and resources of the incumbent (Sorrentino & Williams, 1995; Thornhill & Amit, 2001). For the incumbent, it provides a means to learn of strategically relevant domains (Keil et al., 2008; Sapienza et al., 2004). Strategic fit may be understood as an optimal overlap in the incumbent's and the startup's knowledge bases. A too significant overlap will reduce the potential for novel knowledge combinations, whereas too small overlap hinders mutual learning (Sapienza et al., 2004).

In sum, to learn effectively, incumbents should aim for a strategic fit when collaborating with startups. Consequently, the decision of how to design and run accelerators can be approached by ensuring such resource flows that, when combined with an incumbent's internal resource base, support corporate innovation. Focus on resource flows can hence shed light on how startup collaboration generates strategic benefits for incumbents. RBV also provides a means to differentiate between various collaboration modes, such as accelerators and incubators. Recent research (Enkel & Sagmeister, 2020) has suggested that different accelerator and incubator modes may be suitable for various purposes, e.g. for sensing new opportunities versus turning them into a profitable business, and that companies may change their startup collaboration modes when their strategic priorities change. When companies undergo disruptions, such changes from sensing to seizing business opportunities are expected. Therefore, we argue that a dynamic view of startup collaboration should be adopted to understand such circumstances.

### **3. Research design**

For the purposes of the study, adopted a qualitative single case study research design (Eisenhardt & Graebner, 2007), and we sought an incumbent bank that engages in open innovation with fintech startups. We chose Nordea, which is the largest bank in the Nordics with operating income of ca. 9 billion euros, 30 000 employees and close to 10 million private and corporate customers (the year 2018). The data collection began in 2015 when Nordea first started collaborating with startups by launching *Nordea Startup Accelerator*. We followed Nordea closely until 2018. During this time, three accelerator or incubator programs were implemented, each different from the preceding. We compare and contrast the programs and the context of which they were implemented to establish an understanding of the logics of different modes of open innovation with fintech startups. The longitudinal perspective on Nordea further allows us to provide a view of how the open innovation modes evolved with accumulated experiences and industry maturity.

The primary data collection method was expert interviews. 13 interviews were conducted, mainly with Nordea's management responsible for planning and running the programs (Table 1). The interviews also included two startup participants and a representative of an external service provider that Nordea used for organizing the accelerators. The interviewees were chosen based on their critical roles in the programs. Snowball sampling was further used to include persons with relevant insights.

A semi-structured interview guide was used to ensure that central themes such as *service innovation*, *organization*, and *business models* were addressed in the interviews. Complementary data was collected by observation during the startup pitching events, videos of presentations of the program and hundreds of PowerPoint slides explaining the content of each program. This data provided contextual information and helped provide a comprehensive view of each program and their differences.

The analysis process started by organizing all the collected data on a timeline and writing a chronological case narrative. Afterwards, the three programs were compared according to selected categories to create an understanding of each case and their similarities and differences (Miles et al., 2013). The categories included various general characteristics such as numeric figures of applications, participants and pilots, strengths and weaknesses of the programs, and descriptions of the processes and organization of the programs. Further, following the principles of abductive reasoning (Dubois & Gadde, 2002), we revisited the literature and adopted the resource-based view of the firm as a theoretical lens. Consequently, we applied the concepts of corporate sponsorship, corporate innovation, strategic fit, and four distinct knowledge categories (technological, market, organizational, entrepreneurial).

<b>Interviewee</b>	<b>Date</b>
Executive Vice President, Nordea	20.10.2015
Head of the Accelerator Program, Nordea	17.12.2015
Head of Experimentation and Learning, Nordea	17.12.2015
Startup Participant - RealSource	17.12.2015
Startup Participant - GetJenny	17.12.2015
Management Partner, Nordea	19.12.2015
Group interview: Management Partner, Nordea & Head of the Accelerator Program, Nordea	19.12.2015
Managing Partner, Nestholma	11.01.2016
Head of Open Banking Development, Nordea	21.11.2017
Group Digital Consultant, Nordea	08.01.2018
Co-head of Product & Concept Development, Nordea	12.01.2018
Head of the Accelerator Program, Nordea	22.03.2018
Head of the Accelerator Program, Nordea	13.06.2018

Table 1: Interviewee list

## 4. Case: Nordea

### 4.1. Background

The case company, Nordea, is the largest retail bank in the Nordics and the second largest in the Finnish market. In the early 2000s, it was known as a forerunner in e-banking (Echikson, 2001), but since then, innovation has not been a high strategic priority (Ritakallio, 2016). In 2015, when this research project started, Nordea had just recently received a new CEO Casper von Koskull, and their innovation activities were primarily conducted in-house. However, the market leader in Finland, OP Financial Group, had already established an innovation lab, OP Lab, to develop financial services together with startups resulting in successful applications such as the Pivo mobile wallet. The third-largest player, Danske Bank, had also introduced a mobile payment platform, MobilePay, to enter the Fintech market.

In the Fall of 2015, Nordea followed the others by establishing an accelerator program “Nordea Startup Accelerator”. The background of the program was in a previous “Nordea Innovation Challenge” where Nordea invited students and entrepreneurs for a hackathon to work over a weekend with data and tools given by Nordea. After this event, an external accelerator provider, Nestholma, contacted the Vice President of Commercial Banking of that time, who became interested in the idea and managed to acquire internal approval for it. The first accelerator program was followed by a second batch under the same name in 2016 and as “Nordea Runway” in 2018. Next, the three programs are summarized in Table 2 and next discussed in more detail to describe how Nordea’s collaboration with fintech startups evolved in time.

	<b>Nordea Startup Accelerator (2015)</b>	<b>Nordea Startup Accelerator (2016)</b>	<b>Nordea Runway (2018)</b>
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Time	November 2015 – February.2016	September – December 2016	March – July 2018
Description	The accelerator program was organized together with Nestholma. Twelve startups were invited to Nordea’s premises.	The accelerator program organized together with Nestholma where. 14 startups were invited to Nordea’s premises	The incubation program was organizer internally. Three teams were sent to external accelerators
Processes	Limited knowledge of suitable processes. Facilitation was mainly in the hands of an external provider.	Processes are more in place. The external provider is used, but it does not have as significant a role as before.	Good understanding of suitable processes. A change from outside-in to inside-out processes.
Organization	Small team. Many challenges with a siloed organization and a lack of commitment.	Core team, 60 business champions. Strong support from the top management. Bigger budget.	Strong top management involvement.
Culture	Strong not-invented-here syndrome	Slowly more open to integrating new ideas.	Highly supportive atmosphere.
Outcome	Applications: 170 Shortlisted: 50 Participants: 12 (17 invited)	Applications: 320 Shortlisted: 35 Participants: 14 Pilots: 5	Applications: 134 Shortlisted: 10 Participants: 6 Pilots: 3

	Pilots: 5		
Ownership	No direct ownership by Nordea.	No direct ownership by Nordea.	Startups mostly owned by Nordea.

Table 2: Summary of Nordea’s three accelerator programs

#### 4.2 Nordea Startup Accelerator 2015

In the Fall of 2015, Nordea organized its first accelerator program. The participants of the program were decided mainly under three broad themes: “reaching your goals through saving”, “value-added services in payments” and “digital touchpoints in the future”. The original thought was to be stricter with the decisions and search for startups that could work under the Nordea brand, but during the process, the scope was expanded to a couple of startups that were not working directly within the industry.

Nordea Startup Accelerator program (Figure 1) was facilitated in Finland, but it was a Nordic-wide concept. The program was a test for Nordea to get more understanding for further development. The budget for the program was relatively low, and according to an interviewee, the main goal was “to get a proof-of-concept and gain evidence of how Nordea should work in this manner”. From the very start, the goal was to “do this next year 5-times bigger”. Furthermore, the accelerator program was seen as a tool to “enhance the brand, get new customers and speed up the internal learning processes”. The long-term dream of the core team was to expand the accelerator program to Nordic level and learn what the right model that works for them is. The program lasted for 12 weeks, and it was facilitated by Nestholma.



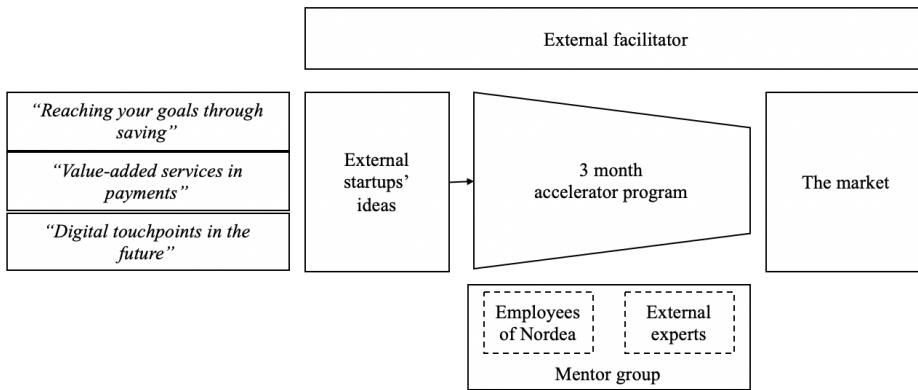


Figure 1: Nordea Startup Accelerator (2015) process.

Startup	Description
Palkkaus.fi	Palkkaus.fi digitalizes employment and makes salary payment easy for households, entrepreneurs, SMEs, 3rd party services and helps employees to find work.
RealSource	RealSource is a transaction portal for Commercial Real Estate.
Wone	Wone is a mobile service that makes sending money to your friends and family as easy as texting them.
GetJenny	Conversational AI for customer service. Jenny takes the monotonous task of answering the most common customer questions - automatically, in any language you already support.
Polycoin	Polycoin provides risk management and compliance solution for financially regulated organizations such as banks and insurance companies, who wish to start managing digital identities and process virtual currencies
PayPeanuts	PayPeanuts lets you use your unredeemed loyalty points to pay for online content, giving you the experience of “free” and no mental transaction cost while content creators still get paid for content.

NurtUp	NurtUp licenses games to cafes, so that people - strangers - interact at a deeper level, and create communities.
Nordledger	Nordledger brings a fully automated smart-contract based global marketplace for B2B e-invoice factoring.
Nordigen	Nordigen helps lenders automate income verification by processing bank statement documents and extracting insights from transactions.
FeelingStream	We build a simple CX analytics platform to detect customer feelings.
B2BPay	Exporting to Europe? Collect payment in 34 European countries for free from anywhere in the world!
AutoBuy	AutoBuy guides you through the process of buying a car while automating irritating and time-consuming paperwork.

Table 3: Participants of the 2015 program.

The accelerator got altogether 170 applications which led to 50 shortlisted startups. In addition, 60 Nordea employees were nominated as mentors. The mentors were from all market areas and from all over the organization. All of the mentors had to apply for the program. Some of the mentors were also assigned “on-site” to give the startups direct guidance during the process. A group of Nordea mentors voted for the best ones (see Table 3) that were invited to pitch to a pitching event. The participants of the program received sparring. This included several visits by different experts as well as workshops around business model development and 1-on-1 sessions with a named mentor.

The program was highly explorative in that diverse teams working on topics such as real estate and gaming were included. Consequently, strong ties to Nordea’s existing business were lacking. The internal atmosphere was also considered a challenge. According to the interviewees, “not-invented-here syndrome” was strong in Nordea’s culture. Another reason for the wide involvement of mentors

was that they would facilitate the integration of the startups in the organization. Overall, out of the 12 participants, four continued to work together with Nordea. These were Palkkaus.fi (nowadays Salaxy), GetJenny, Nordigen and Feelingstream. At the time of the program, these companies were at a very early stage, but have later on been successful in raising more funding.

### **4.3 Nordea Startup Accelerator 2016**

In 2016, Nordea organized the second patch of the startup accelerator. This time it expanded to be a “truly Nordic-wide”- program, and the pitching event took place in Oslo where the chosen startups could decide if they would want to be located at Nordea’s Helsinki or Stockholm premises. The application period was also more extended than before, and more resources were spent on promoting the program internally as well as externally. Furthermore, the themes were more specific: “Emerging technologies”, “Digital life and pension”, “Banks’ role in sharing economy”, “Enabling rapid transactions in collaboration economy” and “Compliance and changes in regulation”.

According to the interviewees, the startups in the 2016 program were more carefully chosen than in 2015. This meant that more time was spent on pre-screening the applicants. In order to be chosen for the program, someone from Nordea had to buy the idea and “express their interest to be a champion” for that exact startup. Furthermore, all the 14 startups were this time working with topics related to financial technology and therefore were more comfortable to match with the internal business units.

Due to the longer application period and intensive promotion, the program received over 300 applications of which 35 teams were invited to a pitching day in Oslo. The number of accepted teams was also increased from 12 to 14, and they were evenly divided between two locations: Stockholm and Helsinki. The chosen startups were under the five themes, and they had an internal buy-in already before joining the program. According to an interviewee, this was considered vital learning from last year:

*“The startups do not get further in the funnel without an internal sponsor and that the responsible business unit sees a clear benefit and drives the process further.”*

In contrast to the previous year, the mentors were called business champions, and they were more committed to working with their startup. Further, the general attitudes towards the program had improved, and the acceleration processes and their requirements were understood better. The program followed a similar three-month schedule as before, and the final pitching was organized in December 2016 (see Figure 2).

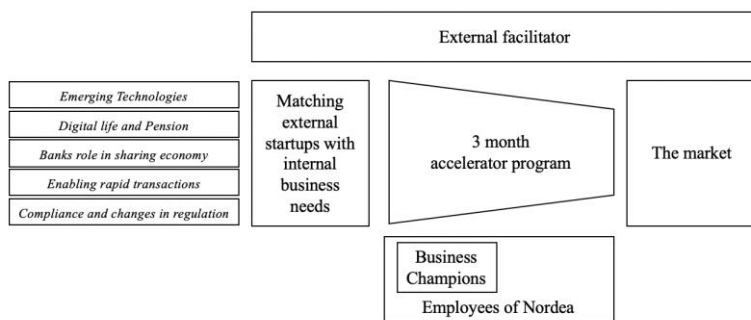


Figure 2: Nordea Startup Accelerator (2016) process.

Startup	Description
D-Vision	We motivate drivers to improve their driving habits and road safety in a rewarding and fun way.
MinaTjänster	People lack control over their economy when it comes to subscriptions and recurring costs. We provide a powerful digital tool where we summarize all active subscriptions for the user

Tikkr	Tikkr is a disruptive digital insurance platform people on the go!
Asteria	Helping small and medium-sized businesses mitigate the risk for overdue invoices.
SmartCalling	Connect to your customers via phone call with a branded, dynamic, and interactive call screen to change their call experience and help save connection costs.
YeyNey	YeyNey helps you save money by reducing your spontaneous shopping.
Taviq	TAVIQ helps investment advisers remove hassle and add-value on investor profiling.
Collectly	We help banks and businesses minimize losses on bad debts while keeping the customers loyal.
Fjuul	Fjuul is a fitness app that turns everyday activities into exercise and rewards you with discounts, for instance, for insurance premiums.
Voxo	Voxo digitizes regulatory compliance in the financial advisory process.
Zash	Zash helps retailers' lower operational costs and increase sales revenues by digitizing the interactions and transactions with their customers!
Trayce	Trayce is your digital assistant that helps you create and submit error-free expenses in a matter of seconds.
Kuan	Kuan Inc. is a cross border payment platform backed by blockchain technology for businesses receiving recurring and large overseas payment within two working days.
Bankiton	We provide consumers with a smart way to compare and switch retail banking services by simply chatting in social media apps.

Table 4: Participants of the 2016 program.

Five startups – *MinaTjänster*, *Asteria*, *Smartcalling*, *Collectly* and *Fjuul* – continued working with Nordea. Integration with Nordea's business units was more successful than before, and the three months' time in the accelerator could be used productively. However, the program revealed new

technological challenges. All the startups relied on tapping into Nordea's IT systems, but APIs for doing that did not exist or were at very early stages as the PSD2 regulation had not yet been enforced in 2016. The fit with Nordea's business lines was achieved rather well but implementing the startups' concepts would have required higher technological readiness from Nordea. Technological integration of the third-party services became the most significant barrier to benefiting from the 2016 accelerator program: every single partnership or pilot project would have required some kind of technology development, which were not taken in to account in the IT development budget.

#### **4.4 Nordea Runway 2018**

The goal of the accelerator programs organized in 2015 and 2016 was to "gain new ideas, ways to work and solutions and then integrate them to Nordea's solutions". However, over the course, Nordea found both business integration and technology integration to be challenging in practice. Identifying startups that support Nordea's business interests and are technologically feasible proved to be a difficult task. However, according to an interviewee, the programs had generated a broader interest in startups and fintech within the company: "During our accelerator programs, we received questions if also internal teams could participate, but we decided to leave them out."

At this point, the understanding of the new financial technologies and markets within Nordea had increased to a level that creating ideas internally was considered feasible. Based on these learnings, Nordea decided to change its accelerator program into "Nordea Runway, which is a way to find ideas and great people internally". In contrast to the previous programs, the goal of the Nordea Runway was to identify ideas and teams within the organization and accelerate them to become independent companies.

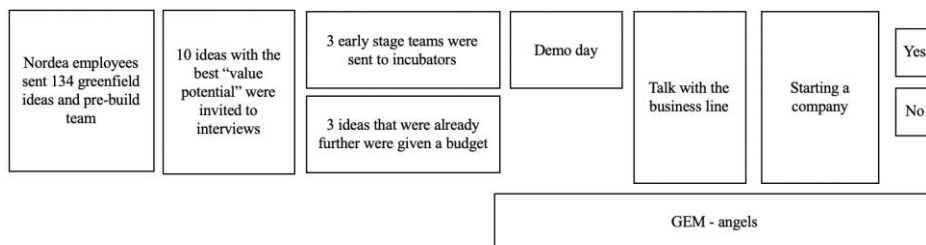


Figure 3: Nordea Runway process.

A total of 134 ideas were submitted via an internal questionnaire in Nordea’s intranet. Employees were asked to pitch greenfield ideas – that go beyond existing business – and build up a team of at least three people around it. After this, qualified teams were chosen, and an internal jury interviewed around 20 of them. The focus was firmly on radically new propositions, as described by an interviewee: “We also got ideas that incremental ideas that would enhance our internal processes but those were left out”. After the ten finalists were decided, a final pitching competition was organized in Stockholm and streamed internally to the whole organization. The teams were pitching their ideas directly to Nordea’s top management team, GEM (Group Executive Management), which functioned as the jury and the final decision-maker.

Finally, a group of three teams was chosen. One of the teams used artificial intelligence to automate internal processes, the second was a service platform helping entrepreneurs starting their company, and the third was a service planned around teaching children how to spend their money right. Also, another group of three already founded companies received support on the side of this program. According to the interviews, key strength for the teams in the Runway program was their in-depth knowledge of the core banking system, its limitations and the opportunities it provides. Even though Nordea had accumulated knowledge of the acceleration process from the previous programs, the teams were sent to an external accelerator to ensure detachment from Nordea’s core business: “The

three-months program is organized by an external partner and the goal is that the teams are away from “Nordea-context” as much as possible”.

The team members continued receiving their regular salary during the program, and they could return to their original job afterwards. The goal of this was to lower the barriers to entry and give the employees a risk-free opportunity to try their ideas. During the program, the teams received coaching and support to develop their ideas into well-formulated hypotheses that could be tested. An interviewee described that “the goal for the teams during the program is to create a hypothesis and customer validation”. Nordea Runway’s core team worked as “business angels” with a small budget at their disposal, which meant that occurring costs such as travelling or external technology help could be purchased if needed. Furthermore, “every startup had a GEM-angel to support and guide them” which helped to get an internal mandate to go forward with the ideas.

The Runway program resulted in three minimum viable products. One of them was launched as a spin-out, and the two others were integrated into existing services. Based on the learnings from previous programs, Nordea put the effort in involving the whole organization in the process, which was a crucial obstacle in the first program. In preparation for PSD2, Nordea had also developed its IT systems, which made it easier to design and implement APIs that the teams required, overcoming the main difficulty of the second program.

## **5. Knowledge flows in the three programs**

Adopting a resource-based perspective, we identify four key knowledge types at the core of Nordea’s startup programs. In acts of corporate sponsorship, Nordea provides startups with entrepreneurial knowledge and organizational knowledge. It, in turn, receives technological knowledge and market knowledge from the startups, which is valuable for its corporate innovation activities. Comparing



Nordea's three consecutive programs shows how the knowledge flows evolved from 2015 to 2018. These changes may be explained by differences in the programs and changes in Nordea's knowledge base.

## **5.1 Corporate sponsorship**

### ***5.1.1 Entrepreneurial knowledge***

Entrepreneurial knowledge addresses the questions of how to start a company, define a business model, and operate the day-to-day of a new venture. Providing entrepreneurial knowledge to startups is a key means of corporate sponsorship, aiming to ensure the startups' survival and growth. Before 2015, Nordea had little to do with startups; their ability to provide entrepreneurial knowledge was limited. Hence, they sought external help for organizing the accelerator program from Nestholma – a service provider specialized in open innovation in the fintech sector. Training on the best practices for running a startup was based on Nestholma's entrepreneurial knowledge, while Nordea was able to share its organizational knowledge and learn from the startups' ideas and ways of working. While Nordea also acquired entrepreneurial knowledge during the programs, an external accelerator was also used in the Runway program in 2018. No significant changes in the provision of entrepreneurial knowledge took place during the studied period. While Nordea's related knowledge base grew, it still relied on Nestholma in consulting startups on the ways of running a new venture.

### ***5.1.2 Organizational knowledge***

A key goal for Nordea was to share its organizational knowledge with the startups and establish strong ties with its relevant departments. Synergies with Nordea's existing business was also the main thing that Nordea itself could offer the startups. Organizational knowledge covers Nordea's strategic interests, its technological systems, and understanding how to activate the organization and build personal relationships. However, providing access to organizational knowledge proved more difficult than expected. Despite the identification of startups with high potential, they did not receive much

enthusiasm from Nordea's business units that were rejective towards external ideas that did not directly support their existing operations. In the second phase, much effort was put into overcoming this challenge: the startups were more carefully chosen to fit the business units' targets, and internal mentors were assigned to ensure the startups' successful integration with Nordea. Still, the difficulties persisted in no small extent, strengthened by problems in technological integration as well. Transition to an inside-out mode of open innovation solved this question as strong ties to the internal team members, and understanding of Nordea's strategy, organization, and systems were already established.

## **5.2 Enabling corporate innovation**

### ***5.2.1 Technological knowledge***

In 2015, collaboration with startups was seen as a way to access the knowledge of novel technologies, such as blockchain. Running the accelerator programs gradually increased Nordea's understanding of the new technology space and enabled the identification of the most promising and relevant new technologies and their properties. At first, the scope of technological knowledge that Nordea received was broad, as there was a variety of startups working with different technologies. As Nordea's understanding of the technology space increased, it was able to focus on the most relevant technologies for its purposes. Putting the acquired technological knowledge into practice was hindered problems in the technological integration of the startups' services in Nordea's systems: the lack of APIs made startups unable to tap into Nordea's processes. While the needed APIs were eventually set up, in 2018 Nordea this issue was also circumvented by changing from external to internal teams, which knew Nordea's technical systems in detail. This was possible as the organization had accumulated knowledge of the new technologies and was no more dependent on external technical expertise.

### 5.2.2 Market knowledge

Market knowledge addresses customer segmentation and market demand and dynamics for various services. A similar evolution took place concerning market knowledge as with technological knowledge. The emergence of fintech startups in the banking industry created significant uncertainty on how the market would change and where the most promising new business opportunities are, and startups were able to provide new insights on them. As Nordea's understanding of the market increased, supported by its collaboration with the startups, it became easier to narrow down which emerging opportunities to focus on. In 2018, Nordea was ready to rely on its knowledge base and start incubating internal instead of external teams.

	Nordea Startup Accelerator (2015)	Nordea Startup Accelerator (2016)	Nordea Runway (2018)	Key observations
<b>Strategic fit</b>	A mismatch between Nordea's strategic goals and the startup's knowledge bases.	Strategic fit increased by more focused startup selection and improved business unit involvement.	A high strategic fit was achieved by incubating internal teams.	Strategic fit was achieved by adjusting the accelerator/incubator design over time
<b>Open innovation mode</b>	Outside-in	Outside-in	Inside-out	A significant change of the open innovation mode was made after accumulating sufficient technological and market knowledge.
<b>Corporate sponsorship (knowledge flows from Nordea to the startups)</b>				
<b>Organizational knowledge</b>	Startups were not aware of Nordea's limitations. This was initially considered an	The second program was more focused on Nordea's strategic goals and	Internal teams understood Nordea's business	Nordea removed internal barriers to access to

	asset for the first program, but the implementation of the ideas proved challenging due to lack of fit with Nordea's existing business.	expectations. Chosen startups were matched with a business line before joining the program. Startups were not aware of Nordea's technological systems which made the implementation of the ideas difficult.	interests and technological systems well, which made the implementation of the ideas easy.	organizational knowledge. The scope of the provided organizational knowledge became narrower and more focused.
<b>Entrepreneurial knowledge</b>	Corporate employees did not have entrepreneurial knowledge. To help startups develop their business, the accelerator program was organized in collaboration with and external service provider.	Nordea had some entrepreneurial knowledge – an external service provider was still used.	Nordea had some entrepreneurial knowledge – an external service provider was still used. In contrast to the previous programs, entrepreneurial knowledge was provided to internal teams.	An external service provider was used in all programs to deliver entrepreneurial knowledge. Nordea's understanding of entrepreneurial activities grew and supported the corporate venturing in Nordea Runway.
<b>Enablers of corporate innovation (knowledge flows from the startups to Nordea)</b>				
<b>Technological knowledge</b>	External startups used emerging technologies (APIs, blockchain, etc.) of which Nordea had little existing knowledge.	During the first program, Nordea created an understanding of the technologies outside of its organization and its limitations to using them.	Nordea had increased its technological knowledge significantly and was be more aware	The scope of technological knowledge that Nordea received become narrower and better

		Therefore, the second program was more focused and technological expectations were figured out before the start of the program.	of where to find the right solutions and how to implement them.	aligned with Nordea's interests.
<b>Market knowledge</b>	In 2015, fintech was a new phenomenon and knowledge of the new market within Nordea was limited. Nordea had extensive knowledge of the traditional banking market.	By the second program, Nordea's market knowledge had increased due to activities in the startup scene, and therefore it was easier for them to carve out internal themes that would match different startups offering as well.	By 2018, Nordea concluded that market knowledge within the organization is sufficiently high to generate ideas internally.	The scope of market knowledge that Nordea received become narrower and better aligned with Nordea's interests.

## 6. Discussion

The case of Nordea illustrates how a company may achieve a strategic fit with startups by adjusting the design of accelerators and incubators over time. A strategic fit between an incumbent and startups is deemed essential both for the startup's growth and survival (Sorrentino & Williams, 1995; Thornhill & Amit, 2001) and the incumbent's corporate innovation activities (Keil et al., 2008; Sapienza et al., 2004). When the dominant designs of the industry have been disrupted, and it has entered an era of ferment (Kaplan & Tripsas, 2008), such as the banking industry currently, achieving a strategic fit becomes a more challenging task.

Our first contribution is explaining the distinct ways of organizing startup collaboration by knowledge flows between startups and the incumbent. From an RBV perspective, a successful accelerator or

incubator needs to provide valuable knowledge or other resources both for the startups and for the incumbent. The incumbent, therefore, needs to organize corporate sponsorship (Breivik-Meyer et al., 2020; Flynn, 1993) in a way that provides startups knowledge that they lack and need to grow, and ensure a strategic fit (Narayanan et al., 2009; Shankar & Shepherd, 2019) between their own needs and those that can be accessed via startups, to promote corporate innovation (Vandeweghe et al., 2019). We extend the earlier research on knowledge types in acceleration and incubation (Becker & Gassmann, 2006) and examine knowledge flows in two directions instead of one. We find that achieving the strategic fit was an iterative process fueled by the accumulation of technological and market knowledge from the startups (Figure 4). With increased understanding of relevant technologies and market opportunities, Nordea was able to select startups that have the most relevance for it, and involve the right organizational units in mentoring them.

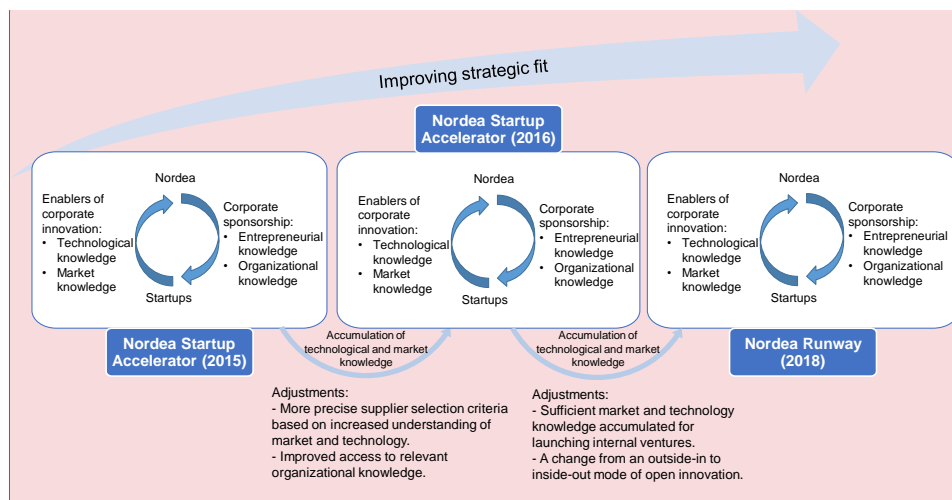


Figure 4: A summary of the results.

Our second contribution is establishing a link between the specific type of startup collaboration and the industrial context—our study reports of how the role of startup collaboration evolves throughout different phases of a disruption. In the beginning, there were high uncertainties over which

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technologies and markets are feasible and should be invested in. Consequently, Nordea engaged in a broad exploration of new opportunities with only a general sense of the direction of search. This was reflected in the difficulties of finding a strategic fit with Nordea's existing businesses. The exploration, however, gradually increased Nordea's knowledge of the new technology and market spaces (Bessant, Öberg, & Trifilova, 2014) enabling it to narrow the focus of its search in the upcoming years. Afterwards, when technological and market knowledge had accumulated sufficiently, the activities could be fitted more closely with Nordea's internal activities, reflecting in the change from an inside-out to an outside-in model of open innovation.

The case illustrates a strategy to manage the uncertainties faced during an *era of ferment* where dominant designs are yet to emerge (Kaplan & Tripsas, 2008). Collaboration with startups enables an incumbent to engage in a faster and more thorough exploration of new opportunities than what it could achieve if it relied only on its existing knowledge resources, in the early stages of a disruption (Vanhaverbeke et al., 2008; Weiblen & Chesbrough, 2015; Yu, 2019). These observations add to the findings by Enkel and Sagmeister (2020), who propose that different modes of startup collaboration may support different dynamic capabilities, such as the *sensing* of new opportunities, or the *seizing* and exploitation of recognized opportunities. They find that, when moving from sensing to seizing, acceleration activities tend to shift from short-term startup programs to long-term accelerators and alliances. Our findings identify an alternate approach, where similar shift may take place from outside-in accelerators to inside-out incubators, pointing towards a higher diversity in and flexibility in supporting corporate innovation with various forms of startup engagement, and tie the idea of startup collaboration with dynamic capabilities needed to respond to disruptions (Karimi & Walter, 2015; Pandit, Joshi, Sahay, & Gupta, 2018).

Interestingly, the goal of promoting corporate innovation was eventually realized by establishing a corporate incubator where internal ideas could be exploited outside the restrictions of the mainstream organization. The process of finding a strategic fit hence culminated in transforming the logic of startup collaboration from outside-in to inside-out mode of open innovation. Our findings contrast Weiblen and Chesbrough (2015) who suggest that outside-in accelerators have typically higher integration with incumbents' core business than inside-out incubators. They see incubators primarily as a means to commercialize non-core technologies that have few links to existing systems, whereas, in our case, the incubation of internal teams was prioritized for ensuring that the startups are well-integrated with Nordea's existing systems. The similarities are that both modes of leveraging incubators emphasize the authority to access corporate resources when needed and the exploitation of identified business opportunities. Our findings extend the notions by Weiblen and Chesbrough (2015) by recognizing how incubators may also be used as a means to redirect existing core business through new venture experiments, in addition to trying out ideas that do not have a good fit with the dominant strategy.

We further identify some managerial insights related to managing the knowledge flows in startup engagement and achieving a strategic fit. We recognize that translating a company's strategic priorities into startup selection criteria is vital for attracting potentially exciting startups. Top management commitment, the involvement of business unit representatives as mentors, and internal promotion of the startup programs were identified as means for integrating the startups with the mainstream organization and facilitating their access to organizational knowledge. Collaborating with an external service provider in organizing the accelerators can be a lightweight way to launch startup programs and learn about entrepreneurship when a company lacks expertise in supporting startups. It should, however, be noted that this way of working, which is referred to *powered by accelerator* model by Moschner et al. (2019), may further hinder establishing connections between startups and



business units as the accelerator is located further from the company's daily operations. Finally, we consider that switching between different accelerator and incubator modes may enable companies' to adjust their learning orientation from exploring new opportunities to exploiting already identified ones.

## **7. Conclusions**

As many corporate innovation initiatives are bound to fail, especially under high technological and market uncertainty, companies need to think their options when facing a disruption. Startup collaboration may be an efficient way to explore new knowledge and ideas under such circumstances, especially when combined with the use of external service providers for providing entrepreneurial knowledge. In our study of the banking industry, we report how Nordea was, in a few years, able to challenge new entrants in the industry by launching spin-offs with a good strategic fit with their existing business units with minimal initial knowledge of new technologies, markets, and corporate venturing.

The study is based on a single case study, which naturally limits its generalizability. In our study, we mainly focused on the incumbent's viewpoint. Investigating the startups' experiences in more depth would be beneficial for understanding the challenges and success factors of various means for startup engagement. The longitudinal perspective could also be expanded to pay more attention to the development and success of the startups after the initial acceleration and incubation periods. It should also be noted that, especially in Europe, the PSD2 regulation drives fast industry evolution, and the so-called open banking initiative is gaining traction globally. Incumbent banks are continually developing their APIs, which eliminates some barriers related to technological integration, and enables and forces them to collaborate with fintech startups. Our study describes the period of preparation for PSD2. The implementation of the regulation is lagging, and it is not yet entirely clear

how it is changing innovation dynamics and collaboration between banks and startups. Exploring how different industry dynamics influence startup collaboration provides a fruitful avenue for future research.

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