

# Literature Review on Digital Attacker Approach: Incumbents as Disruptor

*Seminar paper*

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## Abstract

*By means of digitalisation and increasing product individualisation as well as higher customer requirements, established companies are facing major challenges. At the same time, start-ups and digital giants are attacking their business models and making some of them obsolete. This form of innovation is called “disruptive innovation”, as it replaces old business models with new business models using digital services and technologies.*

*The present paper aggregates 18 scientific papers and articles from consulting companies about the “digital attacker approach”. This approach should help incumbents, which are the established companies, to defend themselves from digital disruptive innovations initialised by start-ups and technical giants. Furthermore, the “digital attacker approach” in this paper should give an overview of how a disruption can be done and how an incumbent can attack his own business model. This procedure is also known as cannibalisation. It is designed to ensure companies are not cannibalised by others and can thus survive in the future.*

*Keywords: digital attacker, incumbent disruptive innovation, incumbent as attacker, incumbent as disruptor, incumbent disruptor, disruptive innovation, incumbent defence disruption, innovation’s dilemma*

## Table of Contents

<b>1</b>	<b>Introduction.....</b>	<b>1</b>
<b>2</b>	<b>Background .....</b>	<b>1</b>
<b>3</b>	<b>Literature Review .....</b>	<b>2</b>
<b>4</b>	<b>Findings.....</b>	<b>3</b>
<b>5</b>	<b>Discussion .....</b>	<b>11</b>
<b>6</b>	<b>Conclusion .....</b>	<b>12</b>
	<b>References .....</b>	<b>13</b>

## **1 Introduction**

More than twenty years ago, Clayton Christensen defined the concept of disruptive innovation (Christensen, 1997). Nowadays, the term is still of high relevance due to digitalisation. Particularly incumbents are strongly affected by disruptive innovation, because as Christensen defines the concept, disruptive innovation introduces a change in the market. This means that the business model of an incumbent no longer works and, in a worst case scenario, does not enable the incumbent to generate any customer value (Hüsig et al., 2005, p. 3). With this in mind, it is very important for incumbents to think about digitalisation and how they can defend themselves from disruptive innovation or maybe become a disruptor themselves.

Digital attacker, in combination with disruptive innovation, doesn't mean an actual digital attack, such as a big company attacking a competitor by hacking their server. Digital attacker in this instance implies that companies, start-ups or digital giants, innovate an old market with new products, which are more customer centric than the products of incumbents. By doing so these companies attack the incumbent's business model. This method allows a digital attacker to performing disruptive innovation without attacking anyone in an illegal manner (Wyman, 2018). The term digital attacker is not a defined concept in the scientific sense as it is mainly used by consulting companies, who use the term in combination with a strategy (Guidewire Software GmbH, 2017). Scientific papers mostly talk about disruptors or about disruptive innovations by incumbents (Park, 2018). For that reason the terms digital attacker and disruptor will be used synonymously in this paper.

The strategy of a digital attacker for incumbents is often divided into two parts: the first one is how to prevent and defend a disruption and the second one is how to become an attacker oneself (Gerbert et al., 2015). Both strategic ways will be explained in the following paper.

The structure of this paper is as follows: first of all, the background will explain what a disruptive innovation is and why it might be a problem for incumbents. Secondly, the process of this literature review is explained. The findings of this process are presented in the findings chapter followed by a discussion of said findings. The last part consists of a conclusion of all the information given in this paper.

## **2 Background**

Innovation can be done in two different ways. The first way in which an innovation can be initialised, is a slow and sustaining way. This type of innovation is often characterised by new technologies. The classification of sustaining innovation is the improvement of existing products with the aim of satisfying previously dissatisfied customers (Christensen, 2015). A sustaining innovation can be incremental or radical, because the classification of sustaining innovation is a performance improvement, which can be incremental or radical (Christensen, 1997; Hüsig et al., 2005). The second method is disruptive innovation. C. M. Christensen, who has introduced the theory of disruptive innovation, defines that disruptive innovation introduces a new market or gives previous non-consumers the opportunity to become consumers as well (Christensen, 1997; Kawamoto et al., 2018). Christensen also says that disruptive innovations don't enhance the position of an incumbent, because they are market-driven and disruptive innovation may replace the incumbent through low prices and a lower but sufficient quality (Christensen, 1997; Hüsig et al., 2014). In 1997, Christensen also introduced the innovator's dilemma related to disruptive innovation to show why it entails such a struggle for incumbents. At first, the assumption was that incumbents had technology problems and do not have enough expertise for improvement in this area (Christensen, 1997). In 2003, Christensen himself rejects this theory and says that it is often a business model problem. This creates an issue for incumbents when it comes to disruptive innovation, since it does not fit into their existing business model. Disruptive innovation initiated by a start-up or digital giant, like Google or Amazon, or direct or indirect competitors can often be successful (Christensen et al., 2018). Disruptive innovations often do not possess the same high quality as the older product has, which leads incumbents to think the new technology will not replace their product, and their customers will not switch to the worse product because they have high quality standards. It is

possible though that the incumbent's product's level of quality is not actually required by the customer, and that the disruptive innovation's quality is sufficient and cheaper than the incumbent's product (Lucas Jr et al., 2009). A good example for a disruptive innovation is the introduction of the digital camera into a market of previously only analogue cameras (Ho et al., 2018). In this case, the incumbent was Kodak who believed that the digital camera would never substitute the analogue camera. However, as we can see today, most people use digital cameras (Lucas Jr et al., 2009). Kodak was facing an innovator's dilemma. As the analogue camera was of very high quality, nobody at Kodak expected their business model would not work in the future, so they did not see the need to react quickly to the disruption (Ho et al., 2018). The approach of a digital attacker lies in attempting to overcome the innovator's dilemma. It should help incumbents to stay innovative and observe disruptive innovation, when it is first initiated. How an incumbent can introduce the digital attacker approach will be examined in this paper by aggregating and analysing the chosen literature.

### **3 Literature review**

To identify relevant literature, I divided the review into three steps. The first step involved the identification of relevant keywords as well as the selection of databases. After having searched for all keywords in the different databases, I read every abstract to figure out whether the papers were germane to my paper. This concluded my second step. The last step was to read every paper and analyse each of them for the review. The digital attacker approach to solve the innovator's dilemma is more of a practical utilisation, meaning not as many scientific papers deal with how incumbents can confront disruptive innovations more effectively. Instead they usually focus on how disruptive innovations can be defined and what mistakes have been made in the past, like in the case of Kodak. Consequently, I have also included practical approaches from consulting firms in my literature review in order to take up the practical relevance of the topic.

#### **3.1 Keyword selection**

To start off with, I searched for the keyword "digital attacker" on Google Scholar. This, however, did not provide me with any relevant information for the review as all the papers I could find focused on real digital attacks as there existed a Denial of Service attack. Therefore, I proceeded by looking up "digital attackers" up on Google in order to see, which consulting companies are writing about the keyword to find synonyms. Due to the fact that disruptive innovations seemed to be mentioned frequently, I selected the keywords "incumbents as disruptor" and "incumbent disruptive innovations". Going back to Google Scholar, I experienced more success with these new keywords and added also the keywords "incumbent as attacker" as well as "incumbent disruptor". To receive general information about disruptive innovation and the innovator's dilemma, I also used the keywords: "disruptive innovation" and "innovation's dilemma". To gain knowledge about the practical approaches of consulting companies, I used the keyword "digital attacker" and "incumbents as disruptor" in combination with the brand name of the consulting company. My consulting companies are Oliver Wyman, McKinsey, Boston Consulting Group (BCG), Capgemini Consulting, Guidewire and Accenture.

#### **3.2 Database selection**

For the identification of databases, I looked for every keyword in the databases, which I had found in the process of keyword selection, starting with Google Scholar. As many papers were not freely available on Google Scholar, my next step was to use the keywords in the database "Ebsco" to find more papers. I iterated this step for "Elsevier" and "ieee xplore" as well. The papers found were the same as "Ebsco", so I excluded these databases. My last scientific database is ResearchGate, where I also found one paper, so I gathered eight scientific papers in the end. For information about the approaches of consulting firms, I used the search engine Google, because their articles and presentations are not listed by scientific databases.

### 3.3 Filtering process

The decision-making process for determining whether or not a paper was suitable for this literature review consisted of three phases. The first action was to read the headings. I did not filter out any paper after doing so, as the number of papers available was already very restricted. The second step was to read the abstracts of the papers and deciding whether completing the final step, reading the paper in its entirety, would be useful or not. This process has been an iterative process, in which I also looked for the references given in the papers in order to find other relevant papers and primary sources. Solely in the case of the works of Clayton Christensen (The “innovator’s dilemma” in 1997 and “The innovator’s solution” in 2003), I wasn’t able to get access to the whole text, so I needed to use secondary sources, which referred to Christensen’s books. Overall 18 relevant articles and papers were found.

## 4 Findings

Disruptive innovations have a big impact on incumbents, because they signify a radical change in their core business. It is also possible that an incumbent’s key competences are not as relevant to the changed market as they were before disruption. Therefore, in order to defend themselves, incumbents therefore have several ways to deal with a possible disruption. Consulting companies in particular describe two ways of how to deal with disruptive innovations. The first one is a defend strategy, where the incumbent attempts to defend themselves from disruption by exploring a digital attacker’s perspective and find weak spots in their own business model (Gerbert et al., 2015). The second approach is not just to investigate the perspective of a digital attacker, but to become a digital attacker oneself (Wyman, 2018). Therefore, the following chapter has been divided into two parts with the first part focusing on how incumbents can defend themselves and the second part seeking to define a way of how incumbents can become digital attackers.

The research consists of a total of eight scientific papers and ten articles by consulting companies. Figure 1 shows the publishing years of the papers, which are used in this review. All papers are recent, the oldest one being from 2012 and all other papers having been published within the past five years.

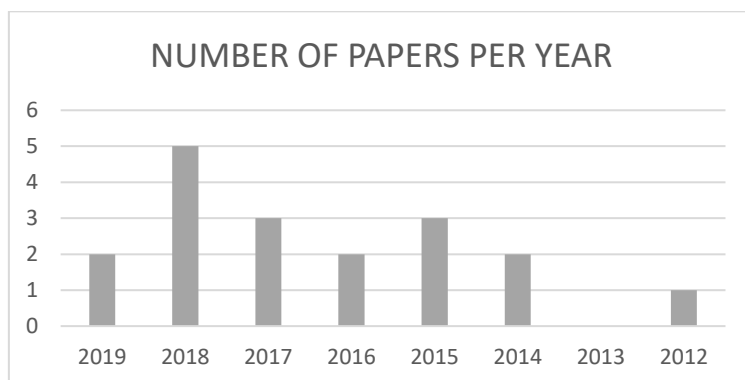


Figure 1: Number of papers per year

### 4.1 Defend against attacker

The first possible approach when dealing with disruptive innovation is to defend oneself against the disruption or the attacker. Before a successful prevention is possible, an incumbent needs to know what kind of success requirements exist for prevention. For that reason, the defensive part of the finding is divided into two sections: Steps and requirements to defend from a disruption and methods to prevent a disruption or, in case a disruption has already taken place, how one can defend oneself. All relevant papers and consulting articles are summarised below in Table 1, including information on which article addresses which of the aggregated aspects.

Literature		Steps / requirements to defend from a disruption					Methods to defend from a disruption				
Author	Year	1. Define indicators for possible disruption / find weak spots	2. Digital capabilities and skills	3. Re-evaluate the business model	4. Monitoring of core technology distant development	5. Monitoring risk management by several divisions	1. Hire digital talents	2. Mimic the disruptor	3. Acquisition of the disruptor	4. Judicial approach	5. Collaborate with start-ups
Dawson et al.	2016	x									
Capgemini Consulting	2015		x	x			x	x	x	x	
Kamel et al.	2018				x	x			x		
Minár	2017				x						
Chiaroni et al.	2016		x						x	x	
Coumau et al.	2015		x								
Cozzolino et al.	2018			x					x	x	
Buisson et al.	2012			x							
Bughin et al.	2018		x	x							
van Dijk et al.	2017			x							
Gerbert et al.	2015	x	x	x						x	
Habtay et al.	2014						x				
Accenture	2014						x		x		
O'Reilly et al.	2019								x		

Table 1: Aggregation of articles for the "defend against attacker"

#### 4.1.1 Success requirements and relevant steps to defend oneself from a disruption

If an incumbent wants to protect themselves from a disruption, they must know how a disruption occurs and how it will affect them (Dawson et al., 2016). Therefore, the first necessary requirement for an incumbent should be to define indications for a possible disruption and find potential weak spots. In the best-case scenario, the incumbent analyses this requirement before he gets disrupted. In order to find indications for disruption it may be helpful for the incumbent to understand, what a disruption is as well as staying informed about digital innovations and looking for weak spots within their own company through the eyes of a digital attacker (Gerbert et al., 2015).

The next step deeply focuses on digitalisation and digital skills. When an established company does not possess enough expertise and knowledge regarding digitalisation and digital concepts, it may be necessary to integrate this expertise by acquisition of external knowledge or by building up an educational project for existing staff (Chiaroni et al., 2016). This expertise is required when aiming to understand how digital innovations are initialised (Bughin et al., 2019). It can also help to extend the first requirement, as this knowledge may expose further weak spots of a company. The knowledge gives incumbents also an opportunity to see that not only direct competitors can do a disruptive innovation, but also off-industry companies can disrupt their business model (Capgemini Consulting, 2015). Furthermore, there is a very important, but somehow very simple aspect, which should not be forgotten. Without information about digital knowledge it's not possible to defend successfully from a disruption or getting a disruptor oneself (Coumau, 2015).

The third requirement concerns about the re-evaluation of the business model. This is a necessary step for the incumbent to take as Christensen defines disruptive innovation as a disruption of an incumbent's business models, because it might happen that the business model is not effective anymore (Christensen,

1997). The consulting companies in particular include and recommend this aspect as a condition of success in their articles (Capgemini Consulting, 2015). Furthermore, this requirement is not just relevant to defending oneself from a disruption, it's also an important requirement for becoming a digital attacker. Completing this step will help the incumbent with both strategies. However, there is a need to bear in mind that this phase is also an iterative step as business models can become outdated at any point of time. This means that simply re-thinking a business model once and then leaving it for years without any further evaluation is not enough as the value-adding function of a business model can quickly become irrelevant again (Bonnet et al., 2015). By the re-evaluation, the incumbent needs to think of the value creation and value capture (van Dijk et al., 2017). There are many methods, when it comes to changing a business model (O'Reilly, 2019), which have a high impact on how the incumbent has to complete their work. It is therefore implied, when changing and re-thinking the business model, that the incumbent interacts with their staff and inform them on how these changes will impact their specific area of work. Changing the business model is only one step in the course of a theoretical approach. The next step is to implement this change and re-inforce it on a daily basis (Cozzolino, 2018). Bernard Buisson et al. (2012) and Philip Gerbert et al. (2015) define four different strategies of how a business model can be re-evaluated as seen in figure 2:

- **Go for a new vessel / Ecosystem transformation:**  
The incumbent is in trouble and the old business model doesn't work anymore, so the incumbent tries to develop a completely new business which is not relevant to their core business.
- **Raise the stakes / Offering transformation:**  
The incumbent's business model is successful, but they attempt to use their knowledge for a new area, which is not directly linked to their core business model (Gerbert et al., 2015).
- **By the book / Enhancement:**  
The incumbent's business model is successful, but they try to disrupt their own business model before someone else does. It can also be a sustaining innovation.
- **Re-invent to survive / Value chain transformation:** The incumbent is already in trouble and tries to cannibalise his own business model for surviving. (Buisson, 2012)

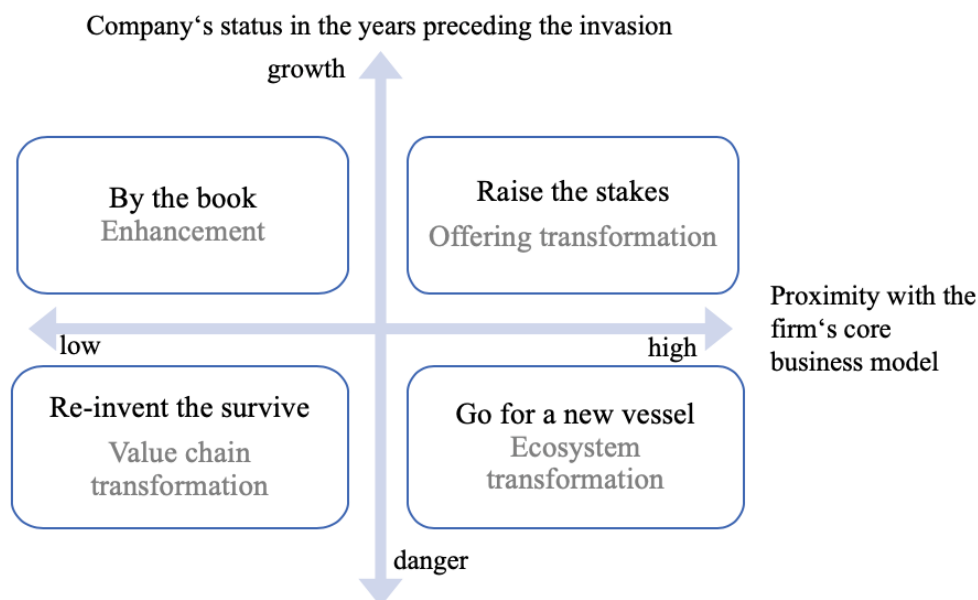


figure 2: Matrix about methods of how to update the core business model

In black colour: (in imitation of Buisson, 2012); In grey colour: (in imitation of (Gerbert et al., 2015)

The next step is to monitor innovations which are not part of the core business since the technology of a disruptive innovation does not necessarily need to be part of the core business at first (Kamel et al., 2018). This means that if an incumbent only observes the actions of their direct competitors, they may miss digital giants, such as Google or start-ups, such as Airbnb was in the beginning, disrupting their core business (Minár, 2017). In the case of Airbnb, they were successful in disrupting the hotel industry

by providing a platform for everyone who had a room to rent out for a short period of time; time people had usually spent in hotels up until this point.

The last necessary step for an incumbent need to take when defending themselves is to monitor the risk management as simply finding weak spots is inadequate. It is important to know how dangerous a vulnerability can be and when to react accordingly. Furthermore, it cannot be considered sufficient for only one person or department should monitor risks and assess the probability of a threat occurring. Instead, people from departments that do not directly add value to the core business should also be involved in this process, as they are aware of development in their particular divisions. These areas could, for example, be marketing and logistics, which can subsequently transform into threats of disruptive innovation (Kamel et al., 2018).

#### 4.1.2 Methods to defend oneself from a disruption

After an incumbent now knows what the main necessary requirements and steps are to protect himself, he needs to gather information on what possible courses of action are in case a disruption is already in progress. There are different ways in which to defend oneself against a disruption.

The first potential action consists of hiring digital talents (Capgemini Consulting, 2015). An incumbent, who acquires digital talents, automatically generates the additional benefit of gaining external knowledge and information regarding innovations as well as digital processes and methods (Bonnet et al., 2015). On the other hand, the hiring of a digital talent can also carry some disadvantages. The incumbent will be required to pay more employee salaries, which can be very difficult for an attacked incumbent. Digital talents are expensive and the financial situation may already be tense. Another disadvantage might be that a new employee does not have as much confidence as longer serving employees, which may negatively impact the effort of the newly acquired talent. A solution to this problem may be found in involving internal employees, such as department managers, who are working very close to the new employee (Russom Habtay, 2014). The last disadvantage an incumbent may face is that digital talents don't want to work for a non-digital company. Thus, the incumbent may struggle to find suitable talent or to encourage acquired talent to stay with the company for an extended period of time. These aspects are made even more challenging by the vast number of companies searching for digital talent (Accenture, 2014). All in all, it can be difficult to find digital talents and they do not hold the answers to all problems; however, they may be able to help when trying to defend oneself from a disruption.

Furthermore, trying to mimic the disruptor can be a method for an incumbent to protect themselves from an attacker. Often attackers provide new digital services (in some scenarios this would complicate matters due to criminal offence implications when copying products, which are not desirable for incumbents). These services create an advantage for the customer and the incumbent can attempt to mimic this service. To clarify, services should not be copied exactly and essentially stolen, but by observing and coming up with a similar solution incumbents may be able to generate revenue (Capgemini Consulting, 2015).

The next possible method of defence is the acquisition of the disruptor (Bonnet et al., 2015). Acquiring a disruptor has many advantages. Firstly, it improves the turnover of the incumbent and can relieve concerns of potential bankruptcy. Additionally, the acquired disruptor's knowledge can help transform the own business model. Another advantage lies in the fact that the incumbent is able to choose what will happen with the acquired start-up (Capgemini Consulting, 2015). One option is to use the services and information for the core business model (O'Reilly, 2019), thereby transforming the model and becoming the disruptor oneself (Cozzolino, 2018). Another possibility is to continue business-as-usual and dissolve the start-up, thus the disruption has been terminated. Some incumbents may opt to keep the start-up autonomously and leave them to pursue their work as before (Capgemini Consulting, 2015).

Before acquiring a start-up it is necessary for the incumbent to evaluate the benefits and lifespan of new technology, otherwise it can be a losing deal (Kamel et al., 2018).

The last way to deal with an acquirement is to build a consolidation with other incumbents, who might get attacked by the disruptor as well. This way includes the advantage that they can merge their customers and revenues, which can be enough for not being unprofitable (Capgemini Consulting, 2015).

The next method is a judicial approach. New technologies are rarely covered by regulations, so an incumbent can respond by suing the disruptor. This can help slow down the start-up's growth, giving the incumbent more time to think about steps to start a disruption themselves or to simply save revenue for a short duration (Capgemini Consulting, 2015).

The last manner in which to protect oneself from disruption is to cooperate with start-ups which possess insight into the relevant technology and may even be disrupting the business model of the incumbent (Cozzolino, 2018). The advantages of cooperation are very similar to the advantages of acquiring a start-up, but this scenario the incumbent is not able to choose what will happen to the start-ups. This means they do not carry the power to dismantle the start-up. Nevertheless, the incumbent can benefit from the knowledge of the start-up and transform their business model accordingly (Capgemini Consulting, 2015). A further considerable advantage is that the incumbent is not forced to buy the start-up and pay for it. This aspect is particularly important for incumbents who are confronted with disruption but are already struggling and unable to pay for the start-up.

In conclusion, it is necessary to point out that one method on its own will most likely not solve all the problems of the incumbent may encounter. However, differing variations of the above mentioned methods may help incumbents survive and make it possible for them to become the disruptor themselves (Capgemini Consulting, 2015).

## 4.2 How to become a digital attacker

The second approach of how an incumbent can defend himself is to attack his own business model. Similar to the first approach, the digital attacker concept is divided into three parts. The first one deals with the necessary success factors and requirements, the second one outlines the steps of a disruption. The last section describes the advantages an incumbent might have of attacking himself. The following Table 2 provides an overview of the papers and an aggregation of the authors' statements.

Literature		Necessary success points and requirements					Steps for doing a disruption			Advantages for incumbents	
Author	Year	1. idea generation / business model innovation	2. Incubation	3. Scaling and agility	4. Separation of new vs. old	5. Employee involvement	1. Idea selection	2. Strategy development	3. Quick prototyping / launch / fast fail	Cost reduction	Customer satisfaction
O'Reilly et al.	2019	x	x	x		x					
Wyman	2018			x	x	x	x		x		x
Park	2018									x	x
Guidewire Software	2017				x			x	x		x
Dawson et al.	2016									x	x
Habtay et al.	2014										
Accenture	2014			x				x	x		x
Capgemini Consulting	2015	x									
Coumau et al.	2015										x
Cozzolino et al.	2018	x		x			x		x	x	
Buisson et al.	2012	x									



Bughin et al.	2018	x			x						
van Dijk et al.	2017	x			x			x			x
Gerbert et al.	2015							x			
Wilkinson et al.	2019	x		x	x					x	x

Table 2: Aggregation of articles for the “Digital attacker approach”

#### 4.2.1 Necessary success factors

The first essential step to take when aiming to build a foundation for a digital attacker disruption is to generate new ideas and find possible innovations within the core business model (Bughin et al., 2019). According to this requirement, there are different methods when it comes to completing a systematic idea generation process:

The first of these methods is called “open innovation”. It is characterised by the possibility for other companies to use ideas of the incumbent, whereas the incumbent benefits from the circumstance that external employees can develop ideas for the incumbent as well (O’Reilly, 2019). Furthermore, the open innovation approach allows for establishing new partnerships with start-ups. The incumbent can also initiate competitions regarding new innovations cooperatively with other companies or external employees (Capgemini Consulting, 2015).

The second method involves building up partnerships with start-ups through venture capital. In this case synergy can ensure incumbents benefit from a start-up’s knowledge while the start-up gains financial resources as well as access to channels and possibly even customers (O’Reilly, 2019).

A further approach is the “design thinking” process (van Dijk et al., 2017). This concept provides the incumbent with a chance of understanding their customers’ issues, developing quick prototypes and short-term solutions, or simply having the option to fail quickly before financial resources no longer suffice. The design thinking process is an iterative method, which consists in seven steps (O’Reilly, 2019). Describing these steps lies beyond the scope of this paper. Nevertheless, it should be mentioned for completeness and to show its validity when considering all the incumbents’ options.

The last approach can be found in employee involvement, which will be explained later, because it is not only necessary for the idea generation. Hence it is an overall success factor for the process.

The next success requirement consists of the advanced development of the first specification. It deals with the “incubation” or “validation” of ideas. Possible methods an incumbent can use are as follows:

- **Lean start-up:** by this method a “minimum viable product” is developed with only a small range of functionality. This gives the customers the option to buy the product early on, whilst the incumbent is able to use reviews to make improvements. Considerable advantages are fast failure and the avoidance of wasteful products (O’Reilly, 2019).
- **Business Model Canvas:** This approach provides the incumbent with a systematic way of building new business models and identify weak spots of the new business model quickly (van Dijk et al., 2017)
- **The Launch Pad:** is a combination of “Lean Start-up”, “Business Model Canvas” and “Design Thinking”, where the incumbent needs to engage a minimum of 100 customers in order to build products to their problems (O’Reilly, 2019)

Another important requirement when designing a new business model is the possibility to scale the idea (Accenture, 2014). At first an idea should be tried out by a small group of customers (Wyman, 2018). It is, however, necessary that this business model can easily be re-scaled and moved to a big customer group (Wilkinson et al., 2019). Otherwise it’s feasible that the business model collapses at a later point of time, because the incumbent can’t generate enough profit with the commercial concept (O’Reilly, 2019).

Furthermore, a successful disruption can thrive from a separation of the old and the new business (Bughin et al., 2019). Hereby, the advantages lie in the fact that the old and new business are able to operate separately. This allows for resources to be allocated precisely. Additionally, the employees don’t

get in trouble with the employees from the old business (van Dijk et al., 2017). According to this theory, the new business will be smaller, have short decision-making processes and a smaller cost structure (Guidewire Software GmbH, 2017). In contrast, disadvantages may be the new business operating so separately from the core business that it may be difficult to unite them at a later stage (van Dijk et al., 2017).

Unquestionably, the process of a separation is not necessarily successful for every incumbent and each incumbent should decide upon this independently.

The last requirement for a successful disruption is employee involvement. This requirement is vital as the likelihood of failure will increase hugely if employee support is not sought. The following important roles of employees who should be involved are: managers of different divisions, the manager of the R&D division, CEO of separated units and seniority (Russom Habtay, 2014). Employee input is also helpful when attempting to find weak spots in a business model as they will be able to provide fundamental knowledge regarding their area of expertise (O'Reilly, 2019). This relates to the above mentioned first success factor by the idea generation.

#### 4.2.2 Steps for executing a disruption

It is often difficult for incumbents to initiate a disruption as they run the risk of cannibalising their own business model due to a lack of experience and skill when it comes to digital disruption. The consulting company "Deloitte" designed a process with questions an incumbent can ask himself to overcome this problem, as seen in Figure 3:

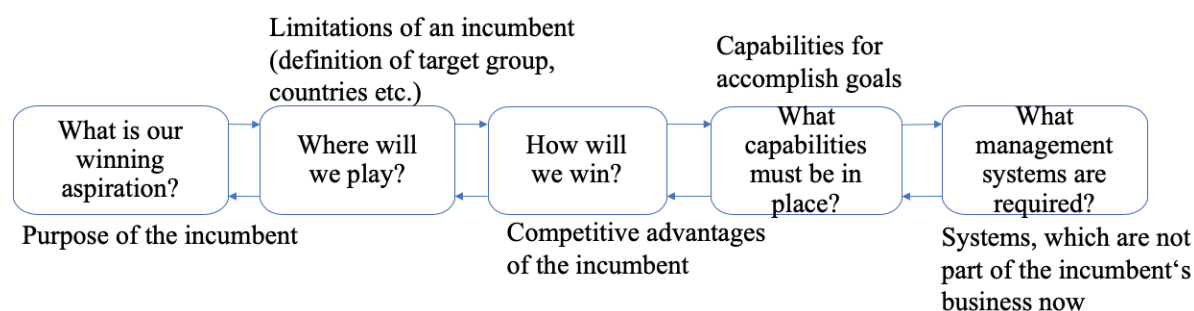


Figure 3: Process of questions asked while becoming a disruptor (in imitation of van Dijk et al., 2017)

These questions can help an incumbent obtain an overview of the disruption process and define a good starting point. These questions outline an iterative process and should be reviewed at all different stages during the disruption process, which are described below.

The first step when commencing a disruption should be "idea selection". After this process has been finalised, it is important to determine which of the ideas will be worked on first. Before making this decision, the incumbent should ensure shareholders are content. To gain their approval it may therefore be useful to implement the idea using the highest possible revenue in the shortest possible timeframe (Wilkinson et al., 2019). Meanwhile the first target customer group should be identified and selected as well as a first solution design provided (Wyman, 2018).

Having completed these tasks, the incumbent can continue to develop a strategy. Being in possession of a strategy, which outlines achievable goals and timelines is essential in order to stop an incumbent from becoming overwhelmed. Therefore, required and optional steps should be determined early on, as well as a prioritisation conducted. This will help to determine when each step must be completed (Gerbert et al., 2015). The process of questions shown in Figure 3 may be particularly useful when it comes to finding the most effective strategy (van Dijk et al., 2017).

The last step when initiating a disruption is to develop prototypes quickly as this will automatically speed up the process of launching the product and open up the possibility of achieving a quick failure rate. Consulting companies advise a launch after six up to nine months (Guidewire Software GmbH, 2017) and a concept formulation in under three months (Gerbert et al., 2015). The only differing opinion comes from Accenture, who recommends 14 months, however, this time specification is given especially

for a banking company (Accenture, 2014). Therefore, Accenture's time recommendation is not automatically transferable to every incumbent. In conclusion a fast prototyping process helps the incumbent keep costs low and lose only a short amount of time if the prototype does not achieve the required performance.

Undoubtedly, spearheading a disruption is not a simple process, but it can help survival or may lead to an increase in the customer portfolio and brings additional revenue to a successful company.

Nevertheless, the implementation of the afore mentioned requirements and execution of the steps cannot guarantee every existing incumbent will achieve his goals and being able to carry out a successful disruption.

#### 4.2.3 Advantages incumbents have by disrupting themselves

The articles aggregated in this paper describe two essential advantages the incumbent has by implementing a disruptive innovation: cost reduction and customer satisfaction. In the case of cost reduction, three possibilities arise for the incumbent. Firstly, a cost reduction can be achieved by separating the new business from the old one. In this case, a more convenient location (Guidewire Software GmbH, 2017) as well as by replacing physical assets with virtual ones, thereby reducing costs (Dawson et al., 2016). Therefore, the incumbent can already have cost benefits while doing the disruption. An additional option to reduce cost at this point of time, is to use external knowledge (Cozzolino, 2018). Finally, the third possibility to reduce cost is a long-term run and becomes of relevance to the incumbent after the disruption. By using digital services the transactional costs decrease (van Dijk et al., 2017). The automation of processes as well as a direct business model between the incumbent and the customer can also reduce costs (Guidewire Software GmbH, 2017). The scalability provides a better cost structure, because digital services often do not have marginal costs (Dawson et al., 2016).

Obviously, there are many ways for the incumbent to reduce costs during and after conducting a disruption.

Meanwhile, a digital disruption can create a good customer experience and improve the customer satisfaction as customers may feel more valued and listened to whilst the incumbent encourages cooperation. Customers may receive additional services at this time, which can strengthen the bond and trust between the customer and the incumbent (Park, 2018). Furthermore, a disruptive innovation does not only satisfy current customers, but can also attract new ones through new development or the combination of services and products as well (Wyman, 2018). This means the incumbent is provided with the opportunity of gaining new customer segments (van Dijk et al., 2017). Good customer experience, in this instance, may pave the way for a circle of change: better value proposition generates new customers. These new customers provide new information and knowledge to the incumbent. Furthermore, these new customers can have other problems and the incumbent gets the chance to solve also these problems. Afterwards, the process starts over again and the incumbent has a competitive advantage towards other competitors (Wilkinson et al., 2019).

As noted above, through disruptive innovations incumbents can generate great benefits, thus ensuring their own survival. This method is not only relevant to already weakened incumbents, but also to incumbents who are currently find themselves in a positive economic situation. Incumbents should always be prepared for disruption as it can happen very quickly and weaken their presence in the market greatly. Assuming successful implementation, the digital attacker approach can ensure the continued existence of large companies in the future.

## 5 Discussion

### 5.1 Commonalities and Differences

Throughout my research on the “digital attacker approach” I found out that no one has defined the term “digital attacker” in the context of disruptive innovations. Consulting companies as well as scientific papers describe a process where an incumbent disrupts himself and tries to benefit from it. It has transpired that many think differently with regards to how success can be achieved when going through this process. Many consulting companies, like McKinsey, Deloitte, Oliver Wyman and Guidewire Software, recommend a separation of the old and the new businesses. They argue that the separation improves the split of resources meaning employees are able to focus on the innovation without having their work or speed impacted by others (van Dijk et al., 2017). On the other hand A. Cozzolino (2018) researched on disruptive innovation (GEDI case) where a separation did not take place. Habtay (2014) also reports on incumbents, who did not separate the new from the old business.

Consequently, it is not clear whether separation is a definite requirement for success. Additionally, key performance indicators predicting whether a separation would be beneficial do not currently exist.

On many other matters, which are mentioned in this paper, the aggregated papers recommend the same methods or simply do not mention them at all. Especially, in the case of the advantages incumbents have from disrupting themselves, both sides (Consulting Companies and scientific papers) report the same advantages, which is the same in the case of the re-evaluation of the business model for defending from a disruption. Many consulting companies and scientific papers recommend a re-evaluation as a requirement and often show the different types of evaluation in a matrix, using different terms but similar descriptions. This can be seen in *figure 2*, which combines the matrix of a scientific paper (Buisson, 2012) with an article of the consulting company “Boston Consulting Group” (Gerbert et al., 2015). It indicates that this approach has many advantages and should therefore be used by incumbents.

Bearing all this in mind, it should be pointed out that only a limited number of scientific papers could be found, and it is also possible that consulting firms do not publish all information they have.

### 5.2 Management value

This paper provides management value through the approaches to an incumbent’s defence from a disruption and to an incumbent disrupting himself. The information generates an overview of these two approaches and provides managers of incumbent companies with an insight into how a disruption can be initiated or responded to. Furthermore, a high-level overview of methods to further manager understanding are outlined. These methods (like Lean Start-up or Design Thinking) are not explained in detail but allows managers to learn about their existence, enabling them to access external resources to expand their knowledge. Managers may also feel encouraged to research further in order to identify areas in which to train their employees. In the best case, it may even be that employees with the knowledge of these methods already exist. Moreover, the paper provides a chronologic way outlines for both approaches and describes how they can be started in rudimentary form.

### 5.3 Future research

To maintain an established approach, it is necessary to do more case studies with incumbents in order to find out which steps and requirements discussed in this paper are vital or even missing. All individual steps of the different approaches should be worked out in gather detail, so that precise end-to-end descriptions for each step may be obtained. Particularly the information found on initiating a disruption is very vague, which currently limits potential for implementation.

Lastly, the term “digital attacker” should be clearly defined. A term (digital attacker or incumbent as disruptor) should be agreed upon in practice and theory and be given a clear definition.

## **5.4 Limitations**

First of all, the limited number of accessible scientific papers needs to be mentioned as a limitation. This entails that only very few different perspectives are represented. In practice incumbents may utilise many more varied approaches when it comes to disruptive innovations. It is also likely that not all the information given in this paper is of relevance and use for all incumbents.

In addition to this, the situation an incumbent finds himself in with regards to knowledge of digitalisation and new technologies can vary hugely from one to another. Again, this means that not all the information provided in this paper will be useful to all incumbents.

Another limitation is the use of consulting papers. Whilst they may provide helpful information, there is always a risk that their publications are used as marketing tools. Therefore, I find myself unable to evaluate the information given in these publications.

The next limitation is that also the scientific papers are based on a small random sample, which means not every aspect can be considered universally valid.

The last limitation worth mentioning lies in the time period of the papers. The term and approach of a “digital attacker” have been developed only recently and since technology and best defence practices change very quickly, it is debateable how long this paper will be up to date for.

## **6 Conclusion**

This paper presents an opportunity for incumbents to receive an overview of understanding what disruptive innovations are, how they can defend themselves from a disruption, how they can initialise a disruption on their own, and prevent a disruption from other companies or start-ups.

The benefits incumbents gain by implementing the digital attacker concept consist of an improved cost structure and customer experience. An additional benefit is defined by the fact that the incumbent now owns a business model, which they can be certain, will be effective and save revenue for the future.

The paper provides two methods of how an incumbent can respond to the situation. The first method outlines how to defend themselves from a disruption. This concept can be very important when a company is experiencing disruption by another company. The second concept is to disrupt the own business model.

Both methods are divided into success requirements and steps, which are necessary to build up a fruitful disruption. However, the procedure, according to these instructions, does not guarantee certain success. The steps should rather serve as a starting point to be elaborated on further by the respective company. Especially, methods for reaching some of the success requirements or methods of how a step can be done, are not completely explained and further information will be needed to research by the company. Therefore, the paper should be taken as a step-by-step guide for managers wanting to implement the digital attacker concept.

Furthermore, the two approaches should not be understood as separate concepts, because the combination of both might be very helpful. For example, this may always be reasonable to create protection from possible disruption from other companies. This then provides the company with basic protection, which can be improved and heightened as required. If an actual threat occurs at a later stage, the company will already be prepared. It would equally be possible to use two different teams if the company is already in a difficult situation, thereby one team works on protecting the company from external disruption whilst the other team attempts to disrupt the company’s own business model.

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