IQ-Pass: Access to Growth

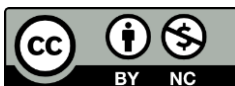## Authors

Dr Arjen van Klink

Dr Helen de Haan

Abstract

The market of (temporary) access control is one example of an industry that is impacted by digitization and internationalisation. New possibilities come up and ask for reaction from suppliers, but require the re-specification of needs from customers as well. It is also an illustration how new regulation, in this case especially related to privacy and migration, influences industrial dynamics. Related to new technological possibilities and legislative conditions, the industry is in a process of consolidation. This case focuses on a small but innovative company, IQ-Pass, developing its growth strategy in Europe within its constellation of being a subsidiary of the regional champion Boels Rental. Students will gain an understanding of the challenges of the company, in stretching its technological leverage and customer intimacy on the one hand and expanding its sales to new (geographical) markets on the other hand.

Keywords

Strategic management, business model innovation, post-merger integration, servitization, digitization, ambidexterity

CC Licence

ECASA
European CAse Study Alliance
2019-1-DE01-KA203-005037

Co-funded by the
Erasmus+ Programme
of the European Union

Introduction

"Should we grow in-depth or breadth to exploit the opportunities in the European market?" Robbert Willemsen has been asking himself this question for several weeks. Making a clear choice is easier said than done with the strong technological and commercial dynamics in the market, the relationship with the parent company, and the spirit of the team, he knows. "Can I bring all issues together or do I have to make a hard choice?", he mumbled to himself when driving home after another day in the office.

Robbert Willemsen is the managing director of IQ-Pass (www.iq-pass.com), The Netherlands. IQ-Pass is specialized in electronic access control and crowd management with excellent customer support (see appendix 1 for a product overview). The company was taken over in 2017 by the regional champion Boels Rental (www.boels.nl), the second-largest industrial rental company in Europe. In 2019, Mr. Willemsen was hired by Boels as the managing director of IQ-Pass. He has managed to integrate IQ-Pass into the organizational structure and processes of the parent company at a steady pace. With the large network and strong reputation of Boels in Europe, IQ-Pass has much power to expand. IQ-Pass's revenue increased by 10% in 2020 and 17% in the first half-year of 2021. Some 20% of sales is now generated via account managers of Boels who sell the products of IQ Pass to their clients.

At the time of the acquisition in 2017, Boels had more than 4,000 employees working in 13 countries, while IQ-pass had 20 staff members and was working in 3 countries. After more than a decade of working abroad, Robbert Willemsen's choice for IQ-Pass and Boels was a conscious decision. First of all, he truly believed in the great potential of the IQ-Pass business model: a combination of hardware and software. This model represents the future of any industry: software runs on the physical machine (hardware) and becomes the brain of hardware; meanwhile, hardware evolves intelligently because of software development. Second, Robbert Willemsen wanted the challenge of dealing with Boels's tremendous growth path.

To that end, he had to exploit growth opportunities and tackle internal challenges as well. The original owner of IQ Pass left soon after the take-over in 2017 and the employment contracts of the IQ-Pass team, communication channels and working procedures had to be aligned with the Boels's policy and systems. The first task of Robbert Willemsen at IQ-Pass was to create structure and clarity internally. Instead of reorganization, he preferred to call this operation "a harmonization process". He knows that his strength lies in his pragmatic approach, no-nonsense attitude, fast-thinking, and a clear focus on customer needs. He invested a lot of time in looking around in the office, listening to all stakeholders, and understanding the ambitions of staff. He also started to integrate IQ-Pass into the Boels organization in order to gain the full benefit from the acquisition.

IQ-Pass was only marginally hit by COVID-19 in 2020. The revenues from several market segments declined. However, a new market came up: temporary access control for COVID-test locations. In addition, demand for tracking visitors grew rapidly. IQ-Pass quickly responded by offering the so-called smart visitor counter that can regulate and keep track of the number of visitors and employees. With the deployment of the smart visitor counter, IQ-Pass customers have a clear overview of the information such as the occupancy rate of a particular location, room, or area. In addition, IQ Pass provides a solution for linking access control to COVID-test results and vaccine passports. These new services were developed rapidly and in close coordination with customers. That confirmed mr Willemsen that the team was able to adapt quickly, excel and outperform. The ambition of above 10% revenue growth per annum was therefore unchanged.

European CAse Study Alliance
2019-1-DE01-KA203-005037

Co-funded by the
Erasmus+ Programme
of the European Union

A new vision in five themes

A vision and clear goals are important to make the acquisition a success, Robbert believed. With a simple and easy-to-understand vision in five key words, he has charted a path forward a few months after his start in 2019. For each term, Key Performance Indicators have been developed to indicate quantifiable targets and to set out how they can contribute to profit as well as value creation for personnel and customers.

Growth: In terms of both market share and revenue. This growth can only be achieved by the growth of personnel in their professional development and innovation capability.

Forward-leaning mentality: Everyone should be proactive to think ahead of the customers and the market, not wait for the management decision, but take initiative.

Technology-driven: Keep a close eye on market developments and the technological possibilities, serve the changing demands of customers at a fast speed and high quality.

Innovation: A culture of curiosity is cultivated and permanent room for experiment is created in order to develop new products and services.

Optimal customer satisfaction: All efforts and investments should eventually lead to great customer experience and satisfaction.

Access control market

The business of access control and security management is mainly legislation-driven. Companies must comply with the rules that apply in that country and throughout the EU. IQ-Pass provides hardware and software to help companies operating in the EU fulfill their compliance mandates in a cost-efficient and transparent way.

According to the European Commission's 2020 annual Report on intra-EU Labour Mobility, there were 17.6 million EU-28 'movers' in 2019, of which 13 million persons were of working age (20-64 years).[1] It is a common practice that companies hire workers through contractors and sub-contractors in different EU member states. If company A gives an assignment to another company B, company B directly hires or indirectly recruits workers to execute the assignment, thus a chain of contractors and sub-contractors is created. All parties connected to this chain are jointly responsible for the wages of workers. If the payment conditions violate the EU labor mobility rules, the EU Labour Authority can hold each party liable. This is regulated by 'The Chain Liability Act' (in Dutch 'Wet ketenaansprakelijkheid', WKA).[2] This chain liability for wages identifies which party is liable for the payment of payroll taxes of the (sub)contractors, makes main contractors fully liable for any income tax and social security contributions of invoiced wages that their subcontractors fail to pay to the tax and social security authorities. The complete registration of companies and (sub)contractors in the chain can be complex.

Next to the duties with respect to salaries, taxes and social contributions, there is another domain where adequate information provision from employees is necessary. That is the field of health, safety and environment (HSE). All workers have to work in a save environment. That goes along with responsibilities of employers, they have to provide good working conditions. However, it also requires employees to be well trained for their job. The EU procedures and guidelines on safety, health, and environmental factors are enforced to minimize risks. For

---

1 https://www.bing.com/search?q=intra-EU+Labour+Mobility+2020&qs=n&form=QBRE&sp=-1&pq=intra-eu+labour+mobility+2020&sc=0-29&sk=&cvid=22ABAECC4EE04660B5C3F446587B2992
[2] Chain Liability Factsheet, December 2015, Ministry of Social Affairs and Employment

European CAse Study Alliance
2019-1-DE01-KA203-005037

Co-funded by the
Erasmus+ Programme
of the European Union

example, a labor protection measure undertaken by the EU is 'Safety, Health and Environment Checklist Contractors' (SCC in English, Sicherheits Certfikat Contraktoren in German and Veiligheids Checklist Aannemers in Dutch). Employees working in industries such as construction have to obtain this certificate in order to be allowed to work on construction sites. The certificate is to make sure everyone works safely. Originally intended to allow organizations to operate with greater safety awareness and reduce the number of accidents, SCC has become a mandatory requirement for companies, especially for businesses conducting their activities with contractors, agencies, and intermediaries. The SCC is valid for ten years, after this period a re-exam is obliged. In certain industries, there are specific requirements. One example is the maritime industry, where companies have to comply to the International Code for the Security of Ships and Port Facilities (ISSP).

The certificates and other related diplomas are laid down in national registers, where commissioners and employers can consult to check whether a person has the required certificates. Given the specific requirements, certain industries have their own security providers and their own registers.

Authories undertake checks on the construction sites on a random basis to make sure that all workers have the SCC and no illegal activities take place with respect to HSE and social security. When a company has contracted work to various contractors and subcontractors, it can be a project in itself to provide all necessary information to the authorities in order to prove compliance. Consequently, major commissioners have invested a lot in information management systems that give a permanent overview of active workers at their premises and their status with respect to required certificates. The cluttered, complex, and rapidly changing regulatory landscape makes it harder to be compliant. The current regulatory systems require that a company's compliance solutions transform significantly in tandem with evolving digitization. Most companies handle this by expanding their compliance function and/or a rule-based business implementation, which is a costly exercise[3].

The access control market in Europe is large and diverse. The access control market is segmented by end-user vertical (Commercial, Residential, Government, Industrial, Transport & Logistics, Healthcare, Military& Defense), by technology (Card Reader & Access Control Devices, Biometric Readers, Electronic Locks, Software) and by geography[4].

First of all, there are suppliers of access control in buildings, especially factories, offices, hospitals and warehouses. Here, multinationals like Siemens, Honeywell, Thales, Bosch and Johnson Controls dominate, next to smaller corporates like Skidata and Nedap. They have their own manufacturing and service organizations across Europe. In addition, a lot of national and regional suppliers are active; they mainly offer solutions from OEMs and take care of installation and services themselves. Next to the market of fixed access control, there is the market of temporary systems. These two markets were more or less separate in the past, but technological developments and customer needs are increasingly bridging the fixed and mobile market. In the mobile market, there are two types of suppliers. On the one hand, traditional manufacturers of fences and gates, such as Heras, are active. On the other hand, dedicated service companies, such as Safeguard Systems, Secure Logistics, and Remote Control, play a role. Especially the access market related to events contain a lot of smaller players. However, a process of consolidation takes place, driving by costly technological innovation, price competition and penetration of corporates, from the fixed access market and related markets (such as Boels Rental).

---

[3] https://www2.deloitte.com/nl/nl/pages/risk/solutions/regulatory-compliance.html
[4] Mordor Intelligence, Access control market : growth, trends, COVID-impact, and forecast (2021-2026), Hyderabad, India

The growing construction industry coupled with increasing public and private standards in safety and security propel the growth of Europe access control market over the coming years[5]. That also holds for the chemical industry. The pressure to make industrial process more sustainable will require huge investments next to regular maintenance of plants. That takes extensive projects on their sites with hunderds of temporary workers from (sub)contractors. Also the logistics sector is deploying more and more access control systems, for both people as well as assets. In warehouses, often dozens of people work from various nationalities on the basis of flexible contracts. A good eye on their status is important and goes along with a lot of paper work nowadays. Parcels, containers, equipment and trucks are another cateogory of assets that require monitoring, on the basis of mobile access infrastructure.

Increasing penetration of cloud-based and mobile-based solutions in access control are driving the market growth. Further, a growing need for management of record access, passwords, privileges, user authentication for remote connections, configuration, and remote diagnostics push the market Based on card reader access control systems types, the contactless card segment based on Bluetooth and Near Field Communication (NFC) technology is projected to grow strongly owing to ease of access of the product along with increasing adoption of wireless technology in access control systems. Business Wire[6] projects the European access control market to grow to US$ 234 million by 2027 from US$35 million in 2019 (CAGR of 27.5%). The COVID-19 crisis has had impact, of course, but since the economy is progressively restarting and contactless access control has proven its value during the crisis, the projection for 2027 is more than realistic.

IQ Pass market position

IQ-Pass helps companies to implement digital solutions to managing risks related to regulatory compliance and improves the efficiency of existing compliance frameworks, therefore reducing the costs of regulatory responses. To deliver its mission, IQ-Pass offers hardware and software for temporary (ranging from a few hours to few years) access control and site security.

For companies that hire contractors and subcontractors from different EU member states, IQ-Pass offers excellent service with full support on software and hardware to register all information according to the required compliances. IQ-Pass access control makes it easy to add (sub)contractors via the European Union's search engine (VIES) system. All workers are invited via IQ-Pass software to complete their function profile and upload the necessary legal documents. Once the registration of an individual is already in the IQ-Pass database, the worker only needs to enter customer and project numbers, both employer and labor inspector can trace all related information. Commisioners of large projects can then easily register people who come to work on the construction site.

When workers and visitors come to a construction site, an offshore platform or a festival, their information is registered by the IQ-Pass mobile registration system with an intra-network connection or 4G connection. IQ-Pass not only offers extensive insight into the presence of people per project/zone/site, but also into changes in work-related personal data. For example, the hour registration option reports the gross hours of a worker's or visitor's presence. Based on the hours of presence, a signal can be given if someone has been on the construction site working for longer than is permitted by law. In this way, the labor protection law is enforced to protect the limit of working hours. With the information registered by IQ-Pass, the chain of liable (sub)contractors is fully compliant under the laws and a large administrative burden for customers is removed.

---

[5] 6WResearch, Europe Access Control Market (2019-2025), New Delhi, India, 2019
[6] BusinessWire, European mobile access platform market forecast 2027, Dublin, Ireland, 2020

ECASA

European CAse Study Alliance
2019-1-DE01-KA203-005037

Co-funded by the
Erasmus+ Programme
of the European Union

For companies that already use other access control hardware and/or software, IQ-Pass is extremely flexible in the integration to the customer's existing system. Besides the software, IQ-Pass provides all necessary equipment, such as laptops, card printers, ID scanners, and accessories needed on site. IQ-Pass works with independent but interconnected modules. It means that customers can choose a few modules for simple or temporary registration, the service package can be extended with more modules for extensive registration and more complicated compliance requirements (see appendix 2). The IQ-Pass software is very user-friendly. After a short training, security guards and gatekeepers can use the system immediately.

IQ-Pass has a good reputation among its customers in the Netherlands, Belgium, and Germany. IQ-Pass is mainly active in the construction sector as well as the maritime industry (shipyards and offshore platforms). IQ-Pass distinguishes itself by fully automating the access process management for clients. More importantly, customers can integrate the IQ-Pass software into their existing security system permanently or apply it during a temporary shutdown or construction project. On a large construction site or offshore platform, IQ-Pass provides an effective and fully tailored registration of all people on a site, which is critical for ensuring safe and healthy working conditions: always knowing who is on the site at what time. The successful implementation of IQ-Pass hardware and software shows that companies can meet all the regulatory requirements and have up to an 80% time-saving in registration.

The third sector in which IQ-Pass enjoys a high reputation is the organization of large events, such as festivals and concerts. With a complete line of turnstiles, barriers, and sliding gates, controlled access to a site can be organized before, during, and after the event. The whole process of transport, installation and commissioning can be arranged by IQ-Pass. Also, a link with (e)ticket systems can be arranged smoothly.

For the German Football Association IQ-Pass has been contracted to set up a crowd management solution at Borussia Dortmund. The stadium of Borussia Dortmund can accommodate 81,000 visitors, making it the largest football stadium in Germany and one of the largest in Europe. The facilities are needed only at the moment of a large event, not a regular match. A unique solution provided by IQ-Pass is that the existing permanent access infrastructure can be temporarily scaled up. Within a timeframe of 36 hours, IQ-Pass can take care of the complete assembly and disassembly.

Tomorrowland in Boom, Belgium, is one of the largest outdoor dance events in the world with around 200,000 visitors. In addition to visitor access and visitor flows control, IQ-Pass supplies turnstiles for the special employee access points at the festival. All crew members are equipped with a wristband with a barcode that can be read by special readers on the turnstiles. The barcode scanners on the turnstiles communicate directly with the Tomorrowland organization's software for the attendance registration and access rights control of the employees.

Boels Rental: development of a market leader in Europe

Since its foundation in 1977, the family business Boels Rental has grown to be one of the most renowned rental companies in Europe with the rental of machines, tools, units, and catering and event equipment. Its expansion of activities is based on organic growth as well as several strategic acquisitions and has resulted in a doubling of turnover every five years[7]. The growth

---

[7] https://www.boels.nl/en/about-boels

ECASA
European CAse Study Alliance
2019-1-DE01-KA203-005037

Co-funded by the
Erasmus+ Programme
of the European Union

mindset has a long history since Boels' establishment. According to the CEO of Boels[8], "there's all this talk about innovation and development. Those are all great things, but only if you can get the right product in the right place at the right time to solve the customers' needs. If we focus on doing the right things, the results will come."

In 2020, Boels acquired Finland-based Cramo. In 2019 Boels had revenues of € 650 million. In combination with 614 million euros revenue from Cramo, the new entity has become the second-largest rental company in Europe, after Loxam. The acquisition gained Boels the 8th position in the year 2020's IRN100 listing of the world's largest rental companies[9]. As a result, Boels went from having 425 depots in 12 European countries to having 750 depots across 17 European countries. Boels remains the undisputed number 1 rental company in the Benelux. Since Cramo has a strong presence in the Nordics, it will retain its name in those countries, but in markets where operations overlap, the Boels brand will be adopted. Cramo has a focus on large projects, and Boels is strong at catering for smaller contractors, having a wider range of products and a wider range of customers.

---

[8] An exclusive interview with Boels Rental CEO Pierre Boels
[9] https://www.International Rental News.com

Merger in numbers

2019 REVENUES

Boels:	€652 million
Cramo:	€614 million
Combined:	€1.27 billion
Total size of European market:	€27 billion
Boels/Cramo market share:	4.7%

STAFF

Boels:	4,200
Cramo:	2,800
Combined:	7,000

DEPOTS

Boels:	450
Cramo:	300
Combined:	750

European ranking, 2019

Rank	Company	European revenue (€ million)
1	Loxam	2,203
2	Boels Rental	1,266
3	Kiloutou	737
4	Algeco Scotsman	715 (EST)
5	Sunbelt UK	560

Boels Rental acquires industry counterpart Cramo

A STRONG LEADER IN EUROPE

- BOELS
- CRAMO

BOELS + CRAMO = BOELS 2020

7,000+ employees	
750+ branches	260,000+ customers
2,750+ DIY locations	650,000+ rental items
17 COUNTRIES with registered locations	1.25 billion turnover
TOP 3 in 12 countries	2 billion fleet value

Fig. 1 http://boelsmedia.com/Boels_The_Rental_Magazine/Rental_Magazine_2020_EN/page_4.html

Rental companies profit from economic volatility. In case of rapid economic growth, customers first expand by hiring equipment; in case of an economic downturn, customers seek flexibility in hiring as well. Servicing clients well during economic fluctuations, reducing their financial burdens and reducing uncertainties, can strengthen customer relationships for rental companies. It requires a flexible organisation that is close to customer needs and is able to innovate at short term. Boels has shown to have the right capabilities. Since the outbreak of COVID-19 crisis in Europe in March 2020, many business activities of Boels for either B2B or B2C went quickly online. Putting the motto of "being a total solution partner" into practice, rather than focusing on getting rental payments, Boels accepted delay of payment and responded with 'DIY(Do It Yourself) rental stop' when depots were closed.

Mutual benefits for IQ-Pass and Boels Rental

European CAse Study Alliance
2019-1-DE01-KA203-005037

Co-funded by the
Erasmus+ Programme
of the European Union

The acquisition of IQ Pass by Boels is expected to generate mutual benefits. IQ Pass can leverage upon the scale, network and customers of the rental company. Boels can profit from the know-how of IQ Pass related to mobile and temporary access and the combination of products and (digital) services. IQ-Pass has gained sufficient supports from Boels to keep on developing its specialism. For business customers of Boels Rental, the intelligent technological solutions of IQ-Pass are a valuable addition to the current supply of products and services[10]. The large network and customer base of Boels give IQ-Pass the advantage of local market knowledge and access, therefore provide an ideal platform to enter new industries and win new customers. Since the take-over, IQ Pass' marketing, HRM, and SHEQ (Safety, Health, Environment, and Quality) activities are carried out by departments of Boeles Rental. In 2021, IQ Pass together with a few other subsidiaries of Boels opened an outlet in Offenbach, Germany. The joint sales are becoming effective as well: some 20% of IQ Pass turnover is now generated by accountmanagers from the Boels organization.

Towards the future

The first step of growth for IQ Pass under the umbrella of Boels was in Germany in 2020. Because of the geographic short distance and cultural proximity between Germany and The Netherlands, IQ Pass has been able to penetrate the Germany market successfully. Nowadays, already 30% of IQ-Pass turnover is generated from the German market. All IQ-Pass products and services are currently delivered from its Dutch office to their German clients. By taking the advantage of the existing distribution network of Boels, German customers can be better served in Germany instead of from the Netherlands, transportation costs can be reduced, delivery time can be shortened, and logistic processes can be optimized.

Growth continued in 2021; by the summer, a 17% growth of revenue has already been realized in comparison with the same period of last year. That in another year of the pandemic! IQ-Pass hardware and software are designed as multifunctional, therefore new products such as Smart Visitor accounter could be quickly developed in response to the covid-19 crisis. Mr. Willemsen knows that there are plenty more of opportunities to be explored in the temporary access control market in the Netherlands plus the surrounding countries. The integration of physical products and digital services is the future, Robbert Willemsen believes. IQ Pass is ahead of competitors. And is prepared for another step into digital services and, more important, understanding customer value. The early success gave Robbert Willemsen more confidence that the success formula should be the specialism of IQ-Pass plus the generalism of Boels. However, it is not just 'plug and play'. "In the highly competitive access control market we cannot just focus on exploitation, we need to invest in exploration at the same time", pondered Robbert Willemsen. Boels headquarters have given a lot of autonomy to him, but between the lines it is very clear that IQ Pass has to deliver – growth towards Boels'customers in the various countries in Europe at a reasonable profit margin.

The option of growing in breadth is relatively simple: just expanding to other countries by addressing Boels' industrial customers and using Boels' distribution network. A first selection of interesting prospects has already been made together with the marketing department of Boels. To sell to more customers asks for expansing of IQ Pass staff, of course. More product managers are needed who are able to explain the advantages of IQ Pass infrastructure, to make offers, to assist implementation, and to provide after sales services. In parallel, Boels'

---

[10] https://www.boels.nl/nieuws/2017/06/boels-rental-neemt-iqpass-over

European CASe Study Alliance
2019-1-DE01-KA203-005037

Co-funded by the
Erasmus+ Programme
of the European Union

local staff have to be trained to be able to sell at least the basic products of IQ Pass themselves. The option of capitalizing on the customer base of Boels has been a straightforward argument for the acquisiton by Boels.

IQ-Pass may choose to develop its business in-depth as well. That means playing the technology card: to excel in technological development, making the access control process more efficient and generate cost-saving for customers. For example, IQ-Pass is working on setting up geofencing via mobile phone applications. Geofencing provides virtual boundaries, individual or equipment can be tracked and monitored or detected if the boundary is violated. When an authorised person steps into that boundary, the registration system can be alerted, push-up notifications for a specific task that is signed on that day will appear on his/her mobile phone and instructions can be given. Other technological developments are relevant as well, such as artificial intelligence, face recognition, and biometric identification. The indepth growth-strategy also fits in the argumentation of the acquisition by Boels: the data driven approach of IQ Pass can be distributed to other business lines of the rental company.

Mr. Willemsen sees the potential of both growth options. However, he also clearly understands the limitations of each option and the potential synergies between them. The sales have been traditionally carried out by product owners and account managers at IQ-Pass. This marketing approach does have certain advantages, such as offering quality assurance and solutions tailored to individual customer's needs, but it is disadvantageous when a rapid expansion is required. However, the sales force of Boels simply lacks technological expertise that is necessary to give good advice to customers. The path of in-depth growth is the organic growth of IQ-Pass based on its specialism and strong ties with a small number of customers. These existing assets are valuable, but not enough for the next step as they take new technological expertise and more indepth insights in customer needs. That also holds for using data for efficiency and customer intimacy. "Technology is interesting, but what makes it valuable for the customer and how can it be integrated into its business processes?", Robbert Willemsen contemplates.

Robbert Willemsen realizes that developing a pathway to the future in five key words is one thing, making it happen is something else. There are a couple of challenges to be addressed, whatever growth strategy is opted for. "How can we balance the relationship with Boels?", he reflects. That means profiting from the Boels network, expertise and customers to grow and keeping autonomy at the same time to further develop the IQ Pass proposition. The second challenge is the market: Europe is big and diverse, and competitor behaviour and new technologies are changing the competitive landscape. "Where do we have to focus on and how to build more market intelligence?", he thinks to himself. The IQ Pass team itself is another challenge. It is regaining its breath after the tense period of the acquisition, the previous growth phase and the COVID-pandemic. Now, the employees have to prepare for the next stage. "Can they invest fast enough in new technology and the utilization of this data?", Robbert Willemsen wonders. The team of experts is quite expensive and there is only little room for experiments. In addition, IQ Pass need to come closer to the customer in order to generate more value and to establish long-lasting customer relationships. However, closer relationships are delicate as they come close to key processes of customers. Moreover, do customers have a clear idea

The ECASA project (2019-1-DE01-KA203-005037) is financed by Union funds (ERASMUS+). But the content of this document only reflects the views of the authors, and the European Commission cannot be held responsible for any use which may be made of the information contained therein.

10

European CAse Study Alliance
2019-1-DE01-KA203-005037

Co-funded by the
Erasmus+ Programme
of the European Union

about advanced services themselves? That brings Robbert Willemsen to the fourth big issue: how can IQ Pass get better access to the customer?

European CAse Study Alliance
2019-1-DE01-KA203-005037

Co-funded by the
Erasmus+ Programme
of the European Union

Literature

- Baines, T., H. Lightfoot (2013). Made to serve: how manufacturers can compete through servitization and product service systems. Chichester, West Sussex, United Kingdom: John Wiley & Sons Inc.
- Bax S.A. and F. Visitin (2017), Meta-model of servitization: the integrative profiling approach, Industrial Marketing Management, volume 60, number 1, pp.17-32.
- Burg, J. C. van, de Jager, S., Reymen, I. M. M. J., and Cloodt, M. (2012). Design principles for corporate venture transition processes in established technology firms. R&D Management, volume 42, number 5, 455-472.
- Frank, A.G., G.H. de Sousa Mendes, N.F. Ayal, and A. Ghezzi (2019). Servitization and Industry 4.0 convergence in the digital transformation of product firms: A business model innovation perspective, Technological forecasting and social change, volume 144, number 3, pp.341-351.
- Haspeslagh, P.C., and D.B. Jemison (1991). The challenge of renewal through acquisitions, Planning Review, volume 19, number 2, pp. 27-30.
- Kemps, D., A. Goense, en F. Marks (2021). Services als verdienmodel voor de industrie, Praetimus/ABN-Amro, Amsterdam, september.
- March, J.G. (1991), Exploration and exploitation in organizational learning, Organizational Science, Volume 2, Number 1, pp.71-87.
- Osterwalder, A., and Y. Pigneur (2010). Business model generation, Chichester, West Sussex, United Kingdom: John Wiley & Sons Inc.

European CAse Study Alliance
2019-1-DE01-KA203-005037

Co-funded by the
Erasmus+ Programme
of the European Union

Appendix 1: IQ-Pass product portfolio

IQ-Pass has the following tangible technologies at their disposal:

Speed gates	Speed gates are mobile entrance fences. They have hardware like traffic lights, license plate recognition, remote control and can be controlled through your phone.	
Muster points	These poles can register people when they enter a vicinity. When people enter or leave the terrain, they can use a muster point to check in or out. In case of a calamity, it can also print out a list with all the people present in the vicinity.	
Crowd Gates	Crowd gates are mobile entrances for events with big crowds. It can be connected to an E-ticket system. The crowd gates are equipped with multiple card readers, 6 tourniquets and can be accessed by UMTS, Wi-Fi, and the internet. The gates keep track of the visitors, both incoming and outgoing, giving live information to the organizers about the current situation.	
Car gates	Car gates are mobile and are equipped with license plate recognition, remote control, coin machines, GSM intercoms, and card readers.	
Registration columns	Registration columns are a bit similar to muster points. However, these devices are more specialized in the corporate world. Besides keeping track of attendance, they do also keep track of working hours.	

ECASA

European CAse Study Alliance
2019-1-DE01-KA203-005037

Co-funded by the
Erasmus+ Programme
of the European Union

Security cameras	A large variety includes short-range 360 cameras, which can be upgraded to being wireless	
Tourniquet	IQ Pass has several types of tourniquettes available. The units are all portable and can be placed in various spaces. The capacity is ranging from a few hundred to a few thousand people that can pass per hour.	

The intangible software technologies are mostly acquired through partnerships. IQ-Pass has the following intangible technologies at their disposal:

- Paxton-NET2, which is an intercom system that can be integrated into the IQ-Pass gateways. Besides that, it can track attendance and make an attendance report out of this for the client. This technology is manufactured by Paxton.
- IQ-Pass has a strong partner that specializes in ID control and preventing ID fraud.
- Data checker provides smart online identification- and verification options.
- 3Shades develops custom software for events. The software is integrated into the e-ticket scanners and can be installed on the tourniquets.

European CAse Study Alliance
2019-1-DE01-KA203-005037

Co-funded by the
Erasmus+ Programme
of the European Union

Appendix 2: the current IQ-Soft solution and revenue model

Basic
- ✖ Key Users (unlimited)
- ✔ Visitors (unlimited)
- ✔ Persons (unlimited)
- ✖ Person qualifications
- ✔ CDR check
- ✔ Time tracking
- ✔ Permissions groups (limited)
- ✔ Access levels (limited)
- ✔ Organisations (limited)
- ✖ Organisations Qualifications (org doc + approval)
- ✖ RFI Questionnaire (2)
- ✖ RFI PRE qualification (2)

- ✖ ATW
- ✖ Site Safety Exam (NL+EN inc.)
- ✖ TWV & A1
- • ID Check
- ✖ Project
- ✖ Custom Email templates
- ✖ Work types
- ✖ Report generator
- ✖ Custom FAQ
- ✖ RFI Scoring per additional form
- ✖ RFI Questionnaire per additional form
- ✖ API (per endpoint)
- • BIS/Limosa+ CIAW
- ✖ Pre-registration page
- ✖ Support (SLA) - 24/7
- • Support (SLA) - 12/5
- ✖ Custom pas template

Professional
- ✔ Key Users (unlimited)
- ✔ Visitors (unlimited)
- ✔ Persons (unlimited)
- ✔ Person qualifications
- ✔ CDR check
- ✔ Time tracking
- ✔ Permissions groups (unlimited)
- ✔ Access levels (unlimited)
- ✔ Organisations (unlimited)
- ✔ Organisations Qualifications (org doc + approval)
- ✖ RFI Questionnaire (2)
- ✖ RFI PRE qualification (2)

- • ATW
- • Site Safety Exam (NL+EN inc.)
- • TWV & A1
- • ID Check
- • Project
- • Custom Email templates
- • Work types
- • Report generator
- • Custom FAQ
- ✖ RFI Scoring per additional form
- ✖ RFI Questionnaire per additional form
- • API (per endpoint)
- • BIS/Limosa+ CIAW
- • Pre-registration page
- • Support (SLA) - 24/7
- • Support (SLA) - 12/5
- • Custom pas template

Premium
- ✔ Key Users (unlimited)
- ✔ Visitors (unlimited)
- ✔ Persons (unlimited)
- ✔ Person qualifications
- ✔ CDR check
- ✔ Time tracking
- ✔ Permissions groups (unlimited)
- ✔ Access levels (unlimited)
- ✔ Organisations (unlimited)
- ✔ Organisations Qualifications (org doc + approval)
- ✔ RFI Questionnaire (2)
- ✔ RFI PRE qualification (2)

- • ATW
- • Site Safety Exam (NL+EN inc.)
- • TWV & A1
- • ID Check
- • Project
- • Custom Email templates
- • Work types
- • Report generator
- • Custom FAQ
- • RFI Scoring per additional form
- • RFI Questionnaire per additional form
- • API (per endpoint)
- • BIS/Limosa+ CIAW
- • Pre-registration page
- • Support (SLA) - 24/7
- • Support (SLA) - 12/5
- • Custom pas template

Fig. 2 IQ-Soft packages

European CAse Study Alliance
2019-1-DE01-KA203-005037

Co-funded by the
Erasmus+ Programme
of the European Union

Teaching Note

Integrated Case Method

The case writers have conducted primary research by collecting qualitative (interview managing director) and quantitative data from IQ Pass and developed a student-centred, problem-based teaching case study (see figure below).
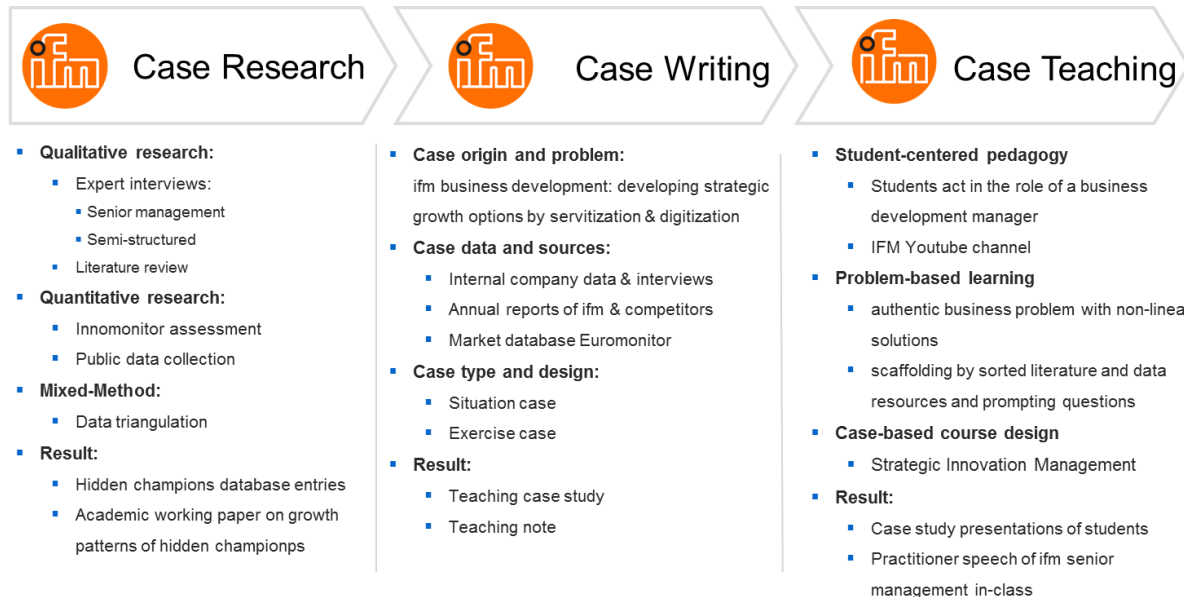
Case Research

- **Qualitative research:**
  - Expert interviews:
    - Senior management
    - Semi-structured
  - Literature review
- **Quantitative research:**
  - Innomonitor assessment
  - Public data collection
- **Mixed-Method:**
  - Data triangulation
- **Result:**
  - Hidden champions database entries
  - Academic working paper on growth patterns of hidden championps

Case Writing

- **Case origin and problem:**
  ifm business development: developing strategic growth options by servitization & digitization
- **Case data and sources:**
  - Internal company data & interviews
  - Annual reports of ifm & competitors
  - Market database Euromonitor
- **Case type and design:**
  - Situation case
  - Exercise case
- **Result:**
  - Teaching case study
  - Teaching note

Case Teaching

- **Student-centered pedagogy**
  - Students act in the role of a business development manager
  - IFM Youtube channel
- **Problem-based learning**
  - authentic business problem with non-linear solutions
  - scaffolding by sorted literature and data resources and prompting questions
- **Case-based course design**
  - Strategic Innovation Management
- **Result:**
  - Case study presentations of students
  - Practitioner speech of ifm senior management in-class

Fig. I Integrated Case Method.

Disclaimer

Dr. Arjen van Klink and Dr Helen de Haan are the authors of this case study, which is intended solely for teaching purposes in management education at institutions of higher education. The case is designed to be used as the basis for class discussion rather than to illustrate either effective or ineffective handling of a management situation.

The contents of the case study are carefully researched based on interview with a company representative as well as publicly available primary and secondary sources. Nevertheless, mistakes cannot be fully eliminated. The publisher, editor and authors can assume neither legal responsibility nor any liability for incorrect information and its consequences.

The information in this case study is published without regard for any potential patent protection. Brand names are used without guarantee of free use. The product names and illustrations used in this case study are protected as registered trademarks. Since it is not possible to promptly determine whether a trademark protection is in place in all cases, the ® is generally not used.

Target group: Master students with a specialization in:
- Innovation Management
- International Management
- Strategic Management

16

European CAse Study Alliance
2019-1-DE01-KA203-005037

Co-funded by the
Erasmus+ Programme
of the European Union

- Sales Management
- General Management

Teaching objective: The case study invites students to:
- learn about the characteristics and leadership attributes of an innovative young company in a corporate environment.
- investigate the fundamentals of business growth, value-added and different growth levers as well as value drivers.
- analyse the fundamentals of business model innovation and transformation due to digitalisation and internationalisation.
- investigate the resources and capabilities companies need to develop to exploit digitalisation and internationalisation.
- understand the process of servitization, including driving forces and barriers

Learning Outcome: Students should be able to:
- apply appropriate management frameworks to analyse resources and competencies.
- use instruments for analysing the external environment and evaluate the impact on the company's strategy.
- describe the business model of the company and identify opportunities for higher performance and growth.
- position a company in the process of servitization and come up with suggestions to stimulate (further) servitization.

Case Type and format

This case is a situation case with various decision elements on combining exploitation and exploration, balancing the cooperation with the parent company, further servitization, and international expansion, to be converted into a strategic recommendation to the managing director. The case is a written case that can be supported by infographics and photographs.

Evaluation criteria

Evaluation shall take place based on the following criteria:

Evaluation criteria	Weight
research and analysis	high (40%)
problem solving	high (40%)
communication	moderate (20%)

ECASA

European CAse Study Alliance
2019-1-DE01-KA203-005037

Co-funded by the
Erasmus+ Programme
of the European Union

Preparation

Students should be familiar with the basics of strategic management, including growth strategies, merger & acquisition issues. The case study is particularly suitable for discussing the balance between exploitation and exploration and the management challenges related to optimising both management models. In addition, it is a good basis for a discussion on the process of servitization in general and the challenges to become a service provider in particular. As this goes along with data utilization in the product-service system, students should have a basic knowledge how data can be deployed in a strategic way. Furthermore, the case study invites to analyze and debate the relationship between a parent company and a (innovative) subsidiary. Last but not least, the case invites to discuss the options for new business models in the context of servitization and digitization.

Each of the mentioned dimensions can be dealt with separately in class, as single assignments with a functional scope. However, in line with the integrated case study method, we recommend to develop a program in which all dimensions are be discussed by the students integrally. The approach can be aligned with the help of the following questions:

1. What is the business model of IQ Pass at the moment?
2. What is the level of integration of IQ Pass in Boels Rental at the moment?
3. What is the present balance between exploitation and exploration of IQ Pass?
4. What is the present stage of servitization of IQ Pass?
5. What can Robbert Willemsen do to overcome the growth dilemmas of IQ Pass?

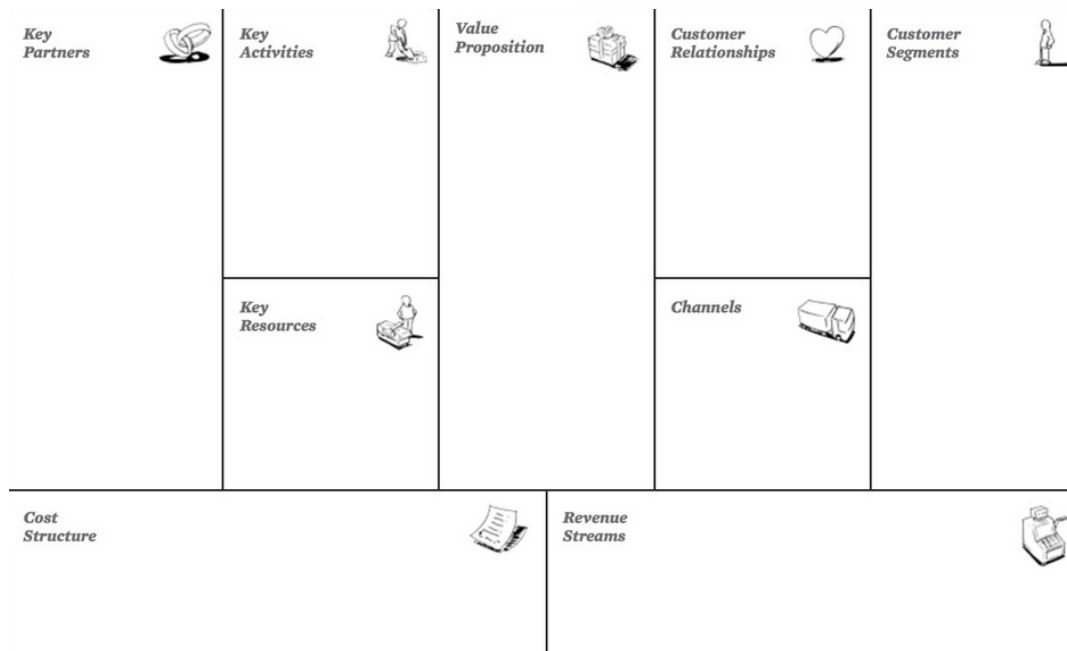The answers are generally answered in the outline below.

Instruments

The case study is designed to teach and apply the following strategic management tools:
- business model analysis
- value proposition design
- balance between exploitation and exploration
- servitization model analysis

Solution outline

1) Describe the business model canvas of IQ Pass?

ECASA
European CAse Study Alliance
2019-1-DE01-KA203-005037

Co-funded by the
Erasmus+ Programme
of the European Union

Source: Osterwalder / Pigneur, 2010

2)What is your opinion about the integration of IQ Pass in Boels Rental?

Need for strategic interdependence

		Low	High
Need for autonomy	High	Preservation	Symbiosis
	Low	Holding	Absorption

Source: Haspeslagh and Jemison (1991)

A company acquired by another company can be integrated in several ways in the parent company. When there is no need for autonomy and the strategic interdepence is limited, the acquisition can be positioned as a separate entity in the holding company with a lot of autonomy. With low autonomy and high strategic interdepence, the acquisition is completely absorbed and will loose its own status. When there is need for autonomy and the strategic interdepence is low, the acquisition can be preserved and the acquired company may keep much of its own status. Finally, when there is much need for autonomy and strategic interdepence is strong, a complete symbiosis can be strived for, then both companies will be integrated completely.

The four options are not static. Often, a new acquired company will be given some autonomy within the new constellation, further integration may take place later when procedures, products and people have come more together. That is the case for IQ Pass. Its present

position can be considered to be 'preservation'. It is given autonomy, although the parent company facilitates some business support functions and stimulates cross-overs in sales. It can be expected that more integration is to come, especially when more entities of Boels Rental can profit from the data intelligence of IQ Pass and IQ Pass products and services can be sold through the complete network of Boels.

In a business environment characterized by rapid technological changes, large established firms are looking for ways to acquire new technological capabilities and to explore new business opportunities in order to survive in the long run. However, commercializing new technological capabilities in a corporate organization primarily designed to exploit existing products and services is difficult. One solution is to adopt a corporate venturing approach. Corporate venturing is here defined as the exploration and commercialization of new technologies or products, structurally separated from the organization's exploitation tasks in a corporate venturing 'incubation' structure or through acquiring innovative startups directly from the market.

The corporate venture approach can be successful, but integrating the venture in the parent organization often results in disappointment[11]. In the phase of integration, the venture team finds itself in a new environment often filled with organizational antibodies. Due to fundamental differences in business dynamics, logic, and risk taking behavior, interactions between the new venture and established business create tensions. Moreover, corporate ventures may be perceived as a threat to the established business of the corporate organization, because they can challenge current technologies, cannibalize products, and compete for scarce corporate resources. In addition, ventures may lack legitimation of their technology, product and business model because it is new, disruptive and different. The transition may eventually result in a "forced-fit", which will cause organizational resistance from the parent company.

Solutions to prevent failure when integrating a venture into a large established company are a proper preparation of the integration (understanding gaps in technolog, culture, business model, sales orientation), staff exchange (learning from each other), and sufficient autonomy for the venture (for instance with respect to sales, human resources and accounting).

2) How do you consider the balance between exploitation and exploration at IQ Pass?
The metaphor of ambidexterity has been used by researchers to refer to the ability of the organization to maintain dual attention on exploration and exploitation activities in order to survive and excel the present, and secure the future, by creating potential for sustainable growth in future (Sinha, 2015). It was introduced by March (1991), that focused on the combination of exploration en exploitation. Exploration is the set of activities to develop new products and services. it is about research, experiment, development and testing. It requires autonomy, flexibility, creativity. Exploitation is the set of activities to improve, produce and sell existing products and services. It centres around sourcing, manufacturing, marketing, sales

ECASA   European CAse Study Alliance
2019-1-DE01-KA203-005037

Co-funded by the
Erasmus+ Programme
of the European Union

and distribution. Exploitation asks for stability, control and efficiency (O'Reilly & Tushman, 2013).

The competences and principes required for both set of activities differ and can even be mutual conflicting, making it difficult to unite them in one organization, department or single person. However, both exploration and exploitation are crucial for a company to develop: without exploitation, one might hold on refining the product without making money, without exploration one might fall behing market developments. Ambidexterity ensures current as well as future viability (Govindarajan, 2006) Thus, companies have to find an appropriate balance between both models and bridging the conflicting conditions.

During their life, companies generally go through a cycle from exploration (start up) towards exploitation (maturity). At the start, there is no structure and no stability, all attention is directed to the development of a product or service. With the growth and success of the company, gradually elements of the exploitation model are introduced:, such as management procedures and measures that foster efficiency. At a certain moment, bureaucracy can even impede exploration. That can on the longer run cause the company to default.

In the case of IQ Pass, the current accent is on exploration. The company is relatively young and still has a 'startup culture' with a small team of mere technological experts. Its products and services are developed in close cooperation with a limited number of customers. Exploitation is arising, however. The general ambition to grow stimulates the company to focus on selling existing products and services. That is emphasized by the takeover by Boels Rental, that gives much room to leverage on the group's network and customers. However, the situation is ambiguous. To grow further in servitization, IQ Pass needs to maintain a focus on innovation. Moreover, because its supply is complex sales will never be successful without technological input and customer adjustment

3) What is the position of IQ Pass in the servitization stages model?

The market of access control is a typical market where the process of servitization is going on. As a response to changing customer needs and buying practices, established manufacturing firms are increasingly extending their business, following the industry value chain 'downstream'. Looking for a more stable income during economic turmoil, manufacturers of capital goods are organizing themselves to deliver services and 'integrated solution offerings' that combine both physical products and services. IBM and Xerox are well-known examples of corporations that shifted from products – computer hardware and copiers – towards services – consultancy, maintenance, document management, etcetera. Servitization of manufacturing is conceptualized as a change process whereby a ompany deliberately or in an emergent fashion introduces service elements in its business model[12].

---

[12] Bax S.A. and F. Visitin (2017), Meta-model of servitization: the integrative profiling approach, Industrial Marketing Management, volume 60, number 1, pp.17-32
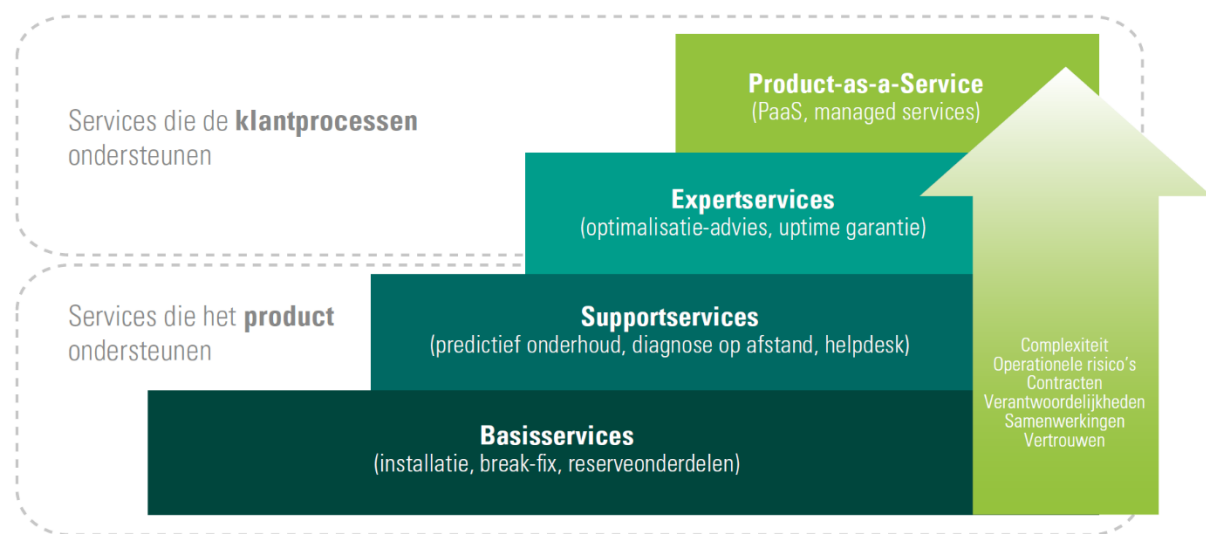
In the literature[13] servitization is often described to services levels, responsibilities, risks and complexity (figure 2). The figure shows at the bottom services that support the product, such as basic services like installation, testing, spare parts servicing, and supportservice. Higher ranked are services that support business processes of the customer, expert services like consultancy and uptime guarantees. At that top level, Product-as-a-Service (PaaS) can be deployed as revenue model; in that case the product ownership remains to the manufacturer and the customer pays a fee per use.

---

[13] Baines, T., Lightfoot, H. (2013). 'Made to serve: how manufacturers can compete through servitization and product service systems.' Chichester, West Sussex, United Kingdom:John Wiley & Sons Inc.

European CAse Study Alliance
2019-1-DE01-KA203-005037

Co-funded by the
Erasmus+ Programme
of the European Union

Figure 2: Stages of servitization model[14]

Services als verdienmodel voor de industrie

The various phases of servitization can be considered to be stages in business model innovation. In each stage, the product-service system of a supplier is reconsidered, new value propositions defined, and new ways to internalize value designed. Business model innovation requires close contacts with customers. Moreover, it asks for a dynamic set of competences. Finally, a service mindset is necessary in the whole organisation: not only the sales force, but also R&D, engineering and manufacturing should be able to understand customer needs and should be fully dedicated to come up with better (technological and organizational) solutions for the customer every day.

The Praetimus /ABN-Amro servitization maturity model sketches four stages of services. A company can develop from *product manufacturer* to *value added manufacturer*, *full service provider* and, finally, *integrated solution provider* that is fully dedicated to deliver solutions. The model is a simplified overview, as a company in practice can never be positioned in one specific stage. For different customer segments, different levels of servitization can be deployed. Both manufacturers and their customers go through a learning curve, with respect to contents of services, exchange of data, related values and risks, and level of mutual trust.

The first stage describes a traditional product manufacturer. Basic services, such as maintenance and spare parts, are considered to be a 'necessary evil' that takes money and time. In the second stage, services are considered to generate value, for instance predictive maintenance and spare part management. Companies in stage 3 position themselves as *full service provider*. They offer additional services, such as training and consultancy. The fourth stage is the *integrated solution provider*. Here, the focus is completely on services. Companies in this stage integrate hardware and software of third parties as well into one solution for the customer.

---

[14] Kemps, D., A. Goense, en F. Marks (2021) Services als verdienmodel voor de industrie, Praetimus/ABN-Amro, Amsterdam, september

European CAse Study Alliance
2019-1-DE01-KA203-005037

Co-funded by the
Erasmus+ Programme
of the European Union

A key role in the process of servitization play data. On the one hand, (user) data can help to improve the product itself, the delivery process and the service package. That can primarily foster efficiency of the manufacturer. On the other hand, data can be the basis for advanced services to the customer, from predictive maintenance of hardware towards optimizing business processes of the customer and its partners in the value chain. Servitization thus requires thorough insight in data (sources, types, etc) and the business system.

IQ Pass never was a traditional manufacturer. From its origin, IQ Pass combined physical products with digital services. At the moment the case study describes, IQ Pass is a service provider – it is somewhere between stage 2 and 3. It is definitely more than a manufacturer with basic services, as it offers a few advanced services. However, it does not have reached the stage of full service provider and even not the stage of total solution provider. To arrive there, the company has to invest in thorough insights in customer processes and needs, build capabilities to manage and interpret data, and to offer services that optimise business processes of customers. A possible intermediate step is to deploy data to improve the efficiency of IQ Pass own business processes. That seems necessary, among others, to standardise its business proposition and optimise its delivery in order to expand its sales to existing customers of Boels Rental. To conceptualise the various possibilities and steps, the model of Frank et al (2019) can be helpful.
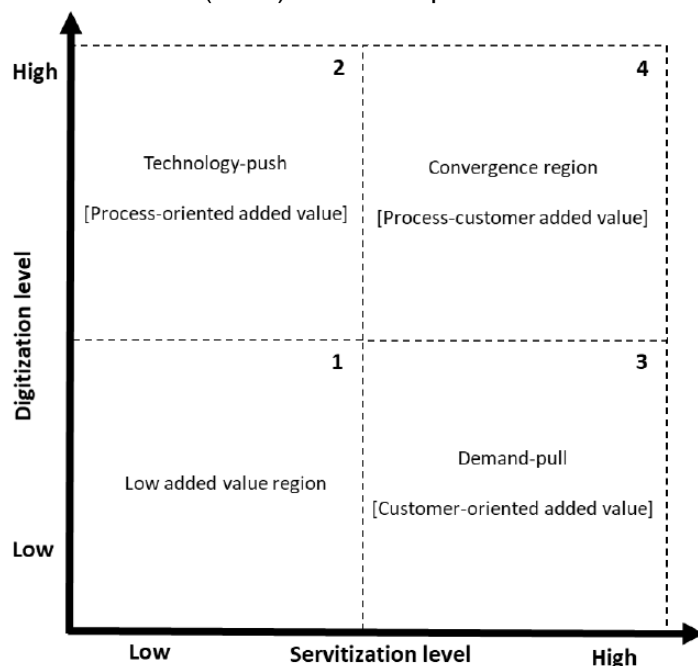
Source: Frank et al. (2019)

4) **What solution can be presented to Robbert Willemsen to overcome his dilemmas?**

This is an open question where a lot of different options can be brought forward. There are no good or wrong answers beforehand. More important than the specific option are the arguments that students give and the way they bring the dillema's together in an integrated way forward for IQ Pass. Here a list of possible options are listed:

European CAse Study Alliance
2019-1-DE01-KA203-005037

Co-funded by the
Erasmus+ Programme
of the European Union

− Keep some autonomy from Boels Rental. That especially is important to continue own R&D at IQ Pass and to keep customer intimacy with some its 'own' clients for joint development. With some autonomy, IQ Pass can hold its explorative culture to certain extent, necessary to bind and attract smart engineers.

− Create business proposition that can be fit easily in the Boels network. Some of IQ Pass propositions are too complex to be sold by Boels sales forces and probably too complex for many clients. A standardised 'light version' can be integrated in the Boels portfolio and help to penetrate in the access control market in Europe fast.

− Invest in data management capabilities. The future is exploiting data for better decision making (within the firm and its customers). IQ Pass has to invest in dedicated expertise at the technical as well as commercial side. Maybe, new staff can be hired together with Boels, as the parent company may have to invest in a data driven approach as well.

− Focus on market segments. A data driven approach is only feasible when there is detailed insight in customer operations. That asks for a focus on one or a few market segments to start with. Given the position of Boels Rental in the industrial market, a good symbiosis and sufficient growth options can be found in that industry.