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FROM ON-PREMISES TO ON-DEMAND: LEARNING FROM TWO CASES OF TRANSFORMATION OF SOFTWARE COMPANIES

Complete Research

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Abstract

The software industry is facing a fundamental change from On-premises to On-demand software. To survive, well-established companies have to adjust strategies and governance. One of the most difficult challenges is to shift the focus from the (still) profitable On-premises market to an, as yet unprofitable, On-demand market. This requires a major rethink for managers as well as for company structuring. Based on our case studies and Christensen's theory for managing disruptive innovations, we wish to learn from software companies and their transformation strategies to discover to what extent the theory's recommendations are applicable for software companies. We have seen that a company needs an effective strategy in order to survive market changes. From our two cases we learned that a successful transformation strategy consists of the combination of Christensen's recommendations, its individual adjustments as well as some additional strategies. We were able to develop seven propositions for software providers to give ideas in order to better cope with the transformation process.

Keywords: Transformation strategy, Cloud Computing, Theory of Disruptive Innovation, Software Industry.

1 Introduction

For a long time On-premises was the dominating delivery model for the software industry. Installed software runs on computers on the premises of the persons or organizations using the software (Buxmann et al., 2008). Now, however, cloud computing technology, using the Software as a Service (SaaS) model, allows consumers to use the provider's applications on a cloud infrastructure. This development has meant a fundamental change within the software industry (Benlian et al., 2010). "Cloud computing is a model for enabling ubiquitous, convenient, On-demand network access to a shared pool of configurable computing resources that can be rapidly provisioned and released with minimal management effort or service provider interaction" (Mell and Grance, 2011). A few years ago no one could see where the development would lead to and the potential that lay within. However, recent years have shown that On-demand software has become fully established and become an important way to deliver software in the information technology (IT) landscape. The concept of SaaS is nothing new. Some see it as a form of outsourcing, resulting in some similar advantages and disadvantages (Benlian et al., 2010). Others note that Application Service Providing (ASP) can be seen as the ancestor of SaaS (Günther et al., 2001). The difference between these concepts is that SaaS might have a lot more potential and offers more opportunities for both users and providers. This potential steams mostly from the development and widespread adoption of internet technologies and standards. Today a user simply needs access to the internet via web browser which is not a critical point anymore. Concerning ASP, interested parties needed comprehensive IT expertise and high upfront investments in IT. This might be an explanation why ASP was not able to revolutionize the

market. However, due to the IT development, there is great debate on the potential of SaaS to disrupt the structures of the software industry (Lyytinen and Rose, 2003; Keller and Hüsig, 2009; Sultan and van de Bunt-Kokhuis, 2012; DaSilva et al., 2013; Kaltenecker et al., 2013).

Disruptive innovations have the potential to create a new market as well as both disrupting the existing market and displacing earlier technologies (Christensen, 1997). A number of examples in various industries have proven that incumbents are often not able to change strategies in spite of good managers running the company. In order to survive in a changing industry, strategies and governances of a company have to be reconsidered. Well-established companies have to think about offering products in the upcoming market. Adhering rigidly to old ways and not evolving can lead to problems such as losing market shares and not staying competitive (Bower and Christensen, 1995). Basically, there are two types of companies that offer On-demand software: Start-up companies, which are new in the market and start right away with SaaS product, and established companies which already offer software products in the On-premises market. Start-up companies struggle with issues typically related to their resources (Christensen, 1997). On the contrary, well-established companies have problems developing products based on new technology. SaaS products require quite distinct capabilities compared to On-premises products. Additionally, established companies have to shift their focus away from the (still) profitable On-premises market towards an (as yet) unprofitable and unknown On-demand market. Although this is an urgent challenge, neither literature that focuses on software companies (De Marez et al., 2011) nor on SaaS (Benlian et al., 2010) responds to this problem. However, we can revert to the knowledge from innovation management theory. The phenomenon of changing industries due to disruptive innovations is well-known since Christensen (1997) introduced his theory of disruptive innovation to academia and practice. He explains by means of examples from different branches what disruptive innovations are and what they mean for companies. Additionally, Christensen also provides advice on how affected incumbents should deal with these situations. The strength of this framework lies in the simple way in which the phenomenon is described. Many studies have therefore used the theory to analyze industries and give support to management decisions (Markides, 2006; Yu and Hang, 2009). However, Christensen's recommendations on how well-established companies should handle such situations are quite general and only address big players (Yu and Hang, 2009). Strategies and specific recommendations for smaller and medium-sized companies, especially in the software industry, are absent.

A review of the literature shows that other studies either derive recommendations focusing on other branches (Chandy and Tellis, 1998; Christensen and Overdorf, 2000; Herrmann et al., 2007) or target incremental rather than disruptive innovations (Madanmohan, 2005). Additionally, their focus is on the disruptive phenomenon itself without providing recommendations for managers (von Hippel, 1986; Afuah, 2000; von Hippel, 2001; Chesbrough, 2003; Soukhoroukova et al., 2012; Lucas and Goh, 2009; Downes and Nunes, 2013).

According to the dynamics in the software market outlined above, this paper aims to achieve two things: Firstly, due to our case study approach, we hope to learn how successful companies deal with disruptive changes in the market. We wish to learn from their strategies how they handle the transformation process from an On-premises company to a company focusing on SaaS. Based upon our understanding, a successful company offers a stable and robust version of its On-demand software and already generates revenue with its products. Secondly, supporting the idea that SaaS is an innovation with a potentially disruptive character, we choose Christensen's framework and investigate the applicability of his recommendations to the software industry and its players. As small and medium-sized companies represent a much greater part of the market than the big players (Destatis, 2013), recommendations and strategies for those companies should be taken into account.

The remainder of this study is structured as follows. First, we give a brief overview of the theory of disruptive innovation as well as a summary of the state of the art concerning recommendations and strategies due to disruptive innovations. Next, we describe our methodology in detail – a case study approach. We then present the results provided by our sample. Finally, we discuss the results, which

then lead to recommendations for software incumbents and draw up a number of conclusions, further research options, and an overview of the potential limitations of this study.

2 Theoretical Background

2.1 Theory of Disruptive Innovation

Christensen and Bower (1996) define disruptive technologies as technologies that disrupt an established trajectory of performance improvement, or redefine what performance means. In the sense of Henderson and Clark (1990), trajectory-disrupting changes are typically simple architectural innovations. These new innovations can rarely be used in established markets, particularly in their early phase (Christensen, 1997). Christensen further characterizes disruptive technologies as initially underperforming the dominant technology in terms of mainstream attributes. However, disruptive technologies have other features niche-market customers value. Products and services based on new technology commercialize in emerging and insignificant markets, mainly as they are initially unwanted by leading companies' most profitable customers. Additionally, established companies retain their old product line and try to develop and improve its performance because the potentially disruptive technologies cannot be seen as a rational financial option. Regardless of these companies' decisions to invest or not to invest in the potentially disrupting innovation, the new technology slowly but steadily improves, until it meets the low end of mainstream performance standards. We see that start-up companies in particular promote this kind of development. Ultimately, the new products and services have the power to displace the dominant technology (Christensen and Rosenbloom, 1995). The previously inferior technology becomes fully performance-competitive. There is a high likelihood of the bigger players being pushed out of their core business because of new technology innovations.

Christensen and Raynor (2003) note that there are three different strategies for a firm in order to create new businesses: Sustaining innovation results in performance improvement concerning attributes valued by the mainstream market. Companies aim at their most profitable customers who are willing to pay for improved performance. Sustaining innovation helps to improve or maintain profit margins by exploiting the existing processes and cost structures, and making better use of the current competitive advantages. The second strategy is, by contrast, a low-end disruption. It creates products which are good enough in terms of the traditional attributes of performance at the low end of the mainstream market. This strategy focuses on over-served customers by utilizing a new operational or financial approach. The third and most interesting dimension is called new-market disruption. The performance of the product or service results in a lower performance in traditional attributes but improved performance in new attributes; typically simplicity and convenience. This strategy targets non-consumption, i.e. those customers who historically lacked the money or capacity to buy and use the established products or services. The business model must make money at a lower price per unit sold, and at unit production volumes that initially are small in emerging markets.

Although the term disruptive technology is widely used, the expression disruptive innovation seems more appropriate in many contexts since few technologies are intrinsically disruptive. Often, the business model is seen as an enabler for the technology to become disruptive (Christensen, 2006). After all, it is important to note that disruption is an ongoing process; those who disrupt in one generation might become disrupted themselves in the next. Although Christensen's theory of disruptive innovation is well-established in management literature (Tellis, 2006), there are also critics (Danneels, 2004; Tellis, 2006; Yu and Hang, 2009). These critics target the theory itself but omit its recommendations. It is, however, notable that its recommendations are not specific enough and should therefore also be viewed critically. The next section presents these recommendations.

2.2 The Theory's Recommendations

Based on Christensen's observations, his ex-post analysis of examples, and interviews with managers, he was able to provide some initial recommendations for companies to handle disruptive (low-end or

new-market) innovation. These strategies address managers from big companies across various industries (Christensen, 1997). Based on Bower and Christensen (1995), Christensen and Bower (1996), and Christensen (1997) we can sort their advice into four categories, which are not exclusive.

The first category is called spin-off strategy. In big companies, consultants or non-executive employees on the second tier of decision-making often recommend which projects should be pursued financially (Barnard, 1968). These people are interested in proven, quick return, high profit projects and suggest such opportunities to senior managers. That is why they often prefer projects which target sustaining technologies instead of disruptive technologies (Christensen, 1997). Ideas that are rejected in the first selection stage (second decision-making level) are often unknown to senior managers (Christensen, 1997). Thus, potentially disruptive innovations have fewer opportunities than sustaining technologies concerning the allocation of resources. One solution for this problem might be the foundation of a spin-off company (Brower and Christensen, 1995; Christensen and Bower, 1996; Christensen, 1997). The subsidiary should work independently from established business, focusing on the potentially disruptive innovation. Spin-off employees are more willing to accept smaller successes in the upcoming market (Christensen, 1997).

The second category is called leader strategy. This point targets the question whether a company should enter the upcoming market as a first mover or a follower. Christensen makes this recommendation based on empirical data from the hard-disk industry. He found that companies bringing a product to the market that was based on disruptive technology within the first two years of its appearance, are six times more likely to establish themselves in the new market compared to companies that chose the follower strategy (Christensen, 1997). This pattern was confirmed by numerous studies of other industries, providing external validity (Christensen, 1997).

The third category is called expert opinion strategy. Big companies are often listed companies. The stock price reflects the profitability of a company and is under the supervision of shareholders. The stock price also has a signaling effect on internal and external stakeholders. Furthermore, a managers' performance is often judged by the stock price development. In order to generate short-term profits, sustaining technologies are essential (Christensen, 1997). In the long run however, sustaining technologies can be displaced by disruptive innovations. Staff from the technology department, or research and development departments, are first to recognize what is coming next. Therefore, their expertise and opinion should be integrated into the investment decision process. While this would almost certainly lead to investments in less profitable products in a short term perspective (which might in turn lead to shareholders disagreements), in order to support the long-term perspective, expert opinions from technological employees should be taken into account (Brower and Christensen, 1995).

The fourth and last category is known as trial and error strategy. In the early phase, disruptive innovations have no chance in mass markets. Therefore, it is inadvisable to ask mainstream consumers from the mass market regarding their wishes and expectations for product innovation. Traditional market analysis strategies are successful in sustaining innovations but cannot be used for disruptive markets. Therefore, a different technique must be found. Christensen (1997) recommends a stepwise approach as the key to finding a potential market for the disruptive innovation. We call this approach a trial and error strategy. It consists of test markets or test products. Investments in these test markets should be carefully monitored and not allowed to get out of hand. The strategy results in a step-by-step market approach accepting trial and error phases (Brower and Christensen, 1995).

3 Method

3.1 Case Study Introduction

Case studies are a preferred way to investigate real-life phenomena over which the researcher has little control (Yin, 2009). The case study research method has already provided many answers to management problems (Eisenhardt and Graebner, 2007) and is particularly suitable for answering why and how questions (Siggelkow, 2007). According to these facts and owing to the lack of prior

research, the case study approach (Lee, 1989; Yin, 2009) seems to be an appropriate way in order to investigate our research questions. The case studies in this paper can be classified according to the following criteria (Keil, 2002; Yin, 2009): Firstly, we used instrumental case studies, since our companies were selected to advance the understanding of transformation strategies due to disruptive innovation in the software industry. Secondly, a multiple case approach was chosen. This allowed reliable data analysis and a general but thorough understanding of the overall case context. We used the following criteria to select the case studies. (1) The organization was a well-established player in the software industry and not an entrant or start-up company. (2) The company had begun with a pure On-premises offer which was successfully established in the market. (3) The company also offered a stable and robust On-demand software (not a beta-version), or exclusively On-demand products. (4) Revenue was generated by both, On-premises and On-demand products, or the company had even finished its transformation process and was generating revenue only from On-demand software products. With regard to other characteristics such as size, branch, and age we decided on a broader focus without restrictions. Companies were accessed by means of network events, conferences, and cooperation in former projects. Thirdly, our case studies had an inductive purpose. Lastly, this case study was retrospective, since we collected past data at a single point in time.

3.2 Research Setting

The sample size in qualitative studies depends on the judgment of the researcher (Pare, 2004; Yin, 2009) and we decided on two case studies. This was based on our requirement of gathering sufficient information to answer the research questions. Our companies' headquarters are both located in Germany. Company A was founded in the early 1970s while Company B was founded in the late 1980s. Both companies offer Business-to-Business (B2B) application software and started as pure On-premises providers. In 2012, Company A's sales exceeded €16 Billion and had more than 65.000 employees. By contrast, Company B's sales exceeded €20 Million with just 120 employees worldwide. Our companies are therefore classified as large (A) and small to medium-sized (B). Both companies are internationally represented and their products are available in several countries and languages. Both companies started some years ago with an On-demand strategy. Nowadays, they both offer SaaS products besides their On-premises software. Their cloud-based products generate 10% (A) and up to 1% (B) share in turnover. These percentage shares should not be underestimated. Both companies traditionally operate in the B2B On-premises market where license contracts continue to exist over a certain amount of time and cannot be displaced by other arrangements immediately.

3.3 Data collection and analysis

In order to ensure a triangulation of findings (Yin, 2009), we collected qualitative and quantitative data from multiple sources e.g. a wide range of industry magazines, newspaper articles, companies' annual reports, studies and official statistics. In our research setting, in-depth interviews were a key means of probing individuals' subjective experiences (Suddaby, 2006).

Several semi-structured face-to-face interviews with managers and specialists formed the basis of the data collection process, with managers answering the extended version of our questionnaire. The extended version included questions about the interviewees themselves, their current position in the company, and role within the transformation process. Following these personal details, the interview listed several questions concerning cloud computing technology and to what extent the interviewee judged its disruptive potential on the software market. In this way we were also able to ensure that the participant's role and organizational context was taken into account (Dibbern et al., 2008). In the third part the manager described in detail the company's transformation process. The fourth part of the interview discussed aspects concerning the theory of disruptive innovation. We conducted the extended version of the interview with the Head of Cloud Strategic Operations and Key Projects and Senior Vice President (Company A) and the company's president (Company B). These interviews were conducted in fall 2013 and each interview lasted 120 minutes. The managers recommended

employees who were familiar with the transformation process and therefore suitable for further interviews. Within the transformation process these employees were responsible for topics that related to infrastructure and product (Company A) as well as online operations and products (Company B). These employees received a shorter version of the questionnaire, which included personal information, questions about cloud computing technology as well as a detailed section targeting the theory of disruptive innovation. This method meant we were able to cross-check the managers' statements. Interviews with employees were conducted immediately after those with the manager and were 60 minutes in length. The recorded case studies were professionally transcribed, stored and saved.

We concentrated on the companies' individual transformation process and tried to discover what we could learn from them and their transformation strategy. In the second step, we analyzed to what extent Christensen's recommendations were applicable to software companies in general. In order to answer these two research questions we made transcripts of the recorded interviews. We then created summaries of each of the interviews and added relevant information from additional sources. From these case summaries, we derived strategic decisions in the individual transformation process. Afterwards, we identified statements which matched the four categories given by Christensen's theory. Due to the fact that not all aspects matched these four categories, we allowed some statements to open up new categories. Thus, we were able to produce further recommendations based on our observations. Following replication logic (Eisenhardt, 1989) we revisited our data to examine the companies' strategies and always cross-checked our findings with secondary data. Working with a research partner also provides assistance (Benbasat et al., 1987). Thus, a second researcher coded the data separately. In the end, the two researchers fully agreed with the outcomes.

4 Results

4.1 Within-case results (Individual Business Strategy)

In this chapter we focus on the two research questions. In order to answer these questions we first present our case study partners separately (paragraph 4.1). We then try to adapt these strategies to the four categories (4.2). Afterwards we work out important individual strategies as well as interesting commonalities in strategies, despite differences in companies' characteristics (4.3). In the last paragraph of this chapter (4.4) we present seven propositions, summarizing what we learned from successful software incumbents and their transformation strategies (1st research question) and to what extent the theory's recommendations are applicable to software companies (2nd research question).

4.1.1 Case 1: Company A

Following some basic discussions about the dynamics in the software industry, Company A formed a group for solution and product management in 2005 which finally resulted in the establishment of a separate On-demand business unit operating independently from the On-premises business. The On-demand division was equipped with decision-making powers and resource competences. Thus, the company tried to prevent conflicts of goals concerning established and new businesses. For the separate unit, the company recruited internal and external staff. Internally, they tried to acquire the most innovative employees. Externally, they looked for experienced people. Some of the external employees had previously gained experience in transformation processes in other companies and industries. "It is important to have a powerful team with innovative-experienced employees. They are engaged concerning the transformation idea" said the Senior Vice President. Based on market research institutes and industry experts, the company expected a large On-demand market to emerge. Instead of focusing on the whole transformation right from the start, the company started from 2005 to 2007 with the idea of building up a new business area. "It is only possible to transform the company when there is a strong established business unit alongside the new business area protecting the growing business" said the Senior Vice President. In order to keep the established business strong, the company ensured not to cannibalize established products. The idea was to address a completely new customer group

with On-demand products. Thus, Company A provided big customers with the established On-premises product and targeted small and medium-sized companies with the On-demand solution. "The company needs to make the market wherever possible, rather than react to what is going on within it" stated the Senior Vice President, adding "It's not the big one who eats the little one, but the fast one that eats the slow one."

First, the company tried to supply new customer groups by simply transferring an unchanged On-premises product into the cloud. However, this strategy was unsuccessful. Company A had to identify the most important cost drivers of their On-premises product first and learn how to build software that could be offered on a cloud infrastructure. "We had to learn that we had to transform internal competence first, before we could offer an On-demand product" an employee said. This learning was expensive and lengthy. "During this trial and error phase the company lost a lot of money" added the Senior Vice President. Another lesson learned in this phase was that On-demand software met much higher expectations concerning attributes such as accuracy, freedom from errors, and robustness compared to On-premises software. Although the company knew that it was important to step into the market as a leader, they were also aware that this should not happen at any cost. Quality was important in order to maintain the company's brand name. Within the On-premises world the company's brand name was associated with high quality standards. Offering an On-demand solution containing bugs would carry the risk of losing this status in the new market and in established business. Nevertheless, the company discovered that a brand name was extremely helpful in entering a new market as customers already trusted the company.

Based on cash flow, the company was able to build up the On-demand business unit. The company's basic message was: Cash is used to grow the business. Company A was in the fortunate situation of needing neither venture capital nor loan capital. Thus, they were not required to justify decisions to third party investors. This strategy caused shareholders to call for a higher dividend payout instead of investments in On-demand products. "It was only possible to financially support the separate business unit because the management held firm to its decision" said the Senior Vice President. Additionally, Company A decided against employing consulting firms which enabled it to remain independent.

The company was embedded in an ecosystem including hardware, technology and implementation partners. A strong ecosystem helped all partners to grow and lessened the chance of potential future rivalries. In order not to lose important partners such as subcontractors and suppliers during the transformation process, the company encouraged these firms to step into the new market in partnership. A lot of their suppliers adjusted their products and joined the company. Thus, Company A was able to work with familiar partners whom they trusted. The company managed to grow in a new business without losing the advantages of its established ecosystem. The key phrase in the ecosystem approach is co-innovation strategy. Existing and potentially new customers were invited. Together with employees and members from the management, they designed On-demand product features. "The co-innovation approach was the most important way of developing new products and services" stressed the interview partners independently. Immediately after these meetings, ideas and innovations were developed, implemented, and finally tested within a fictitious firm as well as in companies that are sister companies. A sister company is managed by executive directors from Company A. Thus, software prototypes were first rolled out to associated partners. When all bugs had been fixed, the product was introduced to the mass market. Simultaneously, Company A compared the prices of comparable products from competitors in order to set prices competitively.

In the later transformation stage, the strategic acquisition of start-up companies was an important step. The company discovered that entering the market with a homegrown product offering a complete solution in the cloud was not the best strategy to penetrate the On-demand market. "The company learned that the cloud market was not ready for such a comprehensive solution" the employee stated. Thus, the company invested in the acquisition of more focused cloud solutions. Consequently, the company accessed new ideas and knowledge and strengthened its position in the market. Acquired companies were treated individually, some staying independent, while others were incorporated.

Today, the company considers itself as an On-demand company and sees itself nearly at the end of the transformation process. With a turnover rate of 10% concerning On-demand products the Senior Vice President believes that "in the next years this business area will further expand." Concerning the next megatrend, he added: "I think the next step will be industry 4.0 focusing on medical technology and big data applications. Thus, the next revolution will focus on the content of software and not on the way we consume it".

4.1.2 Case 2: Company B

"Our way into the cloud started six years ago," recalled one manager at Company B. The company followed a step by step approach with carefully thought out procedures, some of which came as a logical progression from prior company decisions. The company decided to develop an On-premises software that was multi-client capable and scaleable. Therefore, basic features for the On-demand product already existed before the company decided to step into the new market. This software architecture positively influenced the development of the On-demand software. Nevertheless, the company experienced difficulties until it finally released its first SaaS version. "It took a lot of effort, time and money to convert our software to a browser client infrastructure" the manager said. Transforming internal competences and generating know-how is important to realize the transformation process. Skills in terms of product development and product placement were generated through a learning by doing approach, expert interviews at fairs, and analyzing rival firms' strategies and price policies. In addition, the company acquired another firm in order to benefit from its know-how and technology. Another interesting way of generating new ideas and knowledge was the foundation of a virtual start-up company. The manager explained, "We gave three students some SaaS prototype and the challenge of improving it until it was ready for the market". These students were intrinsically highly motivated and came up with completely new solutions for existing problems. Furthermore, they were not as expensive as regular employees "By means of this strategy we saved internal resources by generating added value at the same time" said the manager.

The company was not large enough to establish a separate spin-off that was exclusively responsible for an On-demand product. However, it was possible to found an online group. Employees in this group focused exclusively on the development of a SaaS product. "We found that online group members were motivated and engaged" the manager stated. Probably the reason for this was that the company selected people showing a high acceptance for the development of new businesses. "Staff from established business units were not jealous or skeptical because I clearly communicated that the On-demand business wouldn't cannibalize established products" stressed the manager. The communication and the manager's attitude was key in the transformation process, the manager stating "such a comprehensive process is only successful with strong managerial support in the background". In addition, the core business had to continue to work independently alongside the development of new business areas. "Generally, this is a matter for bosses" he said.

The company faced two crucial issues in the transformation process: the general demand for SaaS product in the market and the distribution constellation with resellers. The company believed strongly in the idea that cloud computing would soon disrupt the structures of the software market. With hindsight, the manager admitted that they had "slightly overestimated the demand at that time". This overestimation was caused by an overreliance on market forecasts and the fact that the company's customers asked specifically for On-demand products. Despite the customers' interest in SaaS solution, in the end they opted for the established On-premises product. Asking customers about this behavior, they stated that they had more trust in an On-premises solution but intended to switch in a few years' time. "Consumers wanted to ensure that the supplier they chose could later provide them with an On-demand solution" the manager explained. "Customers and providers have to think about switching costs in this context. Thus, it is important to offer both types of software now" he added. Furthermore, because of the lead-time, the company was a step ahead compared to rival firms. When the market was finally ready for On-demand software, "we could offer a solution immediately while competitors were still in the middle of their trial and error phase" the manager said. The second critical

issue in the transformation process was the distribution structure. Originally, the company had cooperated with resellers which worked well as a strategy for the On-premises business. Now, the company was offering its resellers also On-demand software. These intermediaries presented both solutions to end users. However, resellers earned more money with the On-premises product. "In order to prevent resulting problems, we adjusted our incentive structure and paid the reseller 30% of the margin upfront to foster the On-demand product sells" the manager said. Additionally, the company started direct sales for the On-demand software in order to be independent from resellers.

Company B supplies predominantly medium-sized companies with established products. According to the manager "part of our On-demand strategy is targeting smaller companies". The reason for this decision is that smaller companies appreciate On-demand solutions, while medium-sized companies are more sceptical. "Our SaaS solution can learn from and grow with smaller customers". Thus, the company sees this as a test market for bigger companies and bigger On-demand solutions. In addition, Company B used its own company as a test market. "We roll out the developed software in our company and employees test the prototype" an employee said. Due to fast internal feedback loops, the company was able to improve the software rapidly. The company's market forecast strategy concentrates currently on the observation of the big players' strategies. These market giants have the power to influence a customer's preferences and acceptance of innovative developments. In order to stay in touch with the latest trends and movements in the mass market, Company B found that it was essential for smaller companies to orientate on big players. However, "we are aware that this strategy is only useful to refine existing products and not to promote the development of completely new innovations" the manager stated. At this point it is important to underline that disruption is an ongoing force that is always at work (Christensen, 2006). Building on the sustaining innovation concerning the On-demand product could cause an imminent innovation to be missed.

4.2 Applicability of Christensen's recommendations

Both companies established a separate business unit that worked independently. Due to the fact that Company B was a middle-sized firm, the foundation of a disconnected spin-off was not possible from an organizational and financial point of view. Thus, they founded an online group that was comparable to Christensen's idea. Projects and further steps concerning the development of the On-demand product could be discussed independently, focusing exclusively on the SaaS business area. The Senior Vice President (A) and the manager (B) both confirmed that the separation of responsibility and resource allocation was the only way to start a transformation process. Through our case studies we can see that Christensen's idea, the foundation of an independent organizational unit, is applicable to established companies in the software industry. However, the establishment of a completely disconnected spin-off is often not feasible for small and middle-sized companies.

For both companies, it is likely that they survive in the changing market. They follow a leader strategy. "It's not the big one who eats the little one, but the fast one that eats the slow one". That is why Company A stepped into the new market in an early phase although it was one of the biggest players in its field. Company B laid the foundation for their leader strategy with the development of their On-premises product. Strategic decisions concerning the established product led to the fact that Company B was able to transfer the software more easily and faster compared to rival firms. Additionally, it should be noted in this context that Company B offered both types of software (On-premises and On-demand) in their early phase. This had signaling effects for their customers. When the market was finally ready to absorb On-demand software, the company could offer a solution and customers were able to switch easily from On-premises to On-demand without changing the provider. We observed that our case study partners stepped into their market segment as a leader. At the time of writing, it looks as if they will profit from this strategy. Thus, we see that the second recommendation is also applicable to well-established companies in the software industry.

Our third category, the expert opinion strategy, cannot be supported that easily. Both companies took a long-term view and experienced disagreements concerning investment decisions. Company A had to

deal with lack of consensus over dividend payments as it was a listed company. Expert opinions were collected from multiple sources but not explicitly from the technology department. Company A relied on its superior ecosystem, cooperative partners, and customers. Company B also took big players into account and admitted that it would have been advisable in the past to work in closer collaboration with partners and customers. Thus, we can only partly confirm Christensen's third recommendation concerning our case study partners. Well-established companies in the software industry should extend the third strategy to a wider range of expert opinions in order to profit better from it.

The fourth category - known as a trial and error strategy - focuses foremost on the usage of test markets or test products. It is notable that both companies had the same experiences concerning the On-demand product development. In the first place, both companies simply tried to transfer a nearly unchanged On-premises product into the cloud. Learning that this strategy was not feasible, they knew that they had to transform internal competence first, before offering an On-demand product. For both companies, this learning process was expensive and took a lot of time. When they did develop a first version of an On-demand product, both companies used test markets. Company A launched its innovation through a fictitious firm and sister companies while Company B used their own company as a test market. Interview partners from both companies confirmed that only through these experiences and from the resultant use of test markets, progress was achieved for the On-demand product development. Thus, we can confirm the importance and applicability of this strategy concerning our two representatives.

Finally we can conclude that the recommendations derived from the theory of disruptive innovation are generally applicable to companies in the software industry. Because of different characteristics such as company size and branch, the application of these strategies will be unique.

4.3 Individual strategies and commonalities despite differences

Beside the four strategies presented above, we see that both companies developed individual strategies in order to cope with the transformation process. It is important to pick up the most interesting strategies and learn from them.

Company A emphasized the importance of recruiting internal and external staff with the combination of the following attributes: innovation and experience. To achieve this, Company A used headhunters to entice employees from other companies. Company A ensured that it was attractive for potential employees through financial incentives and independent working structures. In addition, Company A was a well-known company with a secure job situation and a positive brand name. Due to its positive image within the software market, Company A was not only able to recruit new staff but also able to promote newly developed On-demand software through the use of its reputation. Furthermore, the establishment of new products in the On-demand market was pushed by the brand name. Consumers relied on this brand and trusted the quality promise. Therefore, Company A's strategy was to highlight the company's brand in order to acquire employees and promote On-demand software.

Company B is much smaller and therefore its staff policies are hardly comparable to Company A. In order to generate new ideas without acquiring employees, Company B used strategies such as the establishment of a students' virtual start-up company. By means of this strategy they were able to generate new ideas and also cooperate with potentially new employees for the future. Furthermore, the distribution strategy was notable. As this company was heavily dependent on resellers, changing the distribution organization was part of the transformation process. The core of the new strategy consisted of two parts: the adjustment of incentive structures and the development of direct sales for On-demand software. This was the only way to promote On-demand solutions.

Analyzing the companies and the markets they operate in, we see two main differences. Company A is much larger (65.000 employees) than Company B (120 employees). Thus, they have different organizational structures, financial backgrounds, and brand name awareness. Additionally they operate in different markets. Besides size and market segment, Company A enjoyed greater market dominance

than Company B. This might also be an explaining factor concerning their experience. Nevertheless, it is remarkable that many similarities in strategy concerning the transformation process can be observed in both companies. These commonalities are presented here.

Both companies started by focusing on the establishment of a new business area instead of targeting the company's whole transformation. The process from an On-premises to an On-demand company was a step by step approach that took time and money for both incumbents. While the companies were transformed, the core business continued to work independently alongside the new business areas. However, in the long run, the companies wanted to transform completely in order to survive in the market. Chen and Zhan (2013) are able to confirm the applicability of this finding with an empirically study on the impacts of SaaS on the financial performance of established On-premises software.

This vision was supported by strong management, with both companies being led by determined and ambitious managers. A historical comparison to the change from mainframes and microcomputers to client-server computing supports this finding, too. There was a difference between a firm that was well managed and prepared for sustaining innovation compared to a firm that was able to manage this fundamental change. Only software companies of the second category were able to successfully survive. Although managers of the first category were aware of the innovation, only managers of the second category were able to react adequately. Managers of the first category had the impression that their business environment did not allow them to pursue the change. They decided against the investment in the new technology because it was not profitable enough in the beginning and would have incorporated taking away scarce resources from sustaining developments, which in turn were needed to compete against current competition. Thus, a software companies' ability to manage fundamental changes was essential to economic survival.

While smaller customers seem to be more comfortable with accepting On-demand software in the B2B market, big companies are still relatively reserved concerning such solutions (Berendes et al., 2013). Doubtless, a reason for this is the contract period of existing licenses. Although our case study partners operate in different market fields, it is clear that both followed the same strategy concerning new costumer groups. Both address firms in the B2B market which are smaller compared to established customer firms. Company A had previously provided big companies with their On-premises software and has now developed On-demand software for middle-sized companies. Company B previously served middle-sized companies in the On-premises world while focusing on small companies in the On-demand market. It seems that companies have to take one step back when developing a product based on new technology. Due to this strategy both companies did not cannibalize established markets and were able to grow with the new customer group. A further similarity can be found in the fact that the transformation process was financed out of the company's cash-flow. This is an advisable strategy because no third party has the right to intervene in decisions and processes. Another very important strategy that both companies followed was the acquisition of other companies. Part of the acquisition strategy is to look for companies that have a good cultural fit and additionally accelerate the implementation of the own strategy. Each acquisition needs a tailor-made integration scenario. Thus, the innovation capability of the target company is preserved. Company A and B profited from the innovation capability, the know-how and technology of these companies.

4.4 Propositions

To conclude, we will summarize what we learned from software incumbents and their transformation strategy and to what extent Christensen's recommendations are applicable for software companies. Based on the findings of our study, we suggest that a successful transformation strategy in terms of an On-premises to an On-demand supplier consists of the combination of Christensen's recommendations and its individual adjustments as well as some additional strategies. From a management perspective we would suggest the following propositions (Tab.1). (1) to (4) are foremost based on the theory of disruptive innovation (Bower and Christensen, 1995; Christensen and Bower, 1996; Christensen, 1997). Additionally we list propositions (5) to (7) according to important individual and common

strategies of our case study partners. The application of recommendations for well-established incumbents in the software industry seems feasible. The recommendations of the theory of disruptive innovation focus on large companies. Due to our choosing case study partners who ranged widely in terms of size, we are able to relativize these recommendations and can provide small and medium-sized companies with some strategic advice.

Source	No.	Proposition
Strategies based on the Theory of disruptive Innovation (Bower and Christensen, 1995; Christensen and Bower, 1996; Christensen, 1997)	1	The foundation of an independent spin-off or a comparable organizational unit could help preventing resource allocation conflicts and the company might therefore more easily follow potentially disruptive innovations.
	2	Preparing the company at an early stage for the innovation and stepping into the market as a leader could be a wise strategy. The company might gather useful experience and might use their time constructively in developing prototypes before offering a stable mass market version.
	3	Gathering information from a wide range of sources (technological staff, cooperation partners, customers, market movements) and sticking to the adopted path despite resistance (e.g. from shareholders) seems to be a promising strategy in order to support the transformation process.
	4	Integrating test products and test markets into the development and prototype phase might prove helpful and an important step towards a piece of fully developed software. This might be especially recommended for rolling out high quality products (robustness, stability, etc.) in the B2B market.
Additional case study findings	5	Recruiting innovative and experienced staff could help in realizing the transformation process successfully. Thereby ideas and innovation may also spring from cooperation e.g. with university or customers. The company might also benefit from strong managerial support.
	6	It might be a good idea to distribute On-demand software directly. Companies could also financially incentivize resellers to foster On-demand sales.
	7	The transformation might be better organized in a step by step approach focusing on smaller software solutions in the beginning. In the course of time, the smaller On-demand solution could grow with its first customers and gain the attention of larger clients.

Table 1. Seven Propositions

5 Discussion, Limitations, Future Research

Over recent decades firms have used IT for strategic and competitive goals, for generating business value and for gaining competitive advantage. IT has enabled new business models and service innovations and opened up new ways to offer products to the market (Buxmann et al., 2008). Thus, our field needs to look at where IT makes an impact on firms and on the software economy. With our study, we tried to make a contribution to this important area.

Our objective is to investigate the strategy of well-established software companies and how they behave successfully in a changing software market. In particular, we focus on the strategic transformation process. We have seen that a company needs an effective IT strategy in order to survive market changes. The use of new strategies and shunning well-established processes challenges traditional companies in the market. This ranges from the decision making process, IT development tasks to the establishment of new areas of operations. We saw that in all cases mechanisms, roles, and structures are needed in order to focus on a company's strategic goal and therefore support findings from Bower and Gilbert (2005). We learned from their strategies and brought them in line with Christensen's theory of disruptive innovation. Finally, we learned that a successful transformation strategy consists of the combination of Christensen et al.'s recommendations, individual adjustments, as well as some additional strategies. The considerations of characteristics such as size or branch are important to develop individual approaches. However, despite these differences there are recommendations which could be helpful for both companies. In the end, we were able to develop seven propositions for software companies to better cope with the transformation process. Thus, we have provided a deeper and richer insight into the area of a software company's IT strategy, especially

in the SaaS business and we hope to have added constructively to the literature of disruptive innovation. Additionally, we learned that the market for cloud solutions is growing but currently market demand falls short of expectations. Consumers of IT services are faced with complex decisions for which they have to take both quantitative and qualitative factors into account. Berendes et al. (2013) found out that cloud solutions are so far only useful for fast-growing start-up companies. Larger companies with special requirements cannot, as yet, realize cost reduction. This might be a reason for the currently restrained market demand.

As with any research, there are a number of limitations that the present paper must acknowledge. As this paper is a predominately qualitative study, generalization of the results is only possible to a limited extent (Myers, 2009). Thus, the results of this study should be viewed as preliminary and interpreted in the appropriate context. We cannot answer the question whether the results would be the same for other branches in the software industry. This limitation is partially addressed by the multiple case study approach (Eisenhardt and Graebner, 2007), which included two organizations operating in different markets. We would like to expand the study to other software incumbents in the software industry. Additionally, we want to see if there are specific patterns visible concerning company sizes and the branches in which they operate. This study relies partly on retrospective data. Thus, respondents can perhaps only imperfectly recall decisions or events. In order to minimize the possible effect of this, the collected data was triangulated. Due to the fact that we asked several people within each company, decisions and events were reported from different perspectives and thus we could reconstruct the facts more accurately. Additionally, we used multiple sources to cross-check statements. More additional research must be done (Bower and Gilbert, 2005) and future research is needed to validate the present study's findings and add more companies to the sample.

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