Contents

Introduction 1

1. Theories of innovation and their categories 2

1.1 Radical – Incremental dichotomy 2

1.1.1 Incremental Innovation 2

1.1.2 Radical Innovation 3

1.2 Disruption definition 3

1.2.1 New-market disruption 7

1.2.2 Low-end disruption 9

1.3 Comparison between Radical – Incremental dichotomy and Christensen's theory 12

1.3.1 Incremental innovation vs sustaining innovation 12

1.3.2 Radical innovation vs disruptive innovation 13

1.4 A more complete view on Disruption 13

1.4.1 Digital Disruption 13

1.4.2 High-end disruption 15

2. Consequences of disruption per type of market 18

2.1 Differentiation of market based on technology 18

2.1.1 A focus on technology-based industries 20

2.2 Differentiation on business segment 22

2.3 Differentiation based on industry life cycle 23

2.3.1 A focus on the creation of a new market 24

3. Managing and facing a disruptive innovation 26

3.1 Testing the idea 28

3.2 Market segmentation 31

3.2.1 Market segmentation from a "Job-to-be-done" point of view 32

3.3 Make-or-buy decisions 35

3.3.1 The problem of commoditization 41

3.3.2 The ROA maximization trap 42

3.4 The disruptive innovation process of established competitors ... 43
3.4.1 Setting up a separate, autonomous organization ... 44
3.4.2 The RPV Framework ... 46
3.5 Disruption stages: The incumbent crisis ... 48
4. A focus on the Telecommunication industry: The Free Mobile case ... 52
4.1 Characteristics of the Telecommunication market ... 52
4.2 The importance of network investments ... 57
4.3 Free Mobile ... 60
4.3.1 The disruption process ... 62
4.4 Market analysis ... 65
4.4.1 French Market ... 66
4.4.2 Italian Market ... 69
4.4.3 Comparison and expectations on Free entrance in the Italian market ... 71
Appendix: bundles list for Italian MNOs ... 76
Summary ... 77
Bibliography ... 88

Introduction

The aim of this thesis is to analyze the theory that describes the disruptive behavior of certain companies, starting from the definition and the studies of its father, Clayton Christensen, around whose work this thesis is centered.

This thesis can be divided in three parts. The first part is composed by the first and the second chapter and it describes the disruption theory as it is and as it has evolved (i.e. Digital disruption) and describing the effects that it may have depending on different characteristics of the market. The second part use the theory explained in the first part and some more in-depth view on the disruption process to describe disruption from both the point of view of the disruptor and from the point of view of the incumbent. The first concretizes into the description of the steps necessary to launch a disruptive product in the market, while the second point of view is more focused on what to do to oppose a disruptor and the effects if the incumbent does not react in the correct way. The third and final part is instead centered on the case of the telecommunication market, which has been the theatre of many disruptions, with a focus on Free Mobile, Iliad's mobile operator, which has disrupted the French market and has the potential to disrupt the Italian market, once it will enter it.

1. Theories of innovation and their categories

In this chapter, there will be discussed several innovation theories, starting from the radical-incremental innovation differentiation, which is widely known and used to understand the development of our world in terms of technological advancement and Christensen's categorization, which is the main topic of this thesis and will be the starting point for all the succeeding developments of the thesis.

The theories following Christensen's categorization are additional findings on disruption from other authors, which have been chosen to have a more complete view of other aspects of the theory which have been excluded by Christensen or just marginally touched.

1.1 Radical – Incremental dichotomy[1]

A classical distinction between innovation categories widely used by authors is the Incremental – Radical dichotomy, which differentiates innovations depending on the amplitude of innovation. Two of the many authors which have wrote about these types of innovations are Schumpeter and Kirzner.

1.1.1 Incremental Innovation

Incremental innovation is defined as an innovation which has the function of improving an already existing product produced by the company. This is the most common type of innovation as it entails a lower risk and it is applicable to any product which can be technologically improved. Generally, this type of innovation is commonly brought on by firms which already own a relevant share of the market and it is used to maintain that

---

[1] This paragraph and the following (1.1.1 and 1.1.2) are based on:

Cromer, T. C., Dibrell, C., & Craig, J. B. (2011). A study of Schumpterian (radical) vs. Kirznerian (incremental) innovations in knowledge intensive industries. *Journal of Strategic Innovation and Sustainability*.

share or try to extend it, confronting and sometimes anticipating other companies' innovations, by bringing further improvements to an existing product.

1.1.2 Radical Innovation

Radical innovations bring completely new products into the market, usually creating whole new markets. In this case the degree of innovation is much more relevant than the incremental innovation and it has the potential to bring out of the market other competitors by making their products outdated.

This type of innovation is usually lead by new entrants and small companies, but there are some notable exceptions in highly technology-focused markets, with incumbents trying to bring radical innovation into the market. This is mainly due to the greater profitability of radical innovations, which entails a more considerable risk than incremental ones, but are also more rewarding, giving the possibility to implement a blue ocean strategy.

1.2 Disruption definition

Throughout the history of all the technological changes that we have witnessed, in the last few years our world has been hugely enriched by innovations that are more and more meant to challenge the status quo. What is happening nowadays is that innovations are outdating other innovations at a faster pace either by offering an improved version of the product or by revolutionizing the relationship and the interaction between costumers and

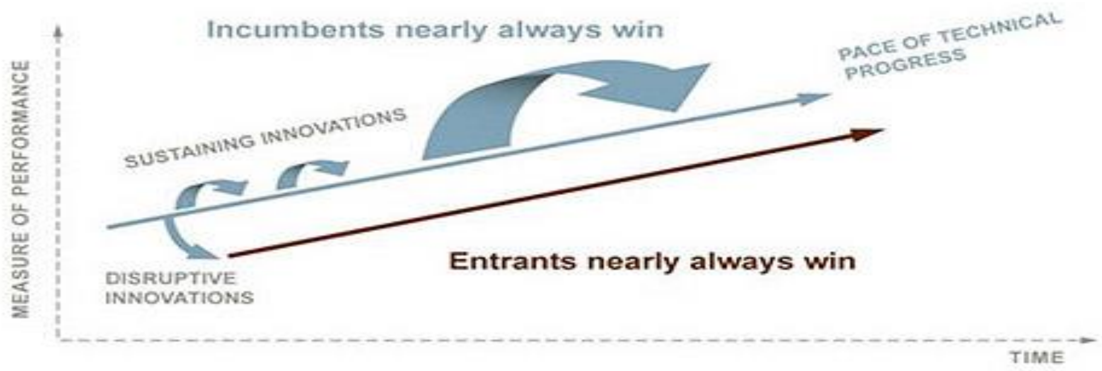


Figure 1-1

firms. However, innovations can take several forms and there are precise requirements which have to be met for an innovation to be considered disruptive.

When the concept of disruption was firstly introduced, it did not have all the meanings that it has nowadays and that is mainly because of how the concept has evolved in our society.

As it was first introduced by Christensen and Bower[2] the concept of disruptive innovation was differentiated from that of a sustaining innovation. The main difference between the two is in who enact it and in which tiers it takes place[3]:

- *Sustaining innovations* usually take place in the top tiers of the market and are made by incumbents. Their *raison d'être* is to stay relevant inside the market, facing competition in a better way, meeting the growing demand for higher quality products and being able to charge even higher prices in the higher tiers;
- *Disruptive innovations* usually take place in the low tiers of the market and are made by entrants. This kind of innovation can target either a previously non-existent segment, creating a whole new market or it can target costumers at the bottom of the segment, progressively stealing them from the incumbent's market share.

Nowadays the disruption concept has been enriched with many more meanings and it has become a broader concept. Most of the companies that bring some sort of change in the market mechanisms or in how the market works are considered disruptive, but this is not always the case. For example, Uber is often considered a company that has disrupted the taxi business; surely it has provoked some changes inside the business, but it cannot be identified as disruptive firm[4] because it delivered a service which was comparable or

---

[2] "Bower, J. L., & Christensen, C. M. (1995). Disruptive Technologies: Catching the Wave. *Harvard Business Review*.

[3] Christensen, C. M. (2017). *Disruptive Innovation*. Retrieved September 20, 2017, from Clayton Christensen: http://www.claytonchristensen.com/key-concepts/

[4] Christensen, C. M., Raynor, M. E., & McDonald, R. (2015). What is Disruptive Innovation? *Harvard Business Review*.

superior to the one offered by traditional taxis and so it did not target the low-end tier of the market.

Disruption can take disparate forms, which can be usually lead back two types: new-market disruption and low-end disruption.

Both must have some characteristics which are always present in every form of disruptable market.[5] The first one it is a condition necessary for the market to develop a disruption and it is connected to the technology. This means basically that the product developed and distributed by the companies inside the market must have a technological core: the rationale is that at the beginning the product that is distributed to the customers is always inferior in terms of quality compared to that of the incumbent[6], but later it is possible that the company will improve the process and the overall technology necessary for the product and its development. The improvement of the product from a technological standpoint is what express the possibility for the company to effectively disrupt the incumbent, being enabled by the progress of the product in terms of technology. This is the main reason why disruption has never happened in hotels or restaurants, which are fundamentally based on services and are backed up by very little technology, too little to enable a disruption; in these types of industries, the only way to move up-market is to improve service quality, hiring highly skilled people, using high quality raw materials and it is not enabled by technological progress.[7]

The second feature,[8] which is particularly interesting mostly for the low-end disruption type, is that companies are always driven towards the top tiers of the market due to the greater profitability and the higher margins obtainable upmarket from high-end customers.

---

[5] Lambert, C. (2014). Disruptive Genius. *Harvard Magazine*. Retrieved September 20, 2017, from http://harvardmagazine.com/2014/07/disruptive-genius

Christensen, C. M. (1997). *The Innovator's Dilemma*. Boston: Harvard Business School Press.

[6] Christensen, C. M., Raynor, M. E., & McDonald, R. (2015). What is Disruptive Innovation? *Harvard Business Review*.

[7] Lambert, C. (2014). Disruptive Genius. *Harvard Magazine*. Retrieved September 20, 2017, from http://harvardmagazine.com/2014/07/disruptive-genius

[8] Christensen, C. M. (1997). *The Innovator's Dilemma*. Boston: Harvard Business School Press.

Through sustaining innovation companies move their products upmarket, earning a more substantial profit than in the lower end due to their ability to charge higher prices: moving back to the low-end of the market or in a new one it's unattractive for the incumbent because it would imply much lower profits and a high risk of cannibalizing its own products. This is called "asymmetric motivation"[9] and it consists in the incumbent striving for moving up-market and considering competing down-market with the disruptor a groundless decision. Both these decisions are profit-based and are the core of the innovator's dilemma: in fact, it is the decision not to hinder the new entrant by competing with it that may allow the disruption to happen. If the new entrant had accessed the high-end segment (no disruption case), it would have faced a harsh competition coming from the other players in the market, which would have fought to maintain their market share. But disruption is subtler, because it comes from below, with a lower quality product and at it does not represent a threat for the incumbent until its product is "good enough" for customers.

The third characteristics is that at some point, companies will overshoot customers' needs by providing them with a product which has a higher performance capacity, more than customers can actually appreciate or utilize.[10] This varies from customer to customer and depends on their behavior utilizing the product: there are users that utilize the product in a more professional way, appreciating every function that the company decide to add to the product, while there are other customers that utilize the product more for its basic functionalities. The overshooting line would be an average of these two extremities and once the company crosses it, disruption is enabled, because disruptor can offer a product, inferior in terms of quality and functionalities, which nonetheless performs that basic function in a decent way.[11]

In addition, it is not automatically true that competing with the new entrant will prevent disruption because the incumbent will surely cannibalize its products in the low-end

---

[9] Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution.* Boston: Harvard Business Review Press

[10] A graph representing this behaviour of the market will be presented in chapter 3.

[11] Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution*. Boston: Harvard Business Review Press

disruption case or it will be a new entrant in the new-market disruption case, thus possessing a less profound knowledge of the market with respect to the disruptor.[12]

1.2.1 New-market disruption

New-market disruption is defined as an innovation that targets non-consumers, creating a whole new market; consequently, one of the prerequisites of such a disruption is that the innovation is brought to a market, which is currently unserved by the incumbent.

At this moment, the new entrant can be hard to spot on, since it does not target the incumbent's customers, but non-consumers of the incumbent's product. Generally, incumbents are well aware of the new entrant behavior, even though it is not dealing directly with them, but it can be neglected for three main reasons[13]:

- The incumbent may have seen many new entrants following the same or a similar path and failing;
- The incumbent has already run tests and simulation on what the new entrant is trying to do, without finding a profitable way to achieve it;
- The incumbent had not believed that the new entrant would have affected its market share, because they serve different segments with different products (at a quality level).

While the first two give a hint on the importance of adopting an alternative business model to disrupt a business, the last one tells us something more of disruption dimensions, even if it is effectively a case of poor management and scarce predictive capacity:

- it creates a parallel market, which has an impact on the existing one, without competing directly with it;

---

[12] This topic will be treated more in detail in chapter 3.

[13] Bartman, T. (2015, November 9). *Confronting a new-market disruption: When disrupting the disruptor is the only way to succeed*. Retrieved from A Medium Corporation: https://medium.com/bsse-gets-social-media/confronting-a-new-market-disruption-when-disrupting-the-disruptor-is-the-only-way-to-succeed-90c228620e22

Images from Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution*. Boston: Harvard Business Review Press

- at the beginning, it covers unanswered needs, mainly targeting non-consumption.

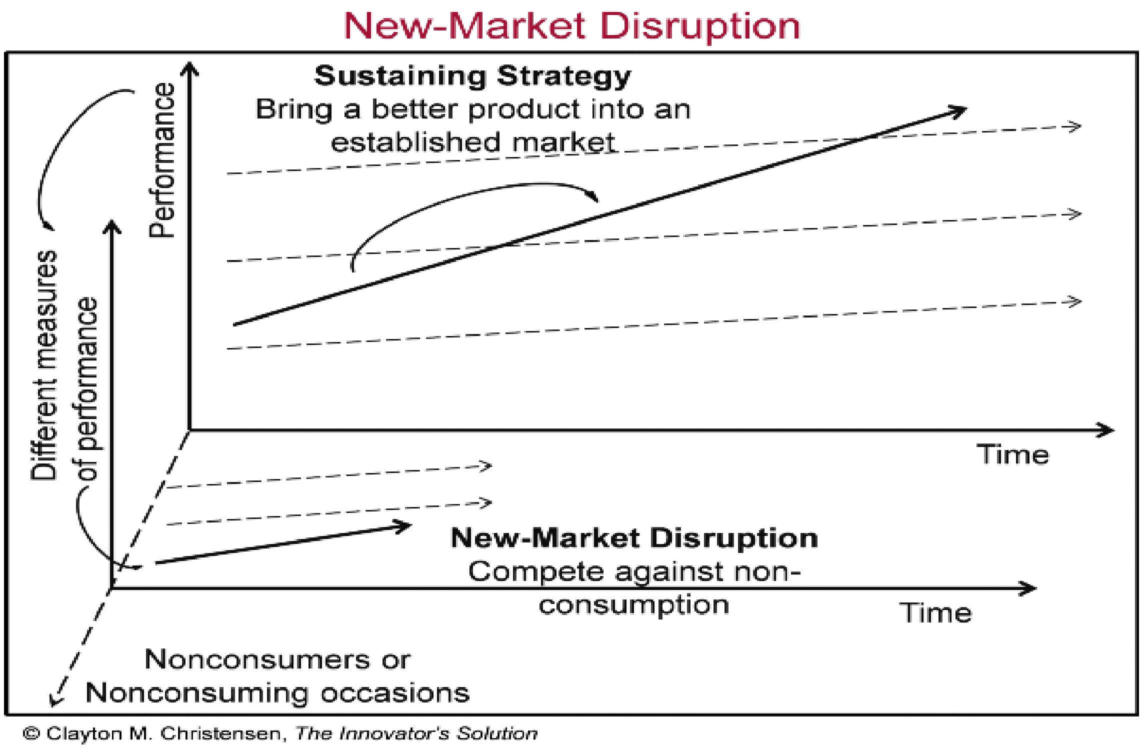


Figure 1-2

The main problem in this regard, it is actually dealing with non-consumption. Not only it may not be easy to find out, because at the beginning the incumbent is not losing any customers, but also it can be difficult to restrain the growth of the new entrant.

An example of this is ZipCar[14], which is a car sharing company, founded in 2000, which had the objective to further another possible option to car ownership. It did not directly compete with major car manufacturing businesses in the US, but eventually caused them to create their own car sharing businesses in order to compete with ZipCar: car manufacturing companies (such as Hertz) have eventually become the new entrants in the car sharing business, achieving marginal results.

[14] Bartman, T. (2015). *Confronting a new-market disruption Part 3—Car2Go*. Retrieved September 20, 2017, from A Medium Corporation: https://medium.com/bsse-gets-social-media/confronting-a-new-market-disruption-part-3-car2go-7e01398fb458

1.2.2 Low-end disruption[15]

Low-end disruption generates in the low tier of the market offering products which are characterized by a lower quality compared to incumbents' products. When the new entrant starts to sell its products in the market it can target either overserved segments of the market or non-consumers.

In the case of an overserved market segment, the disruptor enters the market addressing customers with a product comparable or slightly worse in terms of quality, gaining market share thanks to a business model centered on lower costs which usually implies lower prices than the other competitors inside the market.

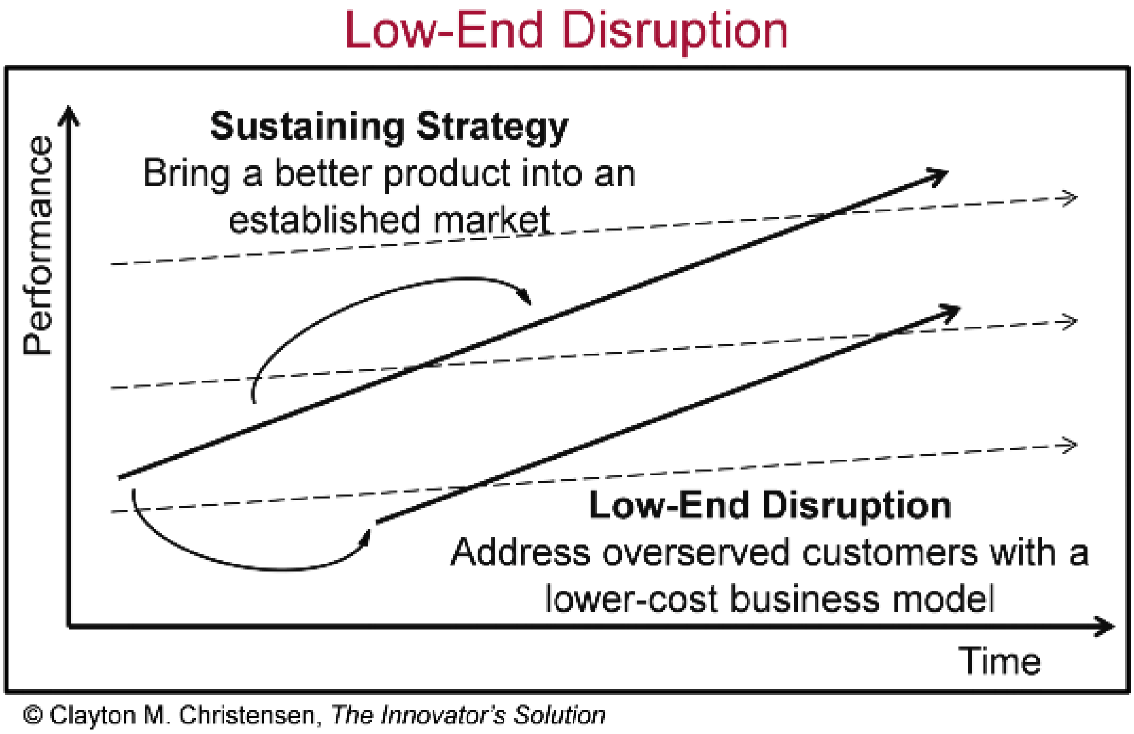


Figure 1-3

Alternatively, if incumbents have left uncovered some customers' needs, the new entrant will instead target non-consumption. This usually happens when the incumbent keeps improving its product or service, through a sustaining innovation strategy, gradually

[15] Lambert, C. (2014). Disruptive Genius. *Harvard Magazine*. Retrieved September 20, 2017, from http://harvardmagazine.com/2014/07/disruptive-genius

moving in the higher ranges of the market[16]. This process can take years and has the effect of leaving a portion of the market unserved, which new entrants can cover by moving into that market positioning.

In this case, the new entrant will target all the customers who are unable to buy the already existing products produced by incumbents because of their premium price, and it will gain market share offering its product at a lower price; this shows that price is relevant in both cases, and it is even more important when targeting non-consumption.

This is generally the first step for a low-end disruption to take place and it may later evolve with the disruptor either consistently reducing the incumbent market share or even taking it out of the market if it does not take any effective countermeasure to oppose the new entrant.

At the beginning the new entrant is positioned in the lower ranges of the market, competing with other companies offering a similar product in terms of quality, but inferior if compared to companies' products in the higher segments. This means that it is characterized by a cheaper pricing, an inferior quality and usually by less features, but through sustaining innovations and further investments, it can improve and finally reach the level of the other competitors, maintaining its low-price business model. Once the disruptor reaches this point, its products are comparable to the incumbents' in terms of quality, but they are characterized by a lower price.

What has happened in the automotive[17] industry to the former Big Three (General Motors, Chrysler and Ford) of the auto industry, reflects this process, even though none of them has been brought out of the market. At the very beginning, Toyota entered the market

---

[16] Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution.* Boston: Harvard Business Review Press

Christensen, C. M., Raynor, M. E., & McDonald, R. (2015). What is Disruptive Innovation? *Harvard Business Review*.

[17] Lambert, C. (2014). Disruptive Genius. *Harvard Magazine*. Retrieved September 20, 2017, from http://harvardmagazine.com/2014/07/disruptive-genius

Denning, S. (2012). *Clayton Christensen And The Innovators' Smackdown*. Retrieved September 20, 2017, from Forbes: https://www.forbes.com/sites/stevedenning/2012/04/05/clayton-christensen-and-the-innovators-smackdown/#fe83f135ebe0 with cars qualitatively inferior to those that were produced by the Big Three in many aspects (less safe, less comfortable), but they were cheap and enough trustworthy to be bought. At first it mainly targeted consumer which had the tendency of buying second-hand cars and which in general wouldn't have bought a new car or that wouldn't have changed their car anytime soon, but then, through progressive improvements on its products, it managed to reach the level of the former Big Three, to compete with them and to contend for the market leadership[18].

This is mainly due to "asymmetric motivation"[19] and it has five interrelated arguments which support it:

- *Higher revenues* obtainable in the higher segments, thus compelling them to invest in product improvement to earn greater revenues;
- *Greater cost structure* which rises as the dimension of the company rises and it obliges incumbents to move in the higher segments of the market, chasing higher revenues;
- *Product improvement:* which is supposed to lead the company towards more substantial revenues;
- *Market Demand:* customers require that the company moves upward and keeps improving its product, which is ironical since these same customers will be the one to abandon the incumbent's product in favor of the disruptor.
- *Counter-intuitiveness of moving down:* while moving up in the market or differentiating the products offering is a logical choice, for the motives said before, moving in the low-end segment to compete with a new entrant which at the beginning only targets non-consumption may seem illogical.

This is the thinking process which is behind the decision not to go down and compete with the disruptor: Toyota was a low-end disruptor and now it possesses a relevant

---

[18] Lambert, C. (2014). Disruptive Genius. *Harvard Magazine*. Retrieved September 20, 2017, from http://harvardmagazine.com/2014/07/disruptive-genius

[19] Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution.* Boston: Harvard Business Review Press.

See par. 1.2

position inside the market, which is a consequence of the Big Three not being able to oppose it.

1.3 Comparison between Radical – Incremental dichotomy and Christensen's theory[20]

Even though Christensen's innovation theory and the Radical – Incremental dichotomy do seem similar, they have differences in their assumptions: in fact, while Christensen's theory is mainly based on market competition, Radical – Incremental is based on the amplitude of the innovation.

1.3.1 Incremental innovation vs sustaining innovation

Incremental innovation and sustaining innovation theoretically are similar, because in both cases the company is innovating an already existing product adding up features or making minor improvements to it so that it maintains its competitivity inside the market. In practice, that is usually not true: most of the times, incremental innovation (which changes some minor feature of the product) can provoke a disruption, which will be enabled by further improvements on the product. In fact, normally disruptive innovations are already existing products (particularly in the low-end disruption case), which possess some different components if compared to the other products in the market. These features will force disruptors positioning in the lower tiers of the market, but it will later enable them to disrupt it thanks to further improvements to the product.

[20] This paragraph and the following (1.3.1 and 1.3.2) are based on:

Christensen, C. M. (1997). *The Innovator's Dilemma.* Boston: Harvard Business School Press.

Cromer, T. C., Dibrell, C., & Craig, J. B. (2011). A study of Schumpterian (radical) vs. Kirznerian (incremental) innovations in knowledge intensive industries. *Journal of Strategic Innovation and Sustainability*.

1.3.2 Radical innovation vs disruptive innovation[21]

First, there is a need to differentiate low-end disruption from new-market disruption, because low-end is hardly comparable with radical innovation because it is not a new product, but rather another version of an existing product.

Comparing new market disruption with radical innovation there are similarities in the aspect of creating a new market, which is possible also with a radical innovation, but their extent is different. A radical innovation can be (and it usually is) the starting point for a blue ocean strategy and it usually aims for the higher segments of the market, while disruptive innovation aims for the lower end even in the case of a new market disruption. Secondly, while a radical innovation is usually considered a point of arrival, being the innovation that will permit to the company to gain the market, new-market disruption is a starting point for the disruptor, from which the company will have to build its own success.

1.4 A more complete view on Disruption

Apart from the concepts aforementioned, there are additional approaches which give a more complete perspective on the disruption theory, covering aspects that are not present in Christensen's work.

1.4.1 Digital Disruption

One of the most interesting is digital disruption theory, developed by James McQuivey and later acknowledged by Christensen as a theory that adds up to disruptive innovation. This theory[22] mainly revolves around the digital world and the possibilities that have been made achievable thanks to the availability of free or nearly free digital tools and the

[21] This paragraph has an additional source, which is: Krishnan, R. (2012). *Disruptive & Radical Innovation: How are they different?* Retrieved September 20, 2017, from From jugaad to systematic innovation: http://jugaadtoinnovation.blogspot.it/2012/08/disruptive-radical-innovation-how-are.html

[22] The sources used for this paragraph are:

availability of digital platforms which have extremely simplified the process both in terms of knowledges and in terms of costs.

More in particular, the strengths of the digital world depend on three key items:[23]

- Free or nearly free digital tools, which can be easily utilized to rapidly build new products and services;
- The availability of digital platforms, that have become increasingly important not only to deliver digital products (e.g. applications, music, movies), but also to sell physical products and for marketing purposes;
- Digital consumption, which is embedded in most countries' society, thanks to the burgeoning of digital platforms and digital products, which have enabled the increase in digital utilization.

These concepts are strictly interrelated and they constitute a virtuous cycle for the availability of digital product. The presence of free digital tools and the availability of digital platforms have enabled an ever-growing development of digital products and consequently, an increase in digital consumption, which in turn is conditioning the flourishing of new digital platforms and tools.

There is an additional condition, which has made possible the increase in digital consumption and consequently the increase in digital users and that is convenience. Digital products and services most of the times are more convenient than physical ones

---

McQuivey, J. (2011). *Meet The Digital Disruptors*. Retrieved September 20, 2017, from Forrester: http://blogs.forrester.com/james_mcquivey/11-10-27-meet_the_digital_disruptors

McQuivey, J. (2013). *What Really Counts As Digital Disruption?* Retrieved September 20, 2017, from Forbes:https://www.forbes.com/sites/forrester/2013/01/09/what-really-counts-as-digital-disruption/#4cedadca2fdc

[23] Oxford College of Marketing. (2016). Digital Disruption: What Is It and How Does It Impact Businesses? Retrieved September 20, 2017, from Oxford College of Marketing:

http://blog.oxfordcollegeofmarketing.com/2016/02/22/what-is-digital-disruption/

This source is particularly important mostly for the video at the end of the article, which is reported to be from James McQuivey and it is indeed linked to the Forrester YouTube account (which is the company where McQuivey works).

and not just because they can draw prices down, but also because they provide a digital experience which is faster, simpler as well as cheaper. Besides, they shorten distances and they can provide further advantages compared to physical products (e.g. unbundling of music albums in iTunes store).

This provides the basic difference between the classical concept of disruption and digital disruption:

- Physical disruption: limited access to capital necessary to develop new ideas, which results in a limited number of innovations;
- Digital disruption: nearly unlimited access to digital tools, which sometimes are provided for free, that allow more innovators to bring their ideas in the market at a fraction of the cost.

This highlights the main difference between these two types of disruption, which is their redundancy or their ancillary role in the physical type of disruption and the prominence and centrality of digital instruments in the other. This and the disruptive potential obtainable through digital instruments, give emphasis to the effectiveness of the digital world in disrupting existing businesses, which is mainly by virtue of allowing a substantial decrease in capital need along with the ability to put customers at the center of their businesses delivering the best possible customer experience.

1.4.2 High-end disruption

Another interesting theory is the one that defines as disruptive some type of attacks coming from above. The labels given to this type of attacks vary from author to author,[24] but in this paragraph those attacks will be addressed as high-end disruptions for the sake of simplicity.

---

[24] Sood, A., & Tellis, G. J. (2011). *Demystifying Disruption: A new model for understanding and predicting disruptive technologies.* Cambridge: Marketing Science Institute.

The high-end disruption concept was not introduced by Christensen, who still rejects it as something that does not add up nor matches with his theory, because its characteristics are exactly the opposite of those of a disruptive innovation.[25]

Indeed, other authors have found that its theory did not cover some cases that clearly constituted and configured as an attack from above, rather than a sustaining innovation or a completely different kind of non-disruptive innovation. That is because Christensen wanted to provide a framework that could explain why incumbents, which had significantly more resources than new entrants, after some time would struggle and then be defeated by those new entrants that at the beginning did not pose a threat to the incumbents, mostly because of their inferior product quality. Excluding attacks from above, the theory manages to explain effectively the behavior of the disruptor inside the market and the possible reactions of the incumbent, which are completely different in the "high end".[26] So, in order to differentiate the actions that incumbents have to put in practice to protect themselves from new entrants, the theory of disruptive innovation have to distinguish between innovations that start in new-market or low-end footholds and those that starts in the higher market layers, excluding the latter because they do not have a "disruptive trajectory".[27]

What Christensen means with "disruptive trajectory" is that the innovation must follow a precise path to be defined as disruptive and it must have certain attributes and characteristics (e.g. lower quality, originating in the low market segments) which have been already explained in the first part of this chapter. Thanks to the definition of the attributes that characterize a disruptive innovation, it is possible to understand more effectively why innovation belonging to the high-end segment of the market cannot be

---

[25] Christensen, C. M., Raynor, M. E., & McDonald, R. (2015). What is Disruptive Innovation? *Harvard Business Review*.

[26] Christensen, C. M. (2015). Fresh Insights From Clayton Christensen On Disruptive Innovation. (S. Denning, Interviewer) Forbes. Retrieved September 20, 2017, from:

https://www.forbes.com/sites/stevedenning/2015/12/02/fresh-insights-from-clayton-christensen-on-disruptive-innovation/#1836233a4702

[27] Christensen, C. M., Raynor, M. E., & McDonald, R. (2015). What is Disruptive Innovation? *Harvard Business Review*.

considered disruptive. The reasons behind the exclusion of the so-called high-end disruptions from the theory of disruptive innovation, as designed by Christensen, are the following[28]:

- It configures as a direct attack to the incumbent, which will protect aggressively its market share with every possible instrument;
- The technology on which the innovation is based it is not inferior to those of the incumbents, but rather comparable or even technologically superior to the other products in the market;
- For this reason, the product/service offered by the new entrant is at least comparable (or even superior) to the product/service of the incumbent;
- It does not target an overserved market and neither non-consumption, but rather the incumbents' most profitable segment.

Those are the characteristics of the cases cited as example of high-end disruption in numerous papers, which endorse the incompleteness of Christensen's theory due to the presence of only attacks from below and the lack instead of attacks from above. Anyway, the purpose of the theory of disruptive innovation was to provide a framework that could explain why incumbent usually could not react decisively towards new entrants; adding the high-end disruption case is not justified by an improvement of the theory and would result in a useless complication.

[28] Christensen, C. M., Raynor, M. E., & McDonald, R. (2015). What is Disruptive Innovation? *Harvard Business Review*.

2. Consequences of disruption per type of market

Disruption can have a different impact depending on the type of market in which it happens and based on the peculiarities of that type of market. As it was underlined in the previous chapter for a disruption to occur it is extremely important the presence of a technological core which makes the innovation able to improve its quality and to gradually compete with higher quality products. Even if the technological aspect of the market is fundamental, there are other distinctions that is interesting to make to understand better how disruption would impact each kind of market and other facets to analyze in order to get an exhaustive view on its effects on the market.

2.1 Differentiation of market based on technology

The relevance of technology inside a particular market depends on both its role concerning the product's commercialization and the possibility to technologically enhance the product. Markets according to Christensen,[29] can be differentiated based on the trajectory of their technological improvement (i.e. its slope): the steeper it is the trajectory that characterizes the market, the more it is plausible that a disruptive innovation may be introduced into the market and will eventually disrupt the entire business.

Concerning instead those markets in which the trajectory is flat or nearly flat, those are characterized by a smaller probability to incur in a disruption because the role that technology has inside the market might be ancillary. In case of flat trajectory, it is interesting to notice that the trajectory may become steeper after some time: this may happen either for the launch of one relevant and significant innovation in the market that

---

[29] The source of both this and the figure 2-1 is:

Denning, S. (2012). *Clayton Christensen And The Innovators' Smackdown*. Retrieved September 20, 2017, from Forbes: https://www.forbes.com/sites/stevedenning/2012/04/05/clayton-christensen-and-the-innovators-smackdown/#fe83f135ebe0 will change it completely or for the introduction of smaller, minor progressive changes, which will gradually move the focus onto technologies.

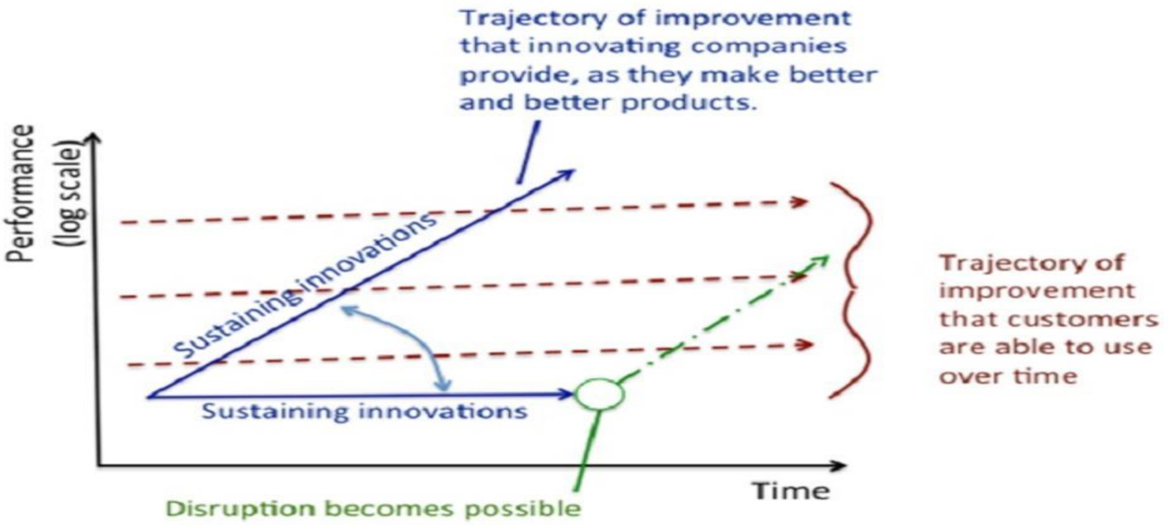


Figure 2-1

One example of that may be online learning with respect to higher education.[30] At the beginning education was characterized by a flat technology trajectory improvement but then online learning was introduced and so it become possible to obtain knowledges in an additional way, cheaper and easier. There are some differences between higher education and online learning[31] which concerns not only the college life but more importantly the interactions between the teacher and students: in fact, while standard teaching can be fully substituted by online learning, the more the interaction increases,

---

[30] Denning, S. (2012). *Clayton Christensen And The Innovators' Smackdown*. Retrieved September 20, 2017, from Forbes: https://www.forbes.com/sites/stevedenning/2012/04/05/clayton-christensen-and-the-innovators-smackdown/#fe83f135ebe0

McCue, J. T. (2014). *Online Learning Industry Poised for $107 Billion In 2015*. Retrieved September 20, 2017, from Forbes: https://www.forbes.com/sites/tjmccue/2014/08/27/online-learning-industry-poised-for-107-billion-in-2015/#650182247103

Christensen, C. M., Raynor, M. E., & McDonald, R. (2015). What is Disruptive Innovation? *Harvard Business Review*.

Orgill, J., & Hervey, D. (2011). How Online Innovators Are Disrupting Education. *Harvard Business Review*.

[31] Hansen, M. T. (2013). Executive Education Is Ripe for Online Disruption. *Harvard Business Review*

the more it is needed for students to be in the same room as the teacher. Even if there are still some limitations for a disruption to happen, primarily because there are additional benefits in attending a college which right now are difficult to match, online learning is probably on its way to disrupt it.

2.1.1 A focus on technology-based industries[32]

Technology-based industries are industries which are characterized by a strong focus on technology and, knowing that disruption needs a technological core[33] to be enabled, that is considerably important. Starting from this premise and knowing that those industries are frequently characterized by a steep trajectory of technological improvement,[34] technology-intensive industries should be considerably prolific of disruptive innovation. That is just one side of the coin because technology nowadays is so pervasive that characterizes different types of industries even though with a different weight and significance: focusing on technology-based industries it is possible to get many aspects that now are present in disparate industries.

One of the most important issues in this kind of industries is the protection of the innovation, which can be achieved through various techniques, that can be either legal or strategical. From a legal standpoint, the way to protect innovations is through property rights (e.g. patents), which protects the innovator for a limited time. This usually is not enough, because the ability of the competitor to replicate an innovation depends mostly on the extent to which the knowledge needed to develop the innovation is codifiable: the higher the complexity of the innovation and the presence of tacit knowledge, the more the innovation is protected. Lastly, lead time, which is the time that the innovators gain on competitors, is extremely important both because it gives the innovator a competitive

---

[32] Chapter 12 of Grant, R. M. (2010). *Contemporary Strategy Analysis* (7th ed.). Chichester: John Wiley & Sons Ltd.

[33] Lambert, C. (2014). Disruptive Genius. *Harvard Magazine*. Retrieved September 20, 2017, from http://harvardmagazine.com/2014/07/disruptive-genius

[34] Denning, S. (2012). *Clayton Christensen And The Innovators' Smackdown*. Retrieved September 20, 2017, from Forbes: https://www.forbes.com/sites/stevedenning/2012/04/05/clayton-christensen-and-the-innovators-smackdown/#fe83f135ebe0

advantage in terms of time, which can be used to strengthen its position inside the market and to eventually gain market leadership.[35]

Even if lead time can bring a considerable competitive advantage to the innovator, it is convenient to lead only if one or more of the following factors occur:[36]

- Innovation can be efficiently protected with property rights, so the innovator will have sufficient time to build a competitive advantage towards its competitors;
- The need of complementary resources[37] to bring to market the product and their presence in the market, which would constitute a saving for the innovator that do not have to invest to produce them, this further reduces the cost of being the pioneer;
- The potential to establish a standard, which is extremely important to gain the leadership of the market. Those commonly emerge when the market is subject to network externalities, but does not always require the usage of the same product/technology; in fact, it is crucial the compatibility of those products with one another, rather than the usage of the same product. This reduces the advantage that the innovator would have establishing a standard, because competitors would still be able to compete with them rather easily. There is an example of this inside the telecommunication industry, where all operators are able to communicate among them due to the compatibility of their networks.

If those does not occur, the innovator will lose most of its investment, in favor of the follower, who will simply copy the innovation, creating a very similar product.[38]

---

[35] Chapter 12 of Grant, R. M. (2010). *Contemporary Strategy Analysis* (7th ed.). Chichester: John Wiley & Sons Ltd.

[36] List taken from:

Chapter 12 of Grant, R. M. (2010). *Contemporary Strategy Analysis* (7th ed.). Chichester: John Wiley & Sons Ltd

[37] Complementary resources are those resources and capabilities needed to bring effectively to market the product.

[38] Chapter 12 of Grant, R. M. (2010). *Contemporary Strategy Analysis* (7th ed.). Chichester: John Wiley & Sons Ltd.

2.2 Differentiation on business segment[39]

Another important differentiation that can be done to highlight the differences in the speed of disruption across markets is implementing a separation made on a segment basis. In fact, a business can either focus on selling its product or delivering its services to consumers or to other businesses and depending on the case, the buying process will be different.

The disruption theory still holds in all of its part for both segments, but there are some differences, mainly due to the behavior of the segment itself. In fact, if we consider the consumer segment, the process of choosing and buying the product[40] is not completely rational, but it entails also some emotional thinking, which may be connected to the brand identity, the customer loyalty, etc. Instead, focusing on the business segment, the buying process[41] is extremely rational and, contrary to the customer segment, the final decision is taken thanks to discussions among many people, representing different functions inside the company.

Given that assumptions, the difference that they show regarding disruptive innovation would be the speed of adoption. If the disruptive innovation adopted by the business is ancillary with respect to their product, the adoption will be faster, because the price will be lower than the main competitor, and the performance will be good enough. Instead, if the disruptive innovation adopted by the business is more prominent and of primary importance to maintain the quality of the product, the adoption will be slower.

To generalize, if the disruptive innovation quality becomes comparable to that of the incumbent's, the speed of adoption in the business segment will be higher than in the consumer segment. That is because, while customers may still hold onto values and experiences linked to the incumbent's brand and products, businesses are characterized

---

[39] The assumptions made in this paragraph about the different speed of disruption between the two segments are my own, and they are based on both the characteristics of business to business and business to consumer marketing and on the characteristics of a disruptive innovation, which were thoroughly explained in the 1st chapter.

[40] Mattiacci, A., & Pastore, A. (2014). *Marketing, il management orientato al mercato.* Milano: Hoepli.

[41] Mattiacci, A., & Pastore, A. (2014). *Marketing, il management orientato al mercato.* Milano: Hoepli.

by a greater rationality in the buying process, which, for example, makes them keener on choosing a product slightly inferior in quality, but at a much lower price.

2.3 Differentiation based on industry life cycle

The last analysis of the effects of disruption on markets is related to their stage in the industry life cycle, which is a concept that subdivide the industry accordingly to their overall sales and time.

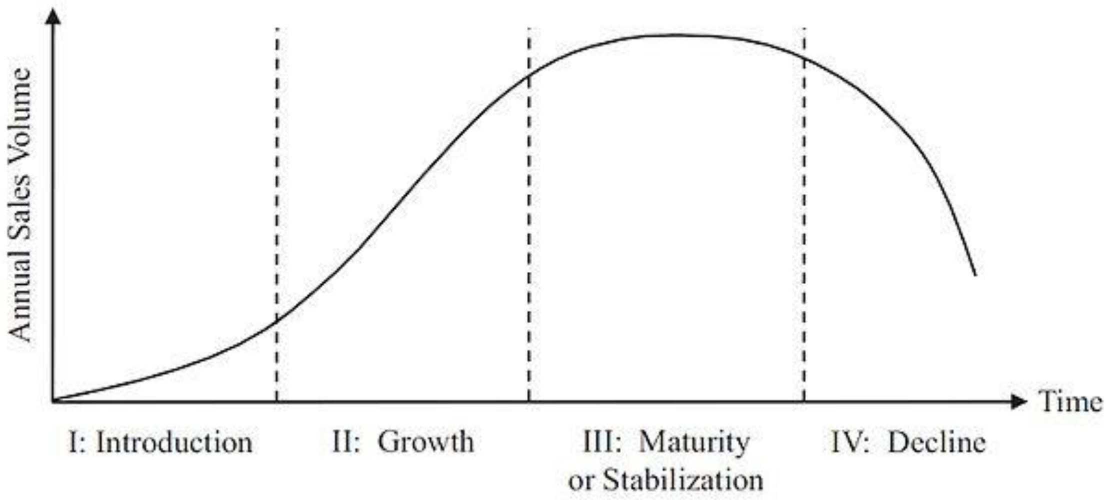


Figure 2-2

In agreement with the industry life cycle, markets have four different stages[42], each characterized by a different sales volume, and based on the analysis made in chapter 1, the objective of this paragraph is to analyze the possible emergence of a disruption in each stage:

- The Introduction stage is characterized by a low market penetration rate, mainly due to the few customers and to the scarce familiarity of people with the product which are caused by the newness of the product. In addition, due to sales being so low (i.e. no scale economies) and the lack of experience, there will be low profits

[42] The source for the introductive part, the figure and the following list is:

Chapter 11 of Grant, R. M. (2010). *Contemporary Strategy Analysis* (7th ed.). Chichester: John Wiley & Sons Ltd

The hypothesis on disruption in each stage are based on the assumptions made in Chapter 1.

and high costs. The probability of a disruption to happen at this stage is relatively scarce, but it has probably happened upstream, in the form of a new-market disruption, causing this market to be born;

- The Growth stage outlines an increase in market penetration, aiming and finally entering the mass market. The innovation gradually improves, but it still does not leave much room for a disruptive innovation to happen, because non-consumption might not be enough;
- The Maturity stage is characterized by the market being saturated or near saturation. In this phase, disruption has the highest probability to start, due to companies that attracted by higher profits, have moved upmarket leaving a portion of their underserved;
- The Decline stage is constituted by fewer sales and a decrease in growth, caused by an alternative product which is superior to the existing one. In this particular case, the industry may have already been disrupted by a new product and the disruption may be in fact the reason why the industry is characterized by a declining trajectory in growth.

2.3.1 A focus on the creation of a new market[43]

Once a new product is created, if it does not address any existing market, it is ought the creation of a new one, which can either be the result of disruptive forces or not. Either way, the most difficult part is to nurture it, managing it in order to make it more and more interesting for customers, increasing its relevance for them and consequently increasing the customer base of the company.

Upstream of the creation of a new market, there is the need of understanding how much similar it would be the product/service created, because the similarity of the markets has two main effects:

---

[43] Paragraph written mainly using this source, which analyzes in detail what are the most important things to keep under control for the creation of a new market:

O'Connor, G. C., & Rice, M. P. (2013). New Market Creation for Breakthrough Innovations: Enabling and Constraining Mechanisms. *Journal of Product Innovation Management*.

- The more they share, the less the company must invest to acquire the knowledges needed to run the market;
- The more they share, the more it is needed a strategy not to cannibalize the older products.

The main problem with the last one is that often not to cannibalize the other products that the company offers, solutions are adopted that do not permit to the newly launched innovation to emerge and take its spot inside the market, in favor of maintaining the full power of the other products. For this reason, the choice to form new organizational unit to manage the launch of the innovation would minimally be influenced by the other products and would be more able to manage the creation of a new market.

Furthermore, to have the greatest possible resonance, it is useful to nurture the market by teaching to customers about the product and by getting them accustomed to it through advertising in specialized magazines or through conferences, in order to give prominence to the product since before its launch.

3. Managing and facing a disruptive innovation

Understanding how companies should behave when facing or managing a disruptive innovation is the core purpose of the chapter and possibly one of the most important aspects that will be analyzed in this thesis.

This relevance derives mainly from the peculiar characteristics of disruptive innovations, that imply a different behavior on both sides:

- The management of a disruptive innovation from its very beginning is different in many aspects from other types of innovation (and these differences will be highlighted in this chapter), so disruptors have to adopt a diverse conduct and strategy to disrupt the market with their innovations;
- The other companies inside the market, which have to face the disruptor company, will have to defend their position adopting a strategy that is different from the usual defense adopted in case of comparable companies (even if, in the eventuality of a disruptive competitor, they tend to do defend when it is too late). In fact, at the beginning disruptor companies do not face directly incumbents, but can either make their way up to the mainstream market starting from the least profitable segments for the incumbents or create a new market which will eventually collide with the existing one.

There are three main characteristics that it is useful to keep in mind throughout the chapter. The first one is the differentiation between new-market disruption and low-end disruption, which is important because the approach to the market may vary depending on the type of disruption: while a new-market disruption will address unserved customers, a low-end disruption will target the overserved and least profitable customers.[44] This do not exclude the possibility to have an hybrid disruptor, that would target both non consumption and the least profitable segments of the market: this is possible if the new product or service is designed in a way that it attracts at the same time non-consumers

[44] This distinction has been made in the 1st chapter of this thesis at paragraph 1.2.

(because it is more affordable and simpler to use) and low-end segments (because it is cheaper).

Second, the "rate of improvement that customers can utilize or absorb"[45] that is the basis and the main reason why disruption is enabled. The incumbents keep improving their products, finally reaching a point at which they overshoot customers' needs, by offering more than they can really utilize (as it is shown by the following figure).[46]

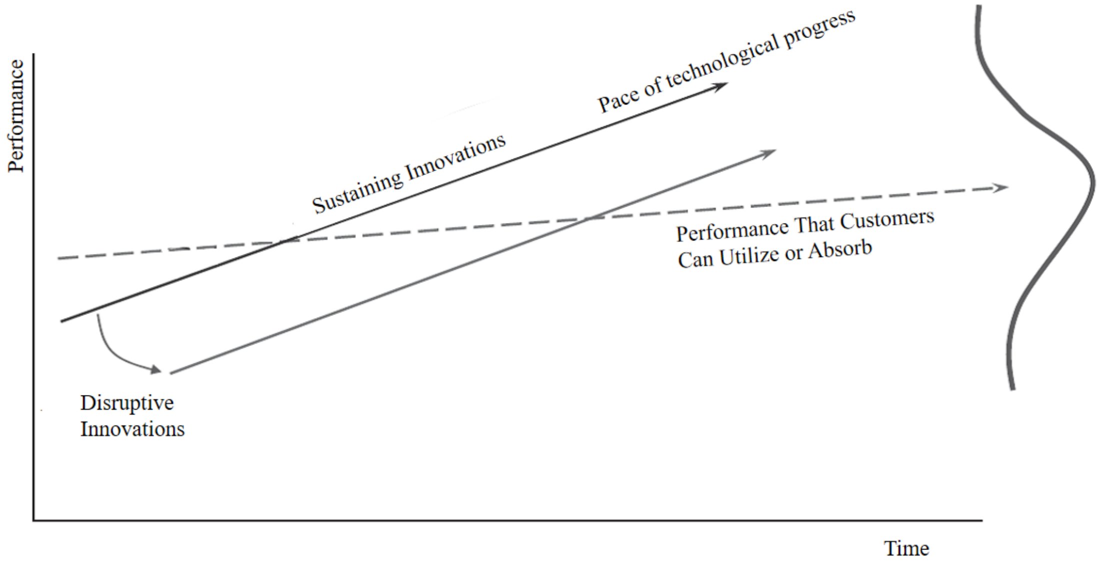


Figure 3-1[47]

As the incumbent keeps improving its product, the disruption begins and it will eventually offer just the right performance, at a lower price, gaining the mainstream market. The curve on the right side represents the range of performance that customers can utilize, which underline the fact that the dotted line is the average performance that the average customer can utilize.

---

[45] Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution.* Boston: Harvard Business Review Press.

[46] This concept was firstly introduced in the 1st chapter, at par. 1.2 and here it is also graphically explained. The source is: Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution.* Boston: Harvard Business Review Press.

[47] The figure is taken from: Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution*. Boston: Harvard Business Review Press.

Third, the trajectory of technological improvement, which varies depending on the industry and on the market.[48] This trajectory is almost always steeper than the performance utilizable by the customers, meaning that with the passing of time the performance that customers can absorb will be eventually outstripped.

For these reasons, analyzing and understanding the differences between a disruptive behavior and a sustaining one is fundamental to understand the different impacts that a disruptive company may have on the market.

3.1 Testing the idea[49]

The character of the innovation hugely depends on the plans that the company has for that specific product or service more than on the innovation itself. Sometimes, it is possible to crystallize the same idea into either a sustaining innovation or a disruptive one, depending on the process adopted, but to understand if it is really possible to chisel out a disruptive innovation from an apparently only-sustaining idea, there are some questions that have to be answered.

In order to know if an idea has the potentiality to be disruptive, there are three sets of questions that have to be asked and to which managers must reply to get the information that they need.

The first set of questions has the role of understanding if the idea can be configured as a new-market disruption, which is possible only if at least one of the following questions is answered affirmatively:[50]

- "Is there a large population of people who historically have not had the money, equipment, or skill to do this thing for themselves, and as a result have gone without it altogether or have needed to pay someone with more expertise to do it for them?"

---

[48] This topic has been treated in the 2nd chapter, at par. 2.1.

[49] Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution.* Boston: Harvard Business Review Press.

[50] The two following questions are a citation from Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution.* Boston: Harvard Business Review Press.

- "To use the product or service, do customers need to go to an inconvenient, centralized location?"

If that is not the case and both these questions are answered negatively, it is still possible that the idea can configure instead as a low-end type of disruption. Also in this case, there are two questions that must be answered both affirmatively to be sure to be in presence of a low-end disruption:[51]

- "Are there customers at the low end of the market who would be happy to purchase a product with less (but good enough) performance if they could get it at a lower price?"
- "Can we create a business model that enables us to earn attractive profits at the discount prices required to win the business of these overserved customers at the low end?"

While in the new-market disruption case it was needed to answer affirmatively to just one of the two questions, in order to know that the idea can be shaped into a low-end disruption both questions must be answered affirmatively. That is because in the first case, the two questions both described a scenario in which a new-market disruption would be possible, without the need of the other hypothesis coming to life. Instead, in the second set of questions, the first one analyzes if there are people that would be interested in the product, while the second question analyzes the profitability of the idea and the possibility to be competitive in an overserved segment. So, while the first set of questions analyzes two different scenarios, the second set is characterized by questions which are instead intertwined. Anyway, having answered affirmatively to the first one and not being able to find out a business model which is suitable to earn attractive profits, it does not necessarily mean that another company won't be able to disrupt the business with that same idea: the reason why it is not profitable may be a mere reason of size, and it will be later explained how to overcome this kind of problem.

[51] The two following questions are a citation from Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution.* Boston: Harvard Business Review Press.

After having understood if the idea has disruptive potential as a new-end disruption or rather as a low-end disruption, there is another question which must be answered affirmatively:[52]

- "Is the innovation disruptive to *all* of the significant incumbent firms in the industry? If it appears to be sustaining to one or more significant players in the industry, then the odds will be stacked in that firms' favor, and the entrant is unlikely to win."

This last question, which is called by Christensen "Litmus test"[53] has a fundamental importance to understand if the disruptor will really be able to disrupt the entire business or if, instead, it will succumb to another company which, contrary to the first one, really is disruptive.

These three sets of questions are extremely important for new entrants to understand the possibility of the idea to have success inside the market and possibly disrupt the entire business. All the questions imply in fact a deep knowledge of the market both in terms of competition and in terms of customers' behavior and consumption habits, which is normally the basis to program the entry in a market with whatever type of product and not necessarily a disruptive one.

Obviously, these questions are not an exclusive prerogative of new entrants, but can be successfully used also by incumbents, even in the form of a low-end disruption (as it has happened in the case of Charles Schwab), but more importantly to defend themselves against disruptive companies. These questions can be indeed utilized to understand if there are any weaknesses in the market that can be attacked by a disruptive company or if there is any spot where a disruptive company can find room or even if a company already present in the market is on a disruptive trajectory and may possibly in the future disrupt the entire business. Once the incumbent has understood if the newly entered

[52] The following question is a citation from Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution*. Boston: Harvard Business Review Press.

[53] Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution*. Boston: Harvard Business Review Press.

company is on a disruptive trajectory, it can take some countermeasures[54] to prevent it to grow too much and to take a relevant portion of the market. This underlines the importance to be constantly analyzing the market not only to spot dangerous competitors early on, but also to find some disruptive opportunities of which it might be possible to take advantage in the future.

3.2 Market segmentation

Once the idea has been tested, it is of relevant importance to understand which are the customers that the company wants to target. A market segmentation is defined as "The process of subdividing a market into distinct subsets of customers that behave in the same way or have similar needs"[55], so proceeding with a market segmentation means indeed to divide the population into clusters that are populated by customers which have some traits in common. There are many ways to proceed with a segmentation, depending on the information that the company wants to get and depending on the kind of customers that it wants to target and this is crucial for the disruptor to have success in the market by having more information about how the market can be subdivided. This gives the company a considerable advantage on the other companies in terms of knowledge and ability to target the right customers.[56]

The most common ways to proceed with a market segmentation are the following:[57]

---

[54] Which are those countermeasures will be analyzed in paragraph 3.4 and in a more detailed way in paragraph 3.4.1.

[55]American Marketing Association. (n.d.). *AMA Dictionary*. Retrieved September 20, 2017, from American Marketing Association:
https://www.ama.org/resources/pages/dictionary.aspx?dLetter=M#market+segmentation

[56] Alon, I., Jaffe, E., & Vianelli, D. (2012). *Global Marketing: Contemporary Theory, Practice and Cases.* New York: McGraw-Hill.

[57] The list and the description is taken from Mattiacci, A., & Pastore, A. (2014). *Marketing, il management orientato al mercato.* Milano: Hoepli.

- Psychographic is a type of segmentation based on people's lifestyle and personality traits, mainly focusing on activities, interests and opinions that people have;
- Consumption behavior is a segmentation that describes the attitude towards the consumption of a certain good in terms of purchase frequency (e.g. heavy user), user status (e.g. non-user, potential user, ex-user), usage occasion (time, place and occasion) and customer loyalty;
- Benefit-sought is a segmentation that distinguishes between functional benefits (verifiable advantages gotten through the usage of the product) and symbolic benefits (linked to the status);
- Profiling segmentation distinguishes between geographical data and demographical. It is used as a complementary segmentation to support other data and it is hardly ever used alone, because it does not give really insightful information.

In order to have success in the market, performing a segmentation to understand which customers to target is certainly a good strategy, and in fact normally a combination of them it is used, on the grounds that using just one might be too little to define correctly the customers' segment that the company wants to target.

3.2.1 Market segmentation from a "Job-to-be-done" point of view[58]

Generally, all the types of market segmentation mentioned before are useful in many ways, because they give some information about the subdivision of the market and they

---

[58] This paragraph has been written by using the following sources:

Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution*. Boston: Harvard Business Review Press.

Bayer, J., & Taillard, M. (2013). A New Framework for Customer Segmentation. *Harvard Business Review*.

Christensen, C. M., Hall, T., Dillon, K., & Duncan, D. S. (2016). Know Your Customer's "Jobs to Be Done". *Harvard Business Review*.

Strategyn. (n.d.). *Jobs-To-Be-Done Theory and Methodology*. Retrieved September 20, 2017, from Strategyn: https://strategyn.com/jobs-to-be-done/jobs-to-be-done-theory/

separate the market in a way that makes it easier to understand how the various cluster of customers behave. They are indeed used nowadays to know most of the customers that companies want to target, like their attitudes and their geographic position, to understand precisely who is and what behavior does it have the customer that is interested in that specific product.

The Job-to-be-done market segmentation follow the same reasoning of the most common segmentations, which is identifying different clusters of people based on some criteria or values. In this case, the criterion that enables the segmentation of the market is the job that customers are trying or want to get done. That requires high level analytical skills, because what customers are trying to get done with products, may not always gave a perfect correspondence with the basic functions of the product.

This type of reasoning is specifically the one that enables a disruptive behavior by making possible and easier to find jobs that can be done better or jobs that have not been addressed at all, by means of focusing specifically on the jobs that customers are not getting done in the best possible way. Thanks to this kind of way to analyze the market, new disruptive possibilities can be found and growth opportunities can be unleashed, so that a business may grow while being on a disruptive trajectory. A further advantage that it is possible to gain by utilizing this approach is to really understand who are the other competitors that are trying to get the same job done, and eventually surpassing them by improving the product in a way that makes it more efficient in delivering effectively the job for which it has been bought.

For a new-market disruption[59] to have success it is critical to understand the reasons why there is a situation of non-consumption because depending on the case it may or may not hide a growth opportunity. If there is no job that customers would want to get done, then actually there is no growth opportunity, but if customers can't get the job done because the existing product costs too much or is too complicated, then there is a growth opportunity in that segment. Secondarily, it is extremely important to use an appropriate branding strategy to keep separate the job that the disruptive innovation would be hired

---

[59] The process in the case of a low-end disruption instead is more straightforward, because they are still in the same market, what companies do is to sell a product with inferior characteristics that anyway does the job that customers require.

to do from the jobs done by the other businesses of the same company. In this way, a "purpose brand" would be created, which responds specifically to a specific job (a circumstance), thus avoiding customers to hire the wrong product to do the job because the brand would be automatically associated with the job, and consequently strengthening both brands. This kind of branding strategy works and it does not cause collateral damage only if jobs done by brands are correctly differentiated, especially if they have the potential to damage themselves. An additional strength of using this method is that the jobs that customers want to get done do not change very frequently and if they do, that usually happens slowly; this is the reason why the line representing the "performance that customers can utilize or absorb" (Figure 3-1) most of the times is nearly flat and explains better why customers do not absorb or utilize all the other features that companies so frequently add to their product: because the job has already been done by the product and any further ancillary development is not important for doing the job.

Even if this method can be really efficient for disruptive companies, it has some downsides, which are listed below[60]:

- This segmentation method is strongly focused on getting the job done right and in the most efficient way, so by progressively focusing on a job, the others may be excluded;
- By using this method, the possibility of knowing exactly the quantity of customers that can be targeted through the product can be a difficult task, depending on the jobs that they are trying to get done.
- Retail channels are not structured in a way that favors jobs to be done, but rather a categorization of them, so introducing a new product (deriving from a new market disruption) into a channel might be hard also in terms of finding a place on the shelves.

---

[60] List taken from Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution*. Boston: Harvard Business Review Press.

Even with these downsides though, it is a good method to bring into the market disruptive innovation and to eventually find if there are other opportunities inside the market which are not being exploited by the company.

3.3 Make-or-buy decisions

Make-or-buy decisions are characterized by the choice between two different alternatives: insourcing and outsourcing; these are two opposite concepts that concern the production of a good or the supply of a service. Knowing what processes should be kept inside the company and what instead should be outsourced can be absolutely decisive for the survival of the company as well as knowing when companies should proceed with an outsourcing strategy which can be implemented by delegating other companies to accomplish some processes in their place.

Insourcing is characterized by the decision of the company to produce or accomplish in-house a certain good or service, which is necessary to bring to customers the final product or service. Insourcing is commonly referred as "integration", because the company executing this strategy is deciding to produce in-house what it needs, causing an enlargement of the number of processes that the company achieves by furthering their "integration". The advantages of insourcing are:[61]

- Protection of proprietary product technology;
- Higher degree of control on quality and on people performances;
- Greater synergies among department

---

[61] Investopedia. (2015). *What's the difference between outsourcing and insourcing?* Retrieved September 20, 2017, from Investopedia: http://www.investopedia.com/ask/answers/032715/whats-difference-between-outsourcing-and-insourcing.asp

Parker & Lynch. (n.d.). *Outsourcing versus insourcing: Aligning your approach to your business*. Retrieved September 20, 2017, from Parker & Lynch: http://www.parkerlynch.com/clientservices/Pages/outsourcing-infographic.aspx

Hill, C. W. (2015). *International Business: Competing in the Global Marketplace.* New York: McGraw-Hill.

Bhimani, A., Horngreen, C. T., Datar, S. M., & Rajan, M. (2015). *Management and cost accounting.* Harlow: Pearson Education Limited.

While the disadvantages are mainly focused on costs[62] both because building a team from scratch can be really expensive and because it normally requires more money than outsourcing.

Outsourcing is instead a decision that entails the dis-integration of the company, because processes are not anymore kept in-house but instead assigned to other companies which due to specialization may even perform the task better in terms of quality or cost. The main advantages of an outsourcing strategy are[63]:

- Lower costs;
- Greater flexibility, with the possibility to change suppliers thus avoiding long-term commitments which might cause an increase in costs;
- Possibility to focus on your core activities and competencies, by delegating to others the ancillary ones;

While the disadvantages[64] are mainly focused on the decrease in control (also in terms of costs which truly lower, but also become more fixed), due to the disconnection between the delegated company and yours.

---

[62] Parker & Lynch. (n.d.). *Outsourcing versus insourcing: Aligning your approach to your business*. Retrieved September 20, 2017, from Parker & Lynch:

http://www.parkerlynch.com/clientservices/Pages/outsourcing-infographic.aspx

[63] Investopedia. (2015). *What's the difference between outsourcing and insourcing?* Retrieved September 20, 2017, from Investopedia: http://www.investopedia.com/ask/answers/032715/whats-difference-between-outsourcing-and-insourcing.asp

Parker & Lynch. (n.d.). *Outsourcing versus insourcing: Aligning your approach to your business*. Retrieved September 20, 2017, from Parker & Lynch: http://www.parkerlynch.com/clientservices/Pages/outsourcing-infographic.aspx

Hill, C. W. (2015). *International Business: Competing in the Global Marketplace.* New York: McGraw-Hill.

[64] Parker & Lynch. (n.d.). *Outsourcing versus insourcing: Aligning your approach to your business*. Retrieved September 20, 2017, from Parker & Lynch:

http://www.parkerlynch.com/clientservices/Pages/outsourcing-infographic.aspx

Knowing this, a make-or-buy decision[65] is mainly based on which of the previous factor has the highest relevance for the company, other than costs (which sometimes can be similar in both cases). An example of this is the distinction between core activities and peripheral one, that tends to be the most important distinction in a company outsourcing decision, but the problem is that the centrality of an activity may change with the passing of time and peripheral activities inside an industry may become core one as the market evolves.[66] Knowing in advance if there will be a shift from core to peripheral or vice versa for some activities and which of them will actually be subjected to this shift, requires a great deal of anticipation capacity of customers' requirement and desires.

Another way in which the succession of insourcing and outsourcing decision can be explained is through the concepts of interdependence and modularity:[67]

- There is interdependence if the various parts that compose the good or service to be commercialized cannot be created separately by the other components, so the company producing the product would choose to insource; in this case there is more freedom in designing components in a way that they perfectly fit with the products;
- There is modularity if there is the possibility of creating and producing the various parts independently, in separate parts of the value chain, so the company would choose to outsource; in this case, compared to interdependence, there is less freedom designing the product, because the components are standardized and sold the same to every company in the market.

---

[65] Investopedia. (n.d.). *Make-Or-Buy Decision*. Retrieved September 20, 2017, from Investopedia: http://www.investopedia.com/terms/m/make-or-buy-decision.asp

[66] Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution.* Boston: Harvard Business Review Press.

[67] This part, the concepts of modularity and interdependence and what follows is taken from:

Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution,* Boston: Harvard Business Review Press.

Christensen Institute. (n.d.). *Interdependence & Modularity*. Retrieved September 20, 2017, from Christensen Institute: https://www.christenseninstitute.org/interdependence-modularity/

Having stressed the difference between these two concepts, it is extremely important to understand which characterizes which stages of the product in terms of its quality for the customers. When the product is not good enough, the company is more leaned towards interdependence, with a minimal number of parts that are being externalized, instead when the product is good enough, the company is more inclined to accept to outsource more of the parts that compose its products.

The main reason behind this shift is because the product at a certain point may overshoot the customers' ability to appreciate an improve in performance, which will result in less willingness to pay a premium price for them. The increase in competition and the inability of customers to really appreciate the increase in performance, will result in the product becoming some sort of commodity[68] and in companies having to keep the pace with these changes in customers' behavior.

When competition increases, to keep costs under control and to deliver a superior experience to customers, the best way is to outsource part of their value chain in order to still enjoy attractive profits, so the companies that won't outsource to other companies' part of their value chain will be at a great disadvantage compared to modular companies which instead are able to draw down costs and enjoy higher profits.

When the product becomes more than good enough for customers, it causes a shrinkage in profits due to a competition mainly based on price and the complexity of putting in practice a differentiation strategy due to the components coming from suppliers being fairly standardized at this point. So, what happens is that while for customers the products are more than good enough, for companies the components are not good enough because to differentiate their product from those of the competitors they have to improve it, in a way that it will deliver higher performances to customers. This cause profits to shift from the incumbent to its supplier, so for this reason it is imperative to carefully analyze what will be the parts of the value chain outsourced to other firms because a wrong choice

[68] Here the term commodity is used to stress that products are similar in performances and functionalities, at a level that customers can hardly see any difference between them. If the good had been a commodity, the reasoning would have been different.

Investopedia. (n.d.). *Commoditize*. Retrieved September 20, 2017, from Investopedia: http://www.investopedia.com/terms/c/commoditize.asp could cause a company to lose the opportunity to improve its profitability more than its competitors.

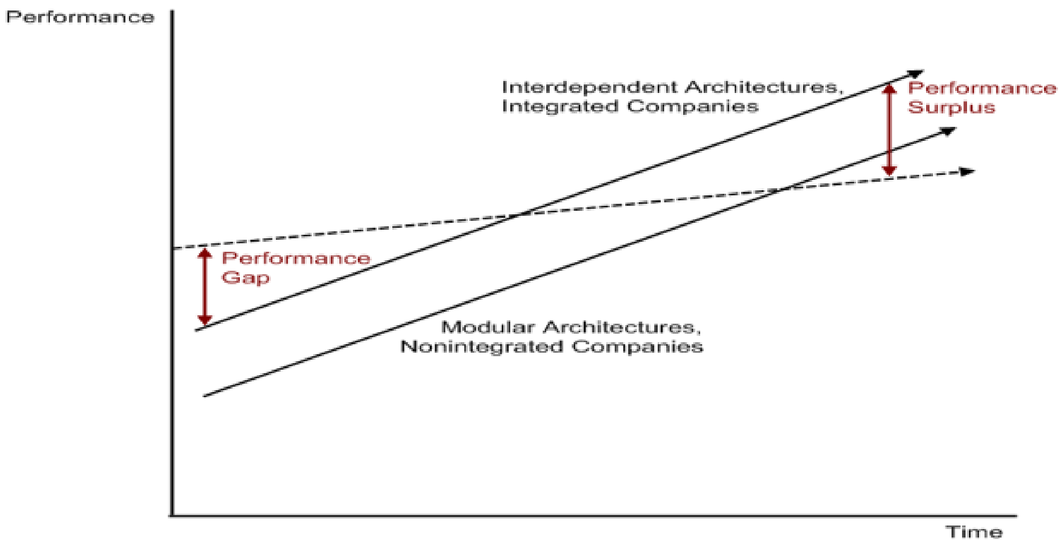


Figure 3-2[69]

That is what has happened for example in the mainframe industry in the '80s, where there was IBM which was basically the leader company in the market controlling more than 90% of its profits and approximately 70% of the market share. When the market shifted to modularization, IBM decided to outsource some of its parts to other suppliers, such as Microsoft and Intel, which already produced those components and eventually it caused them to capture most of the profits of the industry. As of today, IBM is not assembling anymore and even if the industry has shifted from mainframe to computers, Microsoft and Intel are still present inside the industry and are gaining quite relevant profits from their respective businesses.

---

[69] Figure taken from the following site just for graphical reasons.
http://innovestments.blogspot.it/2016/06/virtual-reality-and-theory-of-modularity.html
A graph representing the exact same concept can be found on other websites or either in:
Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution.* Boston: Harvard Business Review Press.

Given the fact that the process of outsourcing is difficult to contain due to pressure from both investors and the competitors inside the market, one possible way out of this is to set up a separate, independent organization[70] which supplies the subsystems to the company. In this way, if the company have understood what will be the most profitable parts of the value chain, it will have a company ready to compete in that segment and will be able to gain from the status of "not-good-enough" of the products that it supplies. [71]

Once the "modular era" becomes a reality, it is still possible that the industry will flip back towards integration and interdependence, and this happens specifically when the features that customers can appreciate and utilize increase, bringing back the product to a "not good enough" stage.[72]

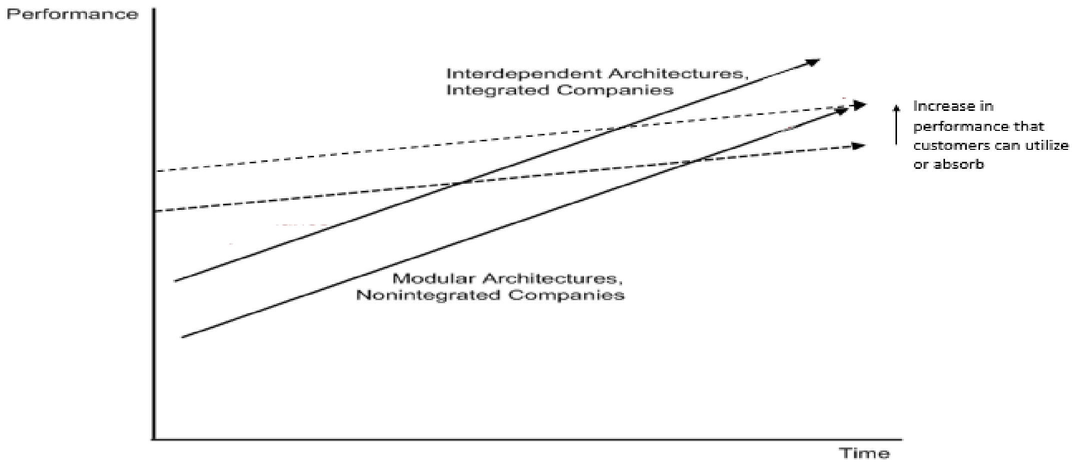


Figure 3-3[73]

[70] The steps to be done to set up correctly a separate and independent organization, its effects and the reasons will be better detailed on par. 3.4.

[71] This part as well as the example that follows has been done consulting both:

Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution.* Boston: Harvard Business Review Press.

Christensen, C. M., Raynor, M. E., & Matthew, V. (2001). Skate to Where the Money Will Be. *Harvard Business Review*

[72] Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution.* Boston: Harvard Business Review Press.

[73] The figure is a partial re-elaboration of a figure taken from: Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution.* Boston: Harvard Business Review Press.

In fact, once the product goes back to be considered not good enough, accepting a standardized solution provided by other companies will not be acceptable, because it does not make it possible for the company to technologically improve its product that has given away the full control on it by outsourcing some of the value chain, thus exploring other possibilities becomes rather complicated. In addition, it would have to stick to the way the suppliers of components design their product, so it would not have a complete freedom neither on the assembly.

3.3.1 The problem of commoditization

Commoditization as said in the previous paragraph, can be a real threat to companies, because it reduces the margins that companies are able to gain by selling their products or providing their services. That is mainly due to the increase in competition, to the increase in products similarities, to the easiness with which it is possible to find that good inside the market and most of all to the overshooting of customers' ability to appreciate those improvements.

Usually, if there is a commoditization (and modularity) happening there is a de-commoditization happening somewhere else in the value chain[74]: this is due to the increase in competition, especially in terms of prices,[75] that characterizes this stage, with companies that keep trying to offer to customers always better product experiences, therefore keeping their products up to date buying from their suppliers the newest and best components. In this way, they manage to move upmarket, increasing their profitability by improving their products, while in the low-end segments, products are more and more comparable to a commodity. The suppliers of components instead benefit from this situation, because they can easily sell their products to whatever company

---

[74] This and what follows is taken from Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution*. Boston: Harvard Business Review Press.

This concept has also been explained in the previous paragraph. The specular de-commoditization process that happen somewhere else in the value chain is de facto the profits' shift from the company to its suppliers, due to the suppliers' product not being good enough for the company.

[75] Thull, J. (2010). *Avoid The Commoditization Trap*. Retrieved September 20, 2017, from Forbes: https://www.forbes.com/2010/04/23/commoditization-trap-branding-leadership-managing-marketing.html

demands it, because it would be a standardized component, that all buyers are prepared to fit inside their products. Using the same components, demanding the same standards from suppliers and having a highly similar way (if not identical) to assemble the product, make it in fact even more difficult to differentiate it from those of the competitors.

So, while in the part of the value chain where the product is considered more than good enough the company is subjected to a commoditization process with a relevant decrease in profits (and it tries to avoid it by moving upmarket, where profits are higher), the part constantly under pressure due to companies growing requests for always better performances is subjected to the opposite process. In this other part of the value chain, the components that the firms want to integrate inside their product is constantly challenged and considered not good enough for the companies, which want to escape from commoditization by means of increasing their product quality (indeed overshooting customers' needs), more than satisfying customers' expectations and consequently by offering always better products.

3.3.2 The ROA maximization trap[76]

Once competition increases and companies starts to reduce their costs, modularization starts to become a reality and many companies begin to dis-integrate their value chain in order to follow a cost-reduction strategy. The process of dis-integration, more than reducing costs has one more effect on the company, which is the increase of the Return on Assets, by means of reducing the total assets available to the company. Being the ROA the efficiency with which a company manages its assets to generate profits,[77] investors are normally attracted by companies that have a high return on assets and that are able to improve it. While improving it through an increase in profits is a healthy way of increasing this ratio, increasing it by dismissing assets can cause a significant weakening of the company: even if in most cases outsourcing part of the value chain is inevitable,

---

[76] This paragraph has been written mainly using as a source:

Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution.* Boston: Harvard Business Review Press.

[77] Investopedia. (n.d.). *Return On Assets - ROA*. Retrieved September 20, 2017, from Investopedia: http://www.investopedia.com/terms/r/returnonassets.asp

still companies have to avoid outsourcing those components that might become more critical in a modular world. Once the market becomes modular, if companies managed to do retain the part of the value chain that will be more valuable in the future and if they managed to produce modular subsystems, they would still be able to gain profits by an additional line of business, which might become the main revenue stream of those companies.[78]

3.4 The disruptive innovation process of established competitors

Being on a disruptive trajectory is not a prerogative of new entrants, sometimes it happens that incumbent, exploring new possibilities find out a disruptive opportunity in the low-end segment of their market or in another market and they decide to exploit it. Even though it is possible, it is not usual because of the incumbents' fear to cannibalize their production, so they hardly move from their position to explore a disruptive opportunity.

A behavior that incumbents usually prefer is to buy a well formed and growing company on a disruptive trajectory,[79] rather than starting to explore a disruptive business and trying to understand if that business is practically (are there customers demanding for it?) and economically (is it capable to generate enough profits?) feasible, causing them later to invest their money buying companies whose disruptive potential has already been shown in a certain way: acquiring them in their early stages would be cheaper, but if not done correctly, with a deep understanding of the characteristics of disruptive businesses, it may lead to unsuccessful acquisition; if instead companies wait until it is clear the disruptive potential of the company, it may cost them a relevant amount of money.

Established competitors, rather than focusing on disruptive opportunities, tend to focus on sustaining ones, to raise the profits that they can make and to keep the product updated with respect to what their competitors are offering.[80] Aiming for higher profits and not

---

[78] A possible solution has been presented on par. 3.3.

[79] Faktor, S. (2016). *How Incumbents Beat Disruption*. Retrieved September 20, 2017, from Forbes: https://www.forbes.com/sites/stevefaktor/2016/04/21/how-incumbents-beat-disruption/#6574856a3137

[80] Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution*. Boston: Harvard Business Review Press.

wanting to cannibalize their products, they choose not to follow the disruptive path, even though continuing to follow a sustaining strategy might eventually lead to their failure. In practice, this way of reasoning is not as immediate as it may appear, because companies may be on a mature or booming market and their business may even be truly valuable when a disruptive path starts becoming clear: when that happens, choosing to follow it is usually counter-intuitive because not only it may seem unprofitable, but also there is a significant chance of hindering the existing business while exploring the new one.

3.4.1 Setting up a separate, autonomous organization

Due to the excessive focus on profits growth, it is not possible for incumbents to invest in a disruptive business, because those are normally unattractive in terms of profitability. More in detail, this means that it would be truly difficult for established competitors to undertake a disruptive path with their current organization because their values would prevent them from entering a small market with a meager profitability compared to the businesses in which they are normally interested in.[81]

To give a more detailed explanation of why it is more challenging and difficult to enter a disruptive business with the current organization, leaving aside profitability matters, there are two more reasons that have to be analyzed to have a complete perspective on this matter:[82]

- The behavior of the organization that have to face the disruptive company;
- The tendency to recur to the corporate money to continuously cover losses in the disruptive business.

---

[81] Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution.* Boston: Harvard Business Review Press.

[82] This two concepts and the explanation that follows are taken from:

Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution.* Boston: Harvard Business Review Press.

Gilbert, C., & Bower, J. L. (2002). Disruptive Change: When Trying Harder Is Part of the Problem. *Harvard Business Review*.

For what concerns the behavior of the organization, once a company feels threatened, it has most of the times a standard reaction to it, by putting in practice everything possible to counteract the threat and survive. Even though seeing it as a threat is correct, this may cause an over-reaction of the company, which would try to make substantial investments just for the purpose of protecting its business, but missing the fact that the disruption is at its early stages (if not, most of the times it would be too late); for this reason, it is not completely clear how it will develop and what will be the most interesting and fundamental features of this segment. Seeing as an opportunity would work more, because it is more in line with a slower and gradual kind of investments, but for the incumbents, there are clearly more opportunities in the current business, both in terms of size and profits, so the disruptive footholds would not be attractive to them, until it is too late. Seeing it as a threat is necessary to be sure that resources are allocated to the project and this issue can be faced in a timely manner, but the incumbents cannot see it also as an opportunity and it would be problematic to manage both businesses within the same organization. So, in order to set foot in a disruptive foothold is necessary to set up a separate and autonomous organization, which thanks to the resources addressed by the incumbent and thanks to its different size, it is capable of profiting from it and capable of seeing it as a growth opportunity, more capable of enduring a low growth level than a big company.

The tendency to recur to the corporate money to recoup part of the losses is widely used, but the reason why the company is not able to be profitable concerning the disruptive business is that it is too small, and the overheads of the company are too heavy to be possible to recover all the costs. So, setting a separate and autonomous company would instead make easier to recover costs and would challenge managers to keep the organization small and fixed costs low in a way that the company manages to become profitable in a reduced amount of time compared to that of the incumbent (which would have to wait for the market to grow, when it is possibly too late to do anything). In fact, setting a separate organization to follow a disruptive path, enable more tolerance for low growth, because being the company small, an initially small business is sustainable for it, but it must be "impatient for profit"[83] to test immediately if the threat/opportunity that the company had seen it really was a disruptive opportunity and if it is feasible. In addition, being profitable and not being a liability to the incumbent, is the only way in which that line of business will not be dismissed once disruption really begins.

Furthermore, there are other two factors, which can be strictly connected, that are more than relevant to set up an autonomous organization to search for a disruptive path.[84] First of all, the incumbent main business must still be healthy, because it has to give the initial boost to the new organization and it must be done in a timely manner, with anticipation respect to the development of the business, because if it is done too late, it may not be enough.

3.4.2 The RPV Framework[85]

The RPV framework is utilized to understand how a separate organization should be set in order for it to be independent from the main company and more importantly to be successful in the disruptive business. More in general, this framework is utilized to create the organizational structure of the company in a way that it is solid enough to face the market and its competitors.

Resources, Processes and Values are at the cornerstone of this framework because they are extremely valuable to understand the likelihood of success of organizations inside a business whether it is disruptive or not. Those in fact must be not only separated, but also different from those of the main organization, not just because the two companies are

---

[83] Quote from Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution*. Boston: Harvard Business Review Press.

[84] Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution.* Boston: Harvard Business Review Press.

[85] This paragraph has been written mainly by using the following sources:

Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution*. Boston: Harvard Business Review Press.

Christensen, C. M., & Overdorf, M. (2000). Meeting the Challenge of Disruptive Change. *Harvard Business Review*.

diverse and separated but more importantly because the two markets (or the two segments in a low-end case) are different and require a different approach.

Resources are the most tangible of these three concepts and consist of money, people, equipment, etc. The most critical of all this type of resources are certainly managers, which must have some experiences with new ventures to be adequate for the new organization, because the categories of problems that is possible to encounter in new ventures is very diverse from that of fully-grown companies.

Processes are basically the way through which inputs of resources are transformed into output and regards not only physical processes but also those utilized to outline a strategy, to understand the market or more extensively to run a business. Again, it is important that processes in the new ventures are different from those of the main organization, because processes successful in the mainstream business might not be likewise successful.

Values are the way by which decisions inside a company are made. They represent judgments about the attractiveness of some customers' segments, ideas and so on and they are the foundations of investments' decisions inside a company. In this case as well, values must be different from those of the main organization, because what can be valuable for a fully-grown organization are markets way more substantial than those attractive for a new venture.[86]

At the initial stages of the new venture, its success is primarily identifiable with the ability of its resources (i.e. people, managers, etc.) but with the passing of time, those capabilities shift to processes and values and its success becomes independent from the ability of the people inside of it. In fact, as the company confronts different types of problems, processes and values crystallize from these recurring tasks, creating the company's culture.

[86] This last concept has been underlined also in the previous paragraphs.

3.5 Disruption stages: The incumbent crisis[87]

Disruption can take two different courses of action for an incumbent, depending if it manages to understand the danger represented by the disruptor and if it takes adequate countermeasure. Taking for granted that the disruptive company will be successful for the sake of simplicity, if the incumbent does not detect the disruptor as a threat or if it does not take any countermeasure, what the company will face are the typical crisis stages:

- Blinded stage is characterized by the inability to recognize the changes that could potentially damage their company. It can either be due to the difficulties in understanding what those changes might cause in the future to the company;
- Inaction stage is characterized by the company not taking any action for the solution of the problem that is facing (which in this case is the disruption put in practice by another company);
- Faulty action stage can be identified when the company decide to increase efficiency, reduce costs to try to recover the previous level of profit, but still does not face the problem directly;
- Crisis stage is the phase in which crisis intensifies considerably, at a point that the following stage is almost consequential and it has a minimal probability of being able to survive, which might concretize when it is able to completely change the way in which it operates in the market;
- Dissolution stage is self-explanatory, it represents the phase in which the dissolution of the company happens either by selling its assets to pay its debts or by bankruptcy.

[87] This paragraph has been written mainly using the following sources respectively for the first and the second list of stages:

Chapter 7 of Williams, C., Champion, T., & Hall, I. (2011). *MGMT*. Nelson: Nelson College Indigenous

Bradley, C., & O'Tool, C. (2016). *An incumbent's guide to digital disruption*. Retrieved September 20, 2017, from McKinsey: http://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/an-incumbents-guide-to-digital-disruption

The first two stages represent perfectly the condition in which many companies find theirselves in while facing a disruption. As it was analyzed in the previous chapters and paragraphs of the thesis, at the beginning the company may struggle to find out the changes in the market and to understand how it affects them, especially if this concerns a new-market disruption, as a low-end is a more immediate concern. Inaction stage concerns the decision of the company to compete with the disruptor, which replies to the question "Why should I compete in a lower segment if I can currently earn greater profits in the higher ranges of the market?" or either "Why should I deal with this company if it does not target my customers?[88]".

The faulty action stage instead represents the stage in which a company decide to continue to follow a sustaining strategy and it does not face the disruptor directly by creating a separate organization. So, it basically would outsource something, try to shrink costs or even try some alternative way to compete with the disruptor, like trying to acquire the knowledges that it need by acquisitions, even so at this point the disruptor could have a reasonably solid position in the market, so it could be difficult for the incumbent to fight on equal ground with the disruptor.

The last two stages instead, are strictly related to the company's crisis. Once the company is not able to face the disruptor it can either dissolve or if it still has some resources it will abandon the market in favor of something else, even if this last possibility is usually highly unlikely.

If instead the incumbent takes adequate countermeasures, the results will vary, depending on the ability to promptly detect the disruptor and categorize its behavior as a threat to the company. The earlier the company recognize this potential threat and reacts, the more the probability of survival of the company, but it has to create a separate organization from which it does not ever have to draw resources from.

[88] In the new-market disruption case.

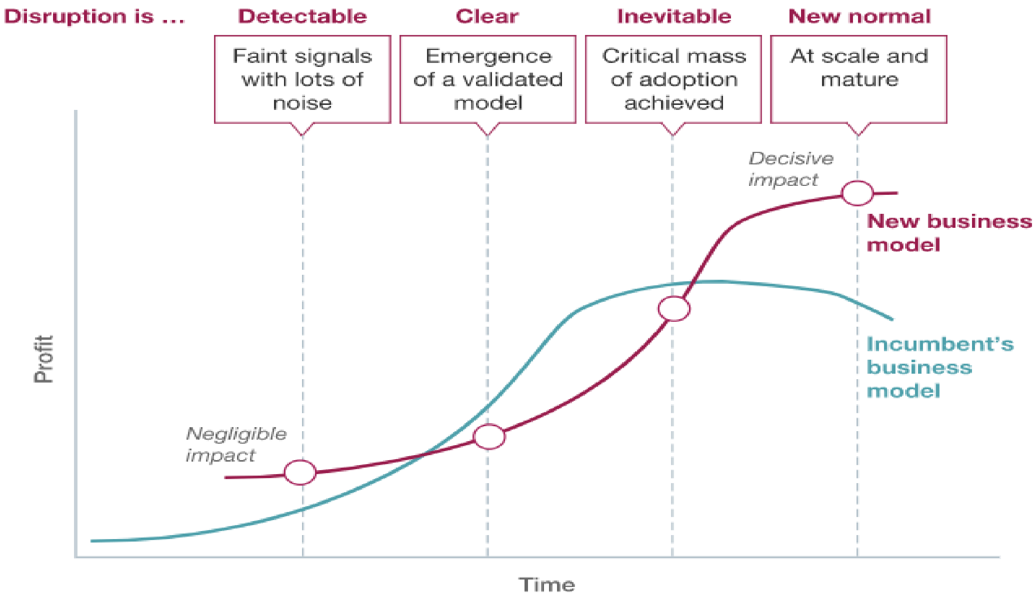


Figure 3-4[89]

The graph above put in comparison the S-curve of the incumbent, with the S-curve of the disruptor and represents accurately the phases of disruption which will now be analyzed more in detail.

In the first stage, disruption is detectable even if it is considerably hard not only to detect it, but also to understand it and categorize it as a threat, because it can be difficult to perceive the potentialities of innovations at their initial stages and it requires a decent capacity of imagination and acumen to grasp how they will develop. Companies that manage to recognize the threat and take the correct countermeasure, at this stage have the highest probability of survival, because they have had also the time to reach a deeper comprehension of the business in which they will compete. Anyway, as previously stated in this chapter the competences needed at the beginning of the S-curve are in most parts very different from those that are needed at the top of the S-curve; so, starting back from the bottom of another business, will not be easy also for a matter of competences and abilities.

---

[89] The figure is taken from: Bradley, C., & O'Tool, C. (2016). *An incumbent's guide to digital disruption*. Retrieved September 20, 2017, from McKinsey: http://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/an-incumbents-guide-to-digital-disruption

When disruption becomes clear, it is still hard to create a separate organization that could operate in the business, because there are a lot of reasonable motives against it, such as the risk of the venture failing to become profitable, the risks of cannibalizing the main business if the venture has more success, the investments made for the new ventures while the main business is still profitable being either on the maturity phase or in the growth phase[90] and lastly the reluctance in abandoning a known business to enter a new one with rules and mechanisms that the company does not fully understand. In addition, the tendency to shelter the core business and finding solutions to protect it from the harshest competition is always present not just for it being the core-business but also because there are strong financial benefits in the short term.

At a certain point, there is a clear shift in adoption towards the disruptive innovation that causes some relevant changes in the market. Putting in practice at this point a strategy to survive might save the incumbents only if they invest aggressively in peripheral activities without any type of hesitation, while for those that instead have started a new venture in the previous or in the first stage, chances of survival are higher. The problem is that in this stage, the situation for incumbents embitters, rigidity arises and the temptation of cutting resources from peripheral activities to protect the core. But what they instead should do is to invest even more aggressively on peripheral, so that in the future those peripheral activities will be the core of the company. Acquisitions[91] are still a viable alternative, but most be done in a timely manner (in-between stage 1 and stage 3), while the disruptor has proved to have the potential to have success, but its value is still not too high for it to be bought.

Finally, in the last stage the industry has ultimate its evolution.

---

[90] See the graph in par. 2.3.

[91] Faktor, S. (2016). *How Incumbents Beat Disruption*. Retrieved September 20, 2017, from Forbes: https://www.forbes.com/sites/stevefaktor/2016/04/21/how-incumbents-beat-disruption/#6574856a3137

4. A focus on the Telecommunication industry: The Free Mobile case

To fully understand the case that will be analyzed in this chapter, first there is the need to have a general understanding of the industry, its structure and the evolution that has undergone with the passing of time. In addition, being Free Mobile a company owned by Iliad which began operating in France and it is now going to enter Italy, the focal point of the analysis will be later moved to these two markets and more specifically both on Free Mobile as a company and on its impact on them.

4.1 Characteristics of the Telecommunication market

The first differentiation that is necessary to do to have a better understanding of the operators inside the telecommunication market is the distinction between MNOs and MVNOs[92]. While MNOs (Mobile Network Operators) own the infrastructure necessary to deliver the service to customers and buy directly the spectrum of frequency from the regulatory body, MVNOs (Mobile Virtual Network Operators) depend and relies on MNOs for infrastructures and spectrum buying part of the spectrum excess that normally MNOs have and by relying on the MNOs' infrastructure for their network. Also for this difference in their cost structure (MNOs tend to encounter costs also to keep those infrastructures in an optimal state or to renovate them), there can be countless number MVNOs, but normally there is a limited number of MNOs, also due to the considerable cost of building the infrastructures necessary to run the network.[93]

[92] There are many more types of operator that can coexist inside a market, but all of them are particular instances which can evolve from these two, so for the sake of simplicity, only these two cases will be analyzed in detail.

[93] MVNO Dynamics. (2016). *What is an MVNO?* Retrieved September 22, 2017, from MVNO Dynamics: http://www.mvnodynamics.com/mvno/

Secondarily, it is important to evidence the fact that the telecommunication market is a commodity market,[94] with a strong competition based on price as well as an offer differentiation based on different level of allowances provided and, also, on the Value-Added Services (VAS) associated to each respective bundle. Value-Added Services are the main way by which MNOs differentiate their offers from one another and are the main instrument by which a premium positioning is possible in a strongly commoditized market such as the telecommunication market. Even though there is still a strong competition based on price, in this way it is possible for operators to differentiate within their own offers and between those of the competitors not only from a bundle-size and convenience perspective, but also from the perspective of the additional services that they offer to customers.[95]

This strong price-based competition which tends to reduce prices is recurrent in almost every market, with just a few exceptions[96] and it can be easily linked to the difficulties of operators in differentiating bundles and on price being one of the most critical decision factor for customers.

Borrman, C. (2005). *What is a MVNO, MVNE, MVNA?* Retrieved September 22, 2017, from Mobile Virtual Network Operator: http://www.mobile-virtual-network.com/p/mvno-definitions.html

[94] In fact, GB. minutes and messages are a service which is identical, regardless of the operator that provides them.

Groene, F., Navalekar, A., & Coakley, M. K. (2017). *An industry at risk: Commoditization in the wireless telecom industry*. Retrieved September 23, 2017, from pwc: https://www.strategyand.pwc.com/reports/industry-at-risk

[95] Ernst & Young. (2015). *Global telecommunications study: navigating the road to 2020.*

[96] In some countries, there is more a duopoly mechanism active, so prices in that case tends to remain constant with the passing of time. An example of this are both the United Arab Emirates and Oman market, which have two MNOs operating, whose prices have remained stable or nearly stable from 2015 to 2017. The source of this clarification and of this tendency of price reduction are:

Arthur D. Little. (2015). *Voice and MBB Services: Tariff Plans Benchmarking - Europe, US, Middle East*

Arthur D. Little. (2017). *Voice and MBB Services: Tariff Plans Benchmarking - Middle East.*

Other than pricing, there are other critical factors for the customers' choice of the operator. Those factors are:[97]

- Network coverage and quality, which is fundamental to deliver a good service to customers and is, together with price, the most critical aspect evaluated by customers. In fact, if network coverage is not good enough, the customers will usually turn to the other competitors;[98]
- Bundles of GB and minutes (if any)[99] and their pricing, which are strictly interconnected, because the convenience of a bundle with respect to another one from an alternative MNO depends not only on its price/GB but also on customers' consumption behavior;
- Device deals, which can concern either smartphones or internet devices, normally associated with a specific bundle;
- Value-Added Services can be critical if one of the service that attracts a portion of customers is not provided by other operators;
- Customer service.

These factors, all together with pricing are normally the ground on which the customer's choice of the operator concretizes. If customers do not recognize as an important factor to have devices deals or VAS attached to the bundle and accept to have a network quality not as good as the one offered by MNOs, their choices can converge onto MVNOs, which

---

[97] The source for the list is: Oyeyemi, K. (2014). *Kill or get Killed: The Marketing Killer instinct.* Dallas: TP House.

To the list cited from this book, Value-Added Services have been included because they actually contribute to the customers' choice of the best bundle for them.

[98] Gao, F., Ménard, A., Mercier-Dalphond, A., & Sigurdsson, H. (2015). *Everywhere, all the time, really fast: The importance of network quality*. Retrieved September 25, 2017, from McKinsey: http://www.mckinsey.com/practice-clients/tmt/everywhere-all-the-time-really-fast-the-importance-of-network-quality

[99] The market is characterized not only by "Data only" bundles, but also by "Voice + Data" bundles. So, the choice of one type of bundle over the other will depend on the experience that customers expect to have with the SIM associated with that offer.

normally, for comparative bundles, are able to provide far lower prices than MNOs for two main reasons:[100]

- They are smaller, so have a leaner cost structure;
- They do not have to face costs due to infrastructure, therefore can afford to price their bundles much lower than the MNOs.

Even so, the main reason why most people actually prefer a MNO carrier, rather than a MVNO is the fact that even if MVNOs are using the network of a MNO, the quality that they are able to provide to customers is much lower than the actual capacity of the network and also, the network tends to give priority to MNO's customers, causing an additional decrease in the level of service that MVNOs can actually provide.[101] In addition, it is in the nature of the MVNOs to be in a symbiotic relationship with the MNOs, by reaching those segments that for the MNOs are not profitable and buying the access to the network at wholesale prices.[102] So, in disruption terms, stretching a little the definition, it could be said that MVNOs have disruptive potential,[103] but are unable to fulfil it completely due to the lack of control on the network and the inability to improve it at their own will: this is the major reason why a disruption in this sense is not possible.

Switching to the real disruptions and to the most significant changes that the telecommunication industry has undergone in this last years, there are a couple of innovations that come immediately to mind.

[100] Maxham, A. (2016). *The Real Cost of a Carrier vs MVNO's*. Retrieved September 25, 2017, from Android Headlines: https://www.androidheadlines.com/2016/01/prepaid-vs-postpaid.html

[101] Folger, J. (2016). *What is a Virtual Mobile Network?* Retrieved September 27, 2017, from Investopedia: http://www.investopedia.com/articles/personal-finance/030116/what-virtual-mobile-network.asp

[102] Maillé, P., & Tuffin, B. (2014). *Telecommunication Network Economics: From Theory to Applications.* New York: Cambridge University Press.

[103] They are characterized by low quality, and satisfy the need of customers to have a low price, no-frill bundle.

The first one is Skype,[104] which is a computer program designed to make calls using the internet connection and the VoIP (Voice over IP) technology. It is still present on the market with many new functionalities with respect to the very beginning, but in 2003 at its inauguration its main feature was the ability to make a call through internet for free to other people present in the Skype network. Even though it did not have much success for national calls, it did have it for international calls, drawing costs for customers nearly down to zero and becoming a real alternative to the undoubtedly expensive international calls that prior to it could be done only through phone (incurring in relevant roaming costs). These caused huge losses to telecom companies, which gained consistent revenues from international calls and once Skype gained a relevant portion of the market, they stopped gaining from them as Skype has been able to draw international calls costs nearly down to zero.

In a similar way, WhatsApp,[105] which is an application that permit real-time messaging between users have been an equally disruptive innovation[106] having disrupted the telecommunication market for what concerns SMS and, later, MMS too.[107] With further developments, WhatsApp has been updated with a feature that permit to have calls through the application,[108] thus probably allowing in the future a further disruption even in that sense.

---

[104] York, D. (2013). *10 Years Of Skype - Massive Disruption... But Will Skype Remain Relevant?* Retrieved September 25, 2017, from Disruptive Telephony: http://www.disruptivetelephony.com/2013/08/10-years-of-skype-massive-disruption-but-will-skype-remain-relevant.html

[105] The reason why WhatsApp is disruptive is due to network externalities, which made it not good enough at the beginning and its low price compared to those of SMS.

[106] Heinrich, E. (2014). *Telecom companies count $386 billion in lost revenue to Skype, WhatsApp, others*. Retrieved September 25, 2017, from Fortune: http://fortune.com/2014/06/23/telecom-companies-count-386-billion-in-lost-revenue-to-skype-whatsapp-others/

[107] Investopedia. (2015). *How WhatsApp Is Killing SMS Texting*. Retrieved September 25, 2017, from Investopedia:

http://www.investopedia.com/articles/investing/071515/how-whatsapp-killing-sms-texting.asp

[108] Meola, A. (2016). *WhatsApp's 100 million voice calls per day are evidence that people are moving away from traditional forms of voice communication*. Retrieved September 25, 2017, from Business Insider:

Even if these two disruptions have had a particularly strong impact on the telecommunication market, there has been recently one development in the European telecommunication market that as an effect has shrunk further companies' margins: that is the abolition of roaming costs for customers inside the EU.[109] That has not happened all at once clearly, but has been a gradual reduction process, started in 2006 and ended in 2017. Even though this is not the result of a disruption from another company, the effect is similar since it results in an ulterior reduction of telecom companies' margins, even though gradual and diluted in time.

These concepts summarize exhaustively the situation in the telecommunication industry, which is more and more characterized by strong downward pressures on prices, but also by strong pressures to invest money to improve the network capacity.

4.2 The importance of network investments

As previously mentioned, the market is not only characterized by a decreasing trend on prices, but also by a strong pressure on costs, mainly due to the growing hunger for data of telco's customers, whose consumption especially for what concerns mobile data traffic is expected to raise dramatically. In fact, from a mobile data traffic standpoint, worldwide data consumption in 2016 was around 8.5 EB/month[110] and it is forecasted to reach a value of 69 EB/month in 2022 with an estimated CAGR of 45%.[111] The only way to satisfy the growing demand for data, at higher speed and better quality is to improve the infrastructures on which the network relies, thus provoking a strong increase in investments for telecom companies.

---

http://www.businessinsider.com/whatsapps-100-million-voice-calls-per-day-are-evidence-that-people-are-moving-away-from-traditional-forms-of-voice-communication-2016-6?IR=T

[109] European Commission. (2017). *Roaming Tariffs*. Retrieved September 25, 2017, from European Commission: https://ec.europa.eu/digital-single-market/en/roaming-tariffs

[110] EB stands for Exabytes, which are 10^3 Gigabytes

[111] Ericsson. (2016). *Ericsson Mobility Report: On the Pulse of the Networked Society*. Stockholm: Ericsson.

So, while on one side there are pressures on price reduction, on the other side there are pressures on increases in investments to improve the quality of the network, with which companies have to cope if they want to keep their customer base satisfied of the service delivered. This means that telecommunication companies have two different and opposite pressures, both potentially harmful for them, because they both have the capacity to reduce the overall profit that the company is able to earn; while the first one acts directly on price, which is one of the main driver for profit, the other one acts on investments and potentially on R&D and concern the ability to monetize that increase in investment, which is difficult since most market are now characterized by bundles of minutes, GB and SMS and directly bill customers for browsing only when their bundle has depleted, before the periodical offer renewal deadline.[112]

The main way by which telecom companies are achieving the cost reduction necessary to their survival as the demand for network investments increases and prices decrease are the following:[113]

- Simplification of operation, done in order to improve the overall efficiency of the company;
- Sourcing/Contracting model, which concerns the decision of outsourcing some types of services related to network operations, such as 1st and 2nd level support and Network field operation;[114]
- Network Asset Management model, which can be translated basically in a network cooperation to further a potential decrease in both Opex and Capex;[115]

[112] Grijpink, F., Gryseels, M., & Ménard, A. (2011). *Shifting the supply axis: The road to 4G.* McKinsey

[113] The following list is taken from:

Basile, V., Kuruvilla, T., & Dadhich, L. (2017). Middle Eastern Telcos - Where is the Next Efficiency Frontier. *SAMENA trends*.

[114] An additional source for this is:

Arthur D. Little. (2017). *Beyond the best network operations.* Arthur D. Little.

[115] An additional source for this is:

Arthur D. Little. (2010). *The New Reality of Network Cooperation.* Arthur D. Little.

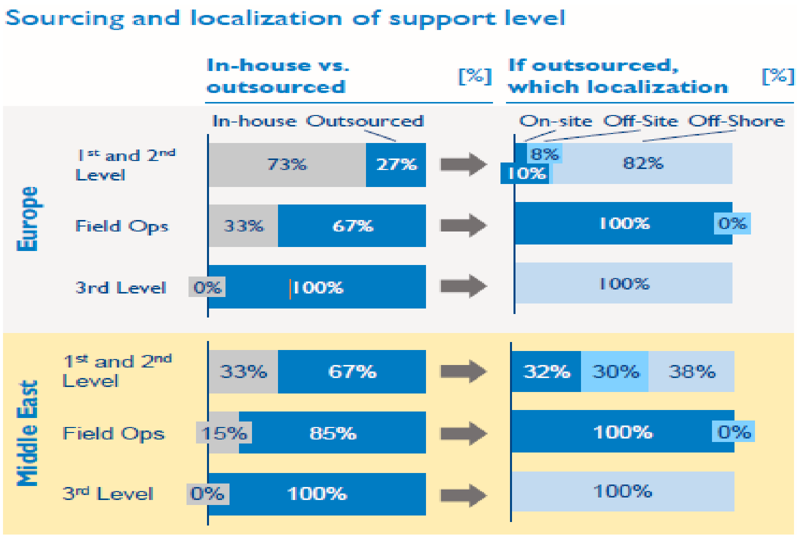


Figure 4-1[116]

- Technology and Infrastructure virtualization, which increases the efficiency of the company in dealing with certain operations, by means of a simplification of operations or thanks to automation;
- Digitalization of operational processes, which concretizes in using digital technologies to increase efficiency in operational terms;
- Lean and agile organization, which can be obtained through a reconfiguration of the structure of the organization, trying to increase the efficiency with which an organization can manage its operation.

Putting in practice these strategies to cut costs is fundamental also to face the next relevant investment in the telecommunication industry, which is the 5G network technology and whose deployment in the US is estimated to cost $56 billion from 2017 to 2025.[117] Even if it has a tremendous cost, implementing this technology is fundamental for companies in order not to lose to other companies in terms of competitiveness and also to become more competitive inside the market, managing to be the first to develop it, with respect to those that still have to implement it. Arriving late to the 5G development, may result in fact in a decrease in market share in favor of those companies that instead managed to

---

[116] Arthur D. Little. (2017). *Beyond the best network operations.* Arthur D. Little.

[117] iGillottResearch. (2015). *5G in the U.S.: What will it cost to build?* iGillottResearch.

develop it in time: customers may prefer to connect to a better network, even if it comes at a premium price, not only for the relevant increase in speed that a 5G network will enable, but also because of the further applications[118] that will be made possible through 5G (i.e. Internet of Things).

Furthermore, thanks to 5G, telecom companies may incur in a shift towards the development of IoT solutions for companies, which is supposed to be the next relevant stream of revenues for telecommunication companies and it is often referred to as the only way by which telecom companies will be able to recoup the money invested in the development of the 5G technology.[119] In fact, it is expected for the telecommunication industry to experience a strong shift towards becoming an industry strongly focused towards services for businesses, particularly concerning the implementation of IoT solutions in other companies.

4.3 Free Mobile

Having talked about the telecommunication industry more in general, this second part of the chapter will be instead focused on a precise company, whose disruptive behavior on the French market and its effect it is useful to analyze to understand all the changes that the market has undergone, and also to understand how the situation will evolve in the Italian market, where Iliad is willing to entry with its mobile operator.

Free Mobile offer[120] in France is constituted by one single bundle, comprehensive of 100 GB, unlimited SMS and MMS as well as unlimited national calls and unlimited international calls towards some specified destinations (out of the EU,[121] such as towards

---

[118] Arthur D. Little. (2017). *Creating a Gigabit Society - The role of 5G.* Arthur D. Little.

[119] Ericsson. (2016). *Ericsson Mobility Report: On the Pulse of the Networked Society.* Stockholm: Ericsson.

Arthur D. Little. (2017). *Creating a Gigabit Society - The role of 5G.* Arthur D. Little.

[120] Free. (2017). *Accueil (Welcome)*. Retrieved September 27, 2017, from Free Mobile: http://mobile.free.fr/

[121] Those regarding calls inside the EU have been excluded because of the recent European agreements about the abolition of roaming costs inside the EU

US or Canada) and 25GB of traffic outside the EU which comes at the cost of 19.99€.[122] All VAS attached to it are strictly related to the core services normally offered by telecom companies, which are international calls, SMS and no roaming costs for certain thresholds. The Freebox, which is a bundle offered by Free Mobile's parent company Iliad[123] is an exception to this trend, given the fact that it includes internet, calls and multimedia. This is also referred as Triple Play, which the other MNOs are trying to oppose by the development of multimedia VAS related to TV acquirable through their mobile bundles. But Free is trying to push it even further with a Quad-Play offer, which adds to the Triple Play the mobile bundles discounts for Freebox subscribers, with a discount on Free Mobile main offer and with the presence of a literally free bundle,[124] which otherwise would cost 2€.

So, Free can be easily described as a MNOs which delivers no-frills offers, with an aggressive pricing with respect to competitors. The only VAS that it provides,[125] other than IPTV, is the possibility to buy bundles comprehensive of devices (smartphones) and pay them in installments, which is a service highly used by customers of the other MNOs as an advantageous way of buying a new device without spending too much, all in one solution. To be competitive with the other operators that was highly needed, also because that kind of solution make customers commit to MNOs for long period, and that would have meant for Free not being able to attract those customers that wanted a device together with the mobile offer. By adding this possibility, Free created the opportunity to attack one of the most profitable business of its own competitors, thus being able to increase its market share.[126]

---

[122] For those that are subscriber of the Freebox, the package is even more convenient, resulting in a 4€ reduction and in an unlimited GB bundle. The source is still: Free. (2017). *Accueil (Welcome)*. Retrieved September 27, 2017, from Free Mobile: http://mobile.free.fr/

[123] Iliad is the company owning Free Mobile, which instead operates in the fixed broadband segment.

[124] Including 120 minutes, 50MB and unlimited SMS and MMS. Not that good, but it is possible to connect to the FreeWiFi hotspot, created by its Freebox, as it is later explained.

[125] Free. (2017). *Accueil (Welcome)*. Retrieved September 27, 2017, from Free Mobile: http://mobile.free.fr/

[126] Abboud, L. (2013). *France's Iliad on the attack with smartphone lease deals*. Retrieved September 28, 2017, from Reuters: https://www.reuters.com/article/us-iliad-smartphones/frances-iliad-on-the-attack-with-smartphone-lease-deals-idUSBRE9BG0LP20131217

4.3.1 The disruption process

As it has been described up until now, the Free Mobile experience inside the French market would seem to be simply a company which is applying a low-price strategy, aiming at becoming the price leader of the market. Even if this part is completely true, those factors do not contrast with the disruptive capacity of Free Mobile, which does not derive entirely from its low tariffs, but rather from other elements.

First of all, Iliad has not born as a MNO, but it started instead in the landline market and in 2012 entered the mobile market with Free Mobile, by signing a roaming agreement with Orange for those places still not within reach of its own network that at the time covered just 30% of the French population.[127] Additionally, the roll-out of its own network, was not done in an efficient way: Iliad decided to cover that population by positioning cell towers afar from each other, in order to reach the 30% threshold fixed by ARCEP with the minimum possible investment in infrastructure.[128]

This is crucial to understand that at the beginning the network coverage of Free was very poor, even if it had reached the 30% coverage that ARCEP demanded. They tried to address this issue by enabling each Freebox to become a hotspot, that can be accessed without restrictions by Free mobile users, which was useful not only for data usage, but also for calls, that were mainly done through the VoIP technology by exploiting Freebox "hotspots".[129]

---

[127] TeleGeography. (2012). *Iliad's odyssey underway as Free Mobile finally launches*. Retrieved September 28, 2017, from TeleGeography: https://www.telegeography.com/products/commsupdate/articles/2012/01/10/iliads-odyssey-underway-as-free-mobile-finally-launches/

[128] Dillet, R. (2012). *How The Telecom Company Free Disrupted The Mobile Landscape In France*. Retrieved September 28, 2017, from Techcrunch: https://techcrunch.com/2012/09/03/how-the-telecom-company-free-disrupted-the-mobile-landscape-in-france/

[129] Dillet, R. (2012). *How The Telecom Company Free Disrupted The Mobile Landscape In France*. Retrieved September 28, 2017, from Techcrunch: https://techcrunch.com/2012/09/03/how-the-telecom-company-free-disrupted-the-mobile-landscape-in-france/

Free. (n.d.). *Hotspots FreeWiFi*. Retrieved September 28, 2017, from Free: http://www.free.fr/assistance/2303.html

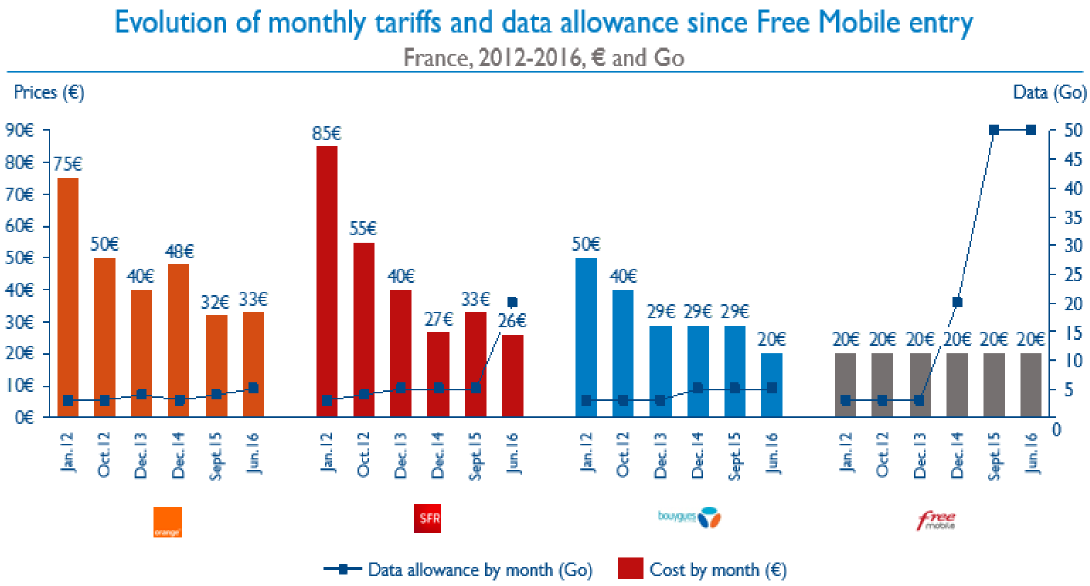


Figure 4-2[130]

Additionally, Free offer was peculiar, because it entailed no additional VAS lying outside of the traditional services offered by telecom companies (minutes, SMS, GB), but entered the market with a plain and simple offer, with unlimited data (with a speed reduction after 3GB, but still unlimited), unlimited calls and unlimited messages at 19.99€,[131] while the other operators for a similar allowance required from two to four times more money, as it can be easily seen in the figure above.

Even if the network quality was lower, thanks to their aggressive pricing and their peculiar no-frill offer, they could gain a relevant share of the market, in four years. The first reason for their success is certainly having a lean and agile organization, smaller than the other MNOs in the market, that certainly helps in being profitable, allowing them to have a

---

[130] Arthur D. Little. (2016). *Free Mobile - A game changer on the French mobile market.* Arthur D. Little. In the figure, Free allowance in 2012 is set at 3GB because that is the Fair Usage Policy.

[131] Dillet, R. (2012). *How The Telecom Company Free Disrupted The Mobile Landscape In France*. Retrieved September 28, 2017, from Techcrunch: https://techcrunch.com/2012/09/03/how-the-telecom-company-free-disrupted-the-mobile-landscape-in-france/

Arthur D. Little. (2016). *Free Mobile - A game changer on the French mobile market.* Arthur D. Little.

positive EBITDA with a market share well below 10%.[132] This permitted them to enable the disruption which has born from their ability to understand that there were some customers demand unanswered and some job-to-be-done that were far from being done: that is the case of a no-frill offer, with no additional services, that customers which do not give importance to Value-Added Services would have wanted. Those customers in fact, did not wanted to pay a premium price for services that did not want to use, but in absence of an operator that supplied such offer, they were obliged to choose those with VAS paying more than they would have wanted or rather choosing an inferior offer with lower pricing, but which did not get the job done well.

So, the entry of Free Mobile inside the French market configures as a low-end disruption because customers demand did not meet with the MNOs supply of offers, creating a segment of unsatisfied and overserved customers. When Free entered the market, it launched an offer which was lower in terms of quality, considering both the network quality (which backed up that offer) and the offer quality, which had no VAS and no additional features, while the focus was all on getting the job done with an offer that could only satisfy that customer segment (everything was unlimited[133]).[134]

With the passing of time, network quality has improved, as well as the coverage of their network, so instead of giving an unlimited offer with a 3GB threshold, they decided to offer limited allowances, which were however way higher than the other MNOs allowances (20GB, 50GB and now 100GB[135]).

---

[132] Moussanet, M. (2017). Telefonia, Iliad sbarca in Italia da novembre con il marchio Free e punta al 25% del mercato. *Il Sole 24 Ore*.

[133] GB had a decrease in speed after reaching the 3GB threshold, but still customers could browse freely.

[134] The foundation of considering Free a low-end disruption is an application of the findings pointed out in the 1st chapter and in the 3rd chapter.

[135] Arthur D. Little. (2016). *Free Mobile - A game changer on the French mobile market.* Arthur D. Little. Free. (2017). *Accueil (Welcome)*. Retrieved September 27, 2017, from Free Mobile: http://mobile.free.fr/

4.4 Market analysis

To have a good understanding of the market and do a proper analysis, there are a few more distinctions that need to be done.

The first distinction[136] is between fixed and mobile market; they have some major traits in common, such as they both offer additional services (VAS) on the bundle, the possibility to have voice-only packages and the strongly price-based competition. The main differences are the following:

Mobile	Fixed
Mainly based on data allowances (GB)	Mainly based on Download speed (Mbps)
Data allowances are always limited, and if they are unlimited there are Fair Usage Policies[137] that limits them once a certain threshold is reached	Data traffic is always unlimited and normally there are no Fair Usage Policies to limit it
Bundles can sometimes be shareable between devices	Shareability is not possible
Usually have no minimum contractual length, unless they come with a device or are postpaid (which sometimes have it)	Have always a minimum contractual length
4G network can reach easily even small cities (the signal must be strong enough)	Fiber must be deliberately deployed to reach certain villages[138]

Table 1

Having done these distinctions, the analysis that will follow in the next paragraphs will focus on the mobile market rather than the fixed one. One of the main reason is that

[136] The distinction between fixed and mobile market has not a specific source, but it is rather the result of studying the websites and the offers of the MNOs operating in Italy for what concerns both fixed and mobile market.

[137] Fair Usage Policies (FUP) in the mobile market usually concretize as a substantial drop in the speed that the customer can utilize once a certain level of data consumption is reached.

[138] Olivieri, A. (2017). Il mercato ha fatto cambiare idea a Tim. *Il Sole 24 Ore*.

mobile offers can be easily activated by anyone willing to pay for them, while those that regards the landline, highly depend on the availability of that offers in the customers' town. In addition, even if Iliad will eventually offer also landline services, for the time being it has decided that it will enter the Italian market only as a mobile competitor and not also with its landline services.[139] Moreover, a comparison in terms of allowances (GB) is easier to do with respect to another in terms of speed (Mbps), allowing a better comparability and the possibility to get to the actual average price per GB in the market.

Another important distinction which has to be done regards packages that can be offered to customers. Leaving aside particular cases of packages that include devices or that put all together landline and mobile, the types of mobile bundles that are offered to customers can be subdivided in Voice + Data[140] bundles and Data only bundles.[141] Both these types of bundles will be analyzed to have a complete perspective of the French market in terms of price/GB and to understand the different MNOs positioning inside that market.

4.4.1 French Market

The French market is characterized by 4 MNOs, which are Orange, SFR, Bouygues and Free Mobile. Free has been the latest to enter the French market, but since its entrance have been causing a lot of changes in the market mostly in terms of price/GB reduction, at the point that the other 3 MNOs have decided to introduce their own versions of no-frill offers through ad-hoc created MVNOs,[142] with little success in opposing the entrance of Free Mobile which is now owning around 15% of the market share in the French market.[143]

---

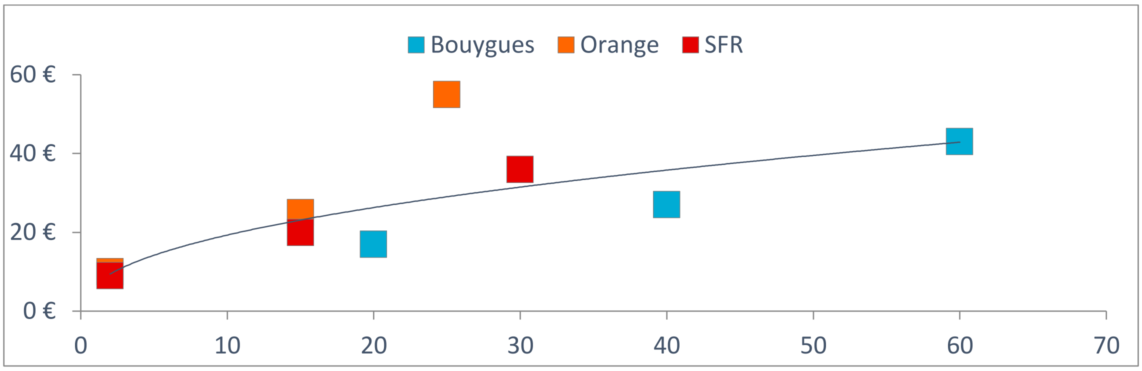
[139] Biondi, A. (2017). Iliad, un miliardo di investimenti in Italia. *Il Sole 24 Ore*.

[140] Voice includes both minutes and messages.

[141] There are also a small number of offers which are Voice only, that have been excluded from this study both because of the relevance of data packages for customers and for the increase in data usage (previously underlined).

[142] One of the MVNOs, B&You, from Bouygues, has now become simply the name of low cost Voice + Data offers from the company.

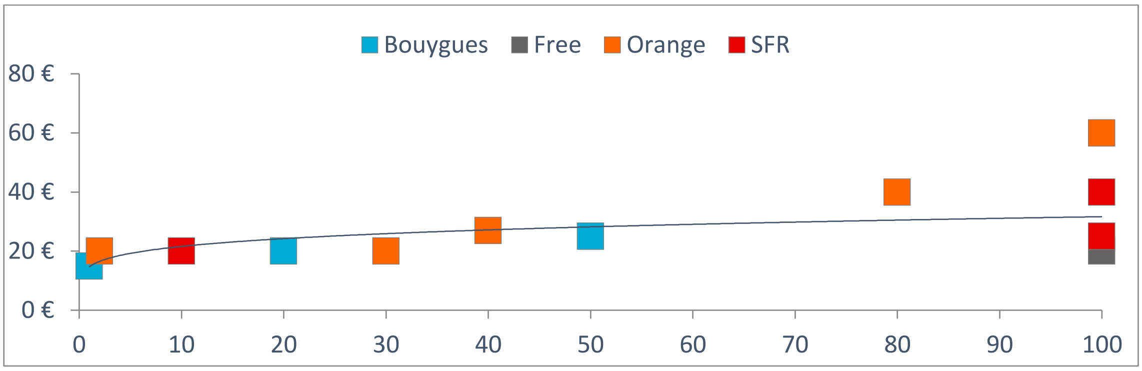
[143] Bank of America - Merrill Lynch. (2017). *Global Wireless Matrix 4Q16.* Bank of America - Merrill Lynch.



Data only - Figure 4-3[144]

From this graph, the first noticeable thing is that Free is not present with any offer inside the data only segment, so this segment is characterized by a competition between three and not four competitors, which is a peculiarity, because Free is deliberately choosing not to have any bundle inside this segment. In addition, it is particularly easy to understand the positioning of these 3 MNOs: While Orange and SFR tend to compete on the same allowances in two out of three bundles (2GB and 15GB), with Orange always positioned slightly above SFR, Bouygues is constantly below the average price and the only one that offer bundles consisting of more than 30 GB: this can easily conduct Bouygues positioning to a value-for-price strategy, while Orange has a more premium offering. SFR bundles are instead in between its two competitors, but still well above Bouygues' bundles pricing.

[144] The source utilized to draw this graph are the websites of France telecom companies. The bundles included are all those that at the present time (27 September 2017) provides at least 1 GB and have no device included, to foster comparability between different bundles.



Voice + Data - Figure 4-4[145]

This graph represents the situation of the French market in the Voice + Data segment. Free is present with only one offer, which has anyway the second lowest price of the market (the first one is Bouygues 1GB offer). Many offers with lower allowances sit at the same price level of Free offer (2GB, 10GB, 20GB and 30GB), so more than competing in terms of price, the competition is in terms of GB with some VAS offered by the other competitors, which should justify the higher €/GB ratio with respect to Free Mobile. Also, some of the offers of the other competitors have a retention period, which Free do not have, so the €/GB differential cannot really be justified only by VAS. Another interesting part of the graph to analyze is the competition at 100GB, with Free having the lowest price and a no-frill offer, while the other offers have more VAS to justify the price. SFR in particular has two offers, which have differences only in terms of VAS and a 15€ price differential.

Confronting Free Mobile offer instead with the offers of the MVNOs linked to the MNOs, results changes a little. All three the MNOs have created a MVNO to oppose the entrance of Free in the market. Bouygues has created B&You, which has later become the Voice + Data bundle of the MNOs, sentencing the end of the MVNO experiment and making it

[145] The source utilized to draw this graph are the websites of France telecom companies. The bundles included are all those that at the present time (27 September 2017) provides at least 1 GB, have no device included and have unlimited minutes, to foster comparability between different bundles.

become a low-cost brand of Bouygues;[146] instead RED (from SFR) and Sosh (from Orange) are still alive as separate operators, but the only one of the three which has an offer comparable to Free Mobile is RED.

Free	Sosh (Orange)[147]	RED (SFR)[148]	B&You (Bouygues)[149]
20€ - 100GB	20€ - 20GB	10€ - 1GB	15€ - 1GB
-	25€ - 40GB	15€ - 15GB	20€ - 20GB
-	-	20€ - 100GB	25€ - 50GB

Table 2

If instead we took into consideration that Free Mobile offer could be even lower in terms of price if the customer is a Freebox subscriber, then the price would go down to 16€/month, making of Free Mobile bundle the one with the lowest €/GB ratio considering both MNOs and MVNOs.

4.4.2 Italian Market

From the moment that Free Mobile will probably enter the market with a few bundles, all having both voice and data allowances,[150] the Italian market will be analyzed only for what concerns its Voice + Data plans, also to understand how different are the Italian market and the French market in terms of prices and allowances.

---

[146] Universo Free. (2017). *Che fine hanno fatto i MVNO che dovevano contrastare Free Mobile in Francia?* Retrieved September 27, 2017, from Universo Free: https://www.universofree.com/2017/02/24/che-fine-hanno-fatto-i-mvno-che-dovevano-contrastare-free-mobile-in-francia/

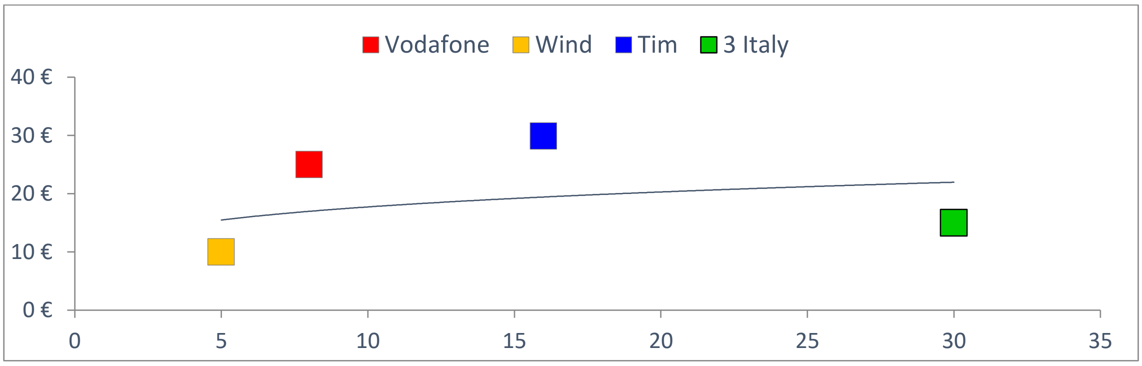
[147] Sosh. (n.d.). Retrieved September 27, 2017, from Sosh: http://www.sosh.fr/

[148] RED. (n.d.). Retrieved September 27, 2017, from RED: https://www.red-by-sfr.fr

[149] Bouygues Telecom. (n.d.). Retrieved September 27, 2017, from Bouygues Telecom: https://www.bouyguestelecom.fr

[150] This conjecture is mainly based on the hypothesis that Free Mobile is going to replicate the strategy that it had put in practice in the French market, which is highly probable since a Voice + Data bundle is perfectly in line with the philosophy of having a simple and convenient service offering.

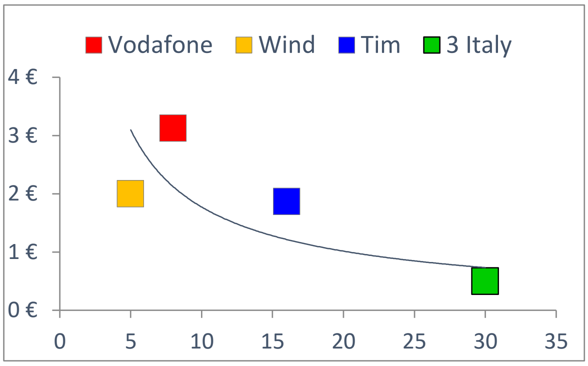
The Italian market is characterized by 3 MNOs, but 4 of their brand. In fact, even if Wind and Three Italy are now a single operator due to a merge, they have still kept their brands and offers separated.[151]



Voice + Data - Figure 4-5[152]

The market is characterized by a few bundles with unlimited minutes; even though some offers include unlimited minutes if some requirements are met,[153] those have been excluded to foster a greater comparability between bundles.

The higher price of Vodafone and Tim can be justified by VAS, which are present in an inferior measure on both Wind and Three, while Wind and Three bundles entail a lower price. The market can be easily subdivided in two segments, one with offers above 10GB and one with



Voice + Data (€/GB) - Figure 4-6

[151] This can be easily seen from the fact that the websites where they advertise their respective offers are separated. An additional source is this one:

Ibarra, M. (2017). Entro l'anno rete superveloce per 2,2 milioni di famiglie. (D. Manca, Interviewer)

[152] The source utilized to draw this graph are the websites of Italy telecom companies. The bundles included are all those that at the present time (28 September 2017) provides at least 1 GB, have no device included and have unlimited minutes, to foster comparability between different bundles. Additionally, when customers could choose between two bundles from the same operator with the same allowance but different price (whose price depended on choosing a specific activation or payment method), the cheapest of the two was shown. For what concerns Tim, the two offers overlap if a certain payment method is chosen.

[153] Like having the same operator also for the landline, which is not necessarily true in a market like Italy.

offers below 10GB. While Wind is the most competitive in the “below 10GB” segment in terms of €/GB (as it can be easily seen in Figure 4-6), Three is the most competitive above 10GB, both in terms of price and allowance. The most convenient offer of the market is surely the one from Three, because it offers an allowance well above the other competitors, at a price which is superior only to the Wind offer. The graph at Figure 4-6 also gives us some more useful information about the €/GB charged by the operators, telling us that the one that charges more its GB is Vodafone, that is probably the least competitive in terms of price and GB. In fact, comparing Vodafone offer to the other ones in the market (Figure 4-5), it is possible to see that for 10€ instead of 25€ it is available an offer from Wind with 5GB instead of 8GB, while for 5€ more (30€) it is available an offer from Tim, which offers 16GB instead of 8GB. Anyway, being Vodafone in the middle between offers with more than 15GB of allowances and an offer with merely 5GB, it can still be a good choice for customers that would not exploit fully an allowance higher than 15GB and enjoy offers with more Value-Added Services.

Another important aspect of the market is that it is characterized by offers with a renewal period 28 days instead of monthly, which for operators mean being able to be paid by customers 13 times per year instead of 12.[154] This tendency is seeing an inversion anyway: in fact, both the offers from Wind and Three now last 30 days, while Tim is now telling how much it would cost the offer if it would last 30 days instead of 28.

4.4.3 Comparison and expectations on Free entrance in the Italian market

To have a better understanding of the success possibilities of Free mobile entering the market, a comparison between the Italian and the French market can be a useful tool. First of all, there are clearly more bundle with unlimited minutes, but that can be a result of the aggressive competition coming from Free Mobile, which resulted in the other operators offering more GB bundles with unlimited minutes at a lower price with respect to the

[154] In fact, 365/30 = 12.17, that is a little bit more than 12, while 365/28 = 13.04 which is a little bit higher than 13. With renewal period lasting 28 days instead of 13, operators get paid 13 times per year instead of 12.

offer from Free Mobile. Secondarily, excluding those bundles at 100 GB that directly compete with Free, prices seem to be lower in the French market, but that is certainly linked to the entrance of Free in the French market, which has highly contributed to draw prices down. As it can be seen in Figure 4-2, prices in France in 2016 are quite comparable to those in the Italian market, which has also some more convenient offer (such as Three or Wind, that are well below Free Mobile offer in France merely in terms of price).

It is still unknown if Free Mobile (that will probably be called "ho." in the Italian market[155]) will enter the market with the same offers or if there are some variations that will be made either in terms of price or GB, but surely it will contribute to draw prices down further, given the fact that the ARPU (Average Revenue Per User) of each operator in Italy is still higher than those of the other French operator as of today.[156]

To oppose its entrance, both Vodafone and Tim have decided to launch their own MVNO (VEI and Kena respectively) with no-frills bundle that could face the offer from Free, which are still a mystery. For what concerns Wind Three instead it is still not clear what its strategy will be, but having seen the bundle offered with the brand Three, it is probable that it will use the Three brand to hinder it, given their convenience.

While Vodafone has all set and ready to launch its own MVNO, but it still has to launch it, probably because it wants to wait for the entrance of Free to prepare a better strategy, Kena is already operating in the market, and its offers are the following (considering only Voice + Data bundles):[157]

Name	Minutes & SMS	Data	Price
Kena Facile	200 min & 0 SMS	200 MB (3G network)	1.99€
Kena Comoda	300 min & 0 SMS	3 GB (3G network)	5.99€
Kena Digital	700 min & 50 SMS	7 GB (3G network)	9.99€

Table 3

[155] Biondi, A. (2017). Iliad, un miliardo di investimenti in Italia. *Il Sole 24 Ore*.

[156] Biondi, A. (2017). Iliad, un miliardo di investimenti in Italia. *Il Sole 24 Ore*.

[157] All the bundles offered have a renewal period of 30 days, instead of the usual 28. The source is: Kena. (2017). *Offerte ricaricabili*. Retrieved September 29, 2017, from Kena: http://www.kenamobile.it/offerte/

Even if the offers from Kena seem convenient, if confronted with Free Mobile that would offer 4G network speed instead of 3G, they seem pretty poor, also considering that the telecommunication industry as a whole is seeing a growing hunger for data, which will not be easily satisfied by a merely 3G network. Kena as it is, if confronted with other Italian MVNOs like Fastweb Mobile (4G network),[158] which has some really cheap bundles for its fixed broadband subscribers (and even some for those that are non-subscribers), or PosteMobile,[159] whose offers has some sort of flexibility using credits[160] instead of minutes and messages and whose most convenient bundle is constituted by 5GB (4G network) and 500 credits at 7€, Kena offers as they are, do not seem as a threat neither for the current MVNO scenery.

The same cannot be said for Three, which will still have to lower its price and increase the allowance offered to oppose Free Mobile, but it will probably be the one with the greatest ability to oppose it and the greatest chances to be a challenging competitor, also thanks to the merger with Wind, which entails a better 4G connectivity and a national roaming with no additional costs.[161]

Free Mobile will enter the market between the end of 2017 and February 2018[162] so the situation may evolve further, with tariffs decreasing and allowances increasing, with probably VEI joining Kena as another MVNO belonging to an MNO, while Wind Three may as well maintain Three as its anti-Free Mobile operator. The main problem is that Three is the one of the four MNOs' brands with the smallest subscribers share (between

---

[158] Fastweb. (2017). *Offerta mobile*. Retrieved September 29, 2017, from Fastweb: http://www.fastweb.it/adsl-fibra-ottica/offerta-mobile/

[159] PosteMobile. (2017). *Piani Tariffari*. Retrieved September 29, 2017, from PosteMobile: http://www.postemobile.it/privati/piani-tariffari

[160] 1 credit corresponds to 1 minute or 1 SMS

[161] Three. (2017). *Roaming nazionale*. Retrieved September 29, 2017, from Tre: http://www.tre.it/tariffe/roaming-nazionale

[162] MVNO news. (2017, September 28). *Iliad, cresce la rete proprietaria. La situazione aggiornata del roaming Wind|3*. Retrieved 2017, from MVNO news: https://www.mvnonews.com/2017/09/26/iliad-cresce-la-rete-proprietaria-la-situazione-aggiornata-del-roaming-wind3/

12% and 13%),[163] so to avoid making Free Mobile the top of mind bundle in terms of convenience, their best strategy would be to launch an aggressive marketing campaign to advertise Three offers way before Free entrance. In this way, being the most convenient offer in the market, they would be able to gain more market share at the expense of the other operators and having more chances to survive as Free strikes the market with its offers.

As it can be seen in the Appendix, also Wind Magnum offers which are unlimited and includes in the price a smart device, can be a good competitor for Free, but it will all depend on the bundles that Free Mobile will decide to offer inside the market, which will probably offer far higher allowances.

To make some hypothesis about Free offer, to really be competitive inside the market, its offer will have to be priced between 10€ and 15€, being this range the one populated by the highest quantity of offer (11 offers out of 20 inside the Voice + Data segment are inside this range) and given the inclination towards large allowance of the company, the associated GB of the offer will probably be inside a range between 30GB and 50GB. Inside this GB range, the lower the allowance, the less will be the price, mainly to be more competitive than Three offer. This type of offer is important to appeal to all those customers that are accustomed to an expense inside that range, but it does not exclude an even higher bundle to appeal to those premium customers which pay more than 20€ for their monthly bundle renewal. Together with these two, it is also probable a third offer option, still competing directly with Three for the segment "less than 5GB", but it is even possible that the 10€-15€ bundle will be so convenient, that it will appeal also to those customers.

Surely the market equilibrium is threatened by Free Mobile's arrival and once it will enter the market, another equilibrium, at a much lower price will be found as MNOs (and not just their low-price counterparts) will have to decrease the pricing of their offer, increase their allowances and also change their offers back to a 30 days' duration, if they want to keep their customers happy and do not want to lose them to this new entrant. As it is now, the companies which have the highest probability of suffering the most from the entrance

[163] Bank of America - Merrill Lynch. (2017). *Global Wireless Matrix 4Q16*. Bank of America - Merrill Lynch.

of Free Mobile in the market are both Vodafone and Tim, which have the highest price/GB in the market, while Wind Three has more possibilities of navigating this sea of difficulties thanks to its separate brand Three, which if set up correctly[164] can become a very convincing rival for Free Mobile, surely contributing to the disruption of the market and to the general decrease in tariffs.

[164] As it is seen in the 3rd chapter.

Appendix: bundles list for Italian MNOs[165]

Company	Offer name	GB included	Minutes	SMS	Price/month (or 28 days)
TIM	Tim special Medium	4	400	-	14.90
	Tim special Large	6	1000	-	19.90
	Tim special Unlimited	16	Unlimited	-	29.90
	Tim Young & Music	10	1000	-	9.99
	Tim Young Junior	2	60	60	5.99
	Tim 60+	2	800	-	12
vodafone	Vodafone Smart	2	500	100	10
	Vodafone Pro	5	1000	1000	15
	Vodafone RED	8	Unlimited	Unlimited	25
	Vodafone Shake	5	300	100	12
WIND	All inclusive unlimited under 30	5	Unlimited	500	9
	All inclusive unlimited online edition	5	Unlimited	500	10
	All inclusive studenti	3	500	500	12
	Wind Magnum 10[166]	10	Unlimited	-	14.9
	Wind Magnum 20	20	Unlimited	-	19.9
	Wind Magnum 30	30	Unlimited	-	24.9
3	ALL-IN Start	5	500	500	5
	ALL-IN Prime	10	1000	1000	10
	ALL-IN Master	30	Unlimited	1000	15
	Play	3	300	-	3

[165] A list of the offers destined to the mainstream market entailing both voice and data. Only those with data bundle of at least 1 GB are shown.

[166] Wind Magnum offers were not included in the benchmark of paragraph 4.4.2 because they include smart devices, so they are not confrontable with those offers that does not and gives a wrong GB pricing.

Summary

1. Theories of innovation and their categories

One of the main way by which an innovation can be defined is through the radical – incremental dichotomy (which are concepts developed by Kirzner and Schumpeter), that describes the innovation relationship with existing product. If the innovation improves an already existing product, is an incremental innovation, while if it has the potential to create a new market and further developing a blue ocean strategy, can be reconducted to a radical innovation.

The theory of disruptive innovation (from Clayton Christensen) may seem similar, but it is not since is more customer-based than product-based and focuses more on the effects on competition. The theory of disruptive innovation makes two distinctions; the first one is between sustaining innovation and disruptive innovations:

- A *sustaining innovation* is an innovation designed to target the higher tiers in the market; this concept is similar to that of an incremental, in the sense that it is designed to improve the product and to bring some enhancement to it, but while an incremental innovation can cause a disruption, a sustaining simply cannot;
- A *disruptive innovation* is linked instead to the lowest tiers of the market, that are the least profitable for the incumbents, targeting either non-consumers or an over-served segment of the market, still in the lowest tiers of it; with the passing of time, disruptor will follow a sustaining strategy in order to improve their products, targeting the customer base of the incumbents

The second one, is within the disruptive innovation concept, which can generate two different kinds of disruptions:

- *Low-End Disruption* is characterized by targeting the low tiers of the market, which are incumbents' least profitable segment; this kind of disruption can either target non-consumers (if the incumbents have moved so high in the market tiers that are not targeting them anymore) or an overserved segment of the market. In both cases, the disruptor will target the low segments of the market with a product inferior in quality with respect to those of the incumbents, but produced thanks to a business model centered on lower costs, and sold to customers at an inferior price with respect to the competitors.

- *New-Market Disruption* is characterized by starting in a separate market and targeting the non-consumers the incumbent's market; this kind of disruption is the most difficult to spot on, since it targets non-consumers of the incumbents' products.

In both cases the disruptor company may substitute the incumbents with the passing of time if the incumbents do not take sufficient countermeasures and if the disruption is adequate to satisfy the demand of the other segments targeted by the incumbents.

There are some characteristics that must be present in every form of disruptable market, which are:

- *Technological Core:* the product or service that causes the disruption must be linked to technology. That is because there is the need to further improve the product through sustaining innovation to target the higher segments of the market, directly competing with the incumbents for their most profitable customers. If it is not technologically improvable, it cannot be disruptive. That is the reason why McDonald's has never disrupted restaurants or B&B has never disrupted 5-star hotels: because both these markets are not characterized by a technological core that can be improved to allow the company to target more profitable customers.
- *Asymmetry of Motivation (The Innovator's Dilemma):* the second characteristic is linked to the companies' struggles to reach higher and higher segments in the market, due to the higher margins obtainable in those segments and also the greater profitability of those segments. Having little or no interests for the lowest segments is what really enable disruption, because may leave customers unserved. The asymmetry is in the fact that the company wants to move up to reach even more profitable segments and to satisfy its customers' requests and do not want to go down to compete with the disruptor, because this would not be sustainable in terms of profitability and margins and it would entail the possibility of cannibalization.
- *Overshooting:* the third and last characteristics that is shared by every disruptable market is that at some point incumbents will overshoot their customers' needs

providing them with a product which is far more advanced than what the customer needs. So, the disruptor company will target those segment with a product which is objectively inferior in terms of performances, that anyway, will be "good enough" for those customers, causing them to choose the disruptive product instead of the incumbent's one.

To have an exhaustive view of disruption theory, some additional theories might be considered:

- The theory of *Digital Disruption*, which is basically an extension of Christensen's theory. According to this theory, disruption nowadays is happening at a faster pace, in an easier way, due to the availability of free or nearly free digital tools, digital platforms and the increase in digital consumption in most countries of the world. The reason why these three conditions enabled by the digital world are increasing the speed at which disruption happens and also the quantity of disruptive innovations rolled out, is because the availability of free or nearly free digital instruments permit to a greater number of innovators to work at their ideas at a fraction of the cost that would took instead to a "physical disruptor".
- The theory of *High-End Disruption*, which instead, even if it is broadly accepted as a concept which should complete Christensen's theory, it is instead complicating the overall disruption concept. In fact, the disruption theory, rather than listing the places from which an attack from a potentially disruptive company can come from, is meant to describe those attacks that provoke the same kind of non-reaction of the incumbent and has the objective to identify why incumbents get systematically beaten by those companies that at the beginning did not pose a threat to them. As a matter of fact, both new-market disruptions and low-end disruptions do not provoke a strong reaction towards the disruptor, because the incumbent at the beginning will not try to protect the least profitable segment of its market, but it will rather leave it to the disruptor, in favor of going for the top of its market, towards the most profitable segments in it. Instead, a high-end disruption will provoke a very strong reaction toward the disruptor, because it concretizes as an attack from above, rather than below. The incumbent, seeing that its most profitable segments are at risk, will defend with determination its

market share, and given the fact that in this case the threat is tangible and more immediate, its reaction towards this attack will be much more energetic.

2. Consequences of disruption per type of market

Disruption may have a different impact depending on the type of market in which it happens and based on the peculiarities of that type of market.

As it was previously underlined, technology has a crucial role inside the theory of disruptive innovation, and so it is necessary to do a differentiation of markets based on technology. Markets according to Christensen, can be differentiated based on the trajectory of their technological improvement (i.e. its slope): the steeper it is the trajectory that characterizes the market, the more it is plausible that a disruptive innovation may be introduced into the market and will eventually disrupt the entire business. If instead the trajectory is flat, it means that the role of technology in the market is ancillary, so a disruption is less likely to happen.

Another important differentiation that can be done to highlight the differences in the speed of disruption across markets is implementing a separation made on a segment basis, which means that a business can decide to sell its products to other businesses or to customers and depending on the case, the buying process will be different. The disruption theory still holds in all of its part for both segments, but there are some differences mainly regarding the speed of adoption of the business segment. In fact, the business segment is characterized by a greater rationality in its choices, which makes them keener on choosing a product slightly inferior in quality, but at a much lower price.

A further differentiation that is possible to made is based on the industry life cycle, thanks to which it is possible to understand in which stage it is more probable that a disruption will happen:

- In the *Introduction stage*, it is highly unlikely for a disruption to happen, but there is the possibility that what has made the market to be born has been a new-market disruption;
- In the *Growth stage*, the market is growing and there is an increase in market penetration, but non-consumption might not be enough for the disruption to happen;

- The *Maturity stage*, companies have probably moved upmarket, leaving a portion of their market underserved;
- The *Decline stage*, the industry may have already been disrupted by a new product and the disruption may be the reason of the declining trajectory in growth.

3. Managing and facing a disruptive innovation

This chapter can be divided in two parts. The first one is focused on the disruptor company, and analyzes all the steps that the company needs to make in order to be successful in bringing its disruption to the market, while the second one is mainly focused on how the incumbent should react to a disruption and specifically which are the steps to do and which are the consequences of not doing it correctly.

The first step consists in testing the idea and understanding if it has disruptive potential and it is composed by three sets of questions. The first set of questions has the role of understanding if the idea can be configured as a new-market disruption by understanding if normally that type of product costed too much or have been unavailable in general to a certain segment. If that is not the case it is still possible that the idea can configure instead as a low-end type of disruption, and to understand if it is possible it must be known if there are customers that would purchase an inferior product in terms of performances, but still good enough and if there is the possibility to create a business model through which gaining attractive profits. After having understood if the product can be configured as a new-market disruption or as a low-end disruption, it is fundamental to understand if the product will be disruptive to all the other incumbents in the industry, because it there is at least one to which this product is sustaining, then that company has more chances to survive and to disrupt the market, while the entrant will have a few chances to win.

After having tested the idea, it is important to do a market segmentation which could help the company to understand which customers targeting. Other than the classical way of doing a market segmentation (psychographic, consumption behavior, benefit-sought, profiling) which are still useful because they give some information about the subdivision of the market and they separate the market in a way that makes it easier to understand how the various cluster of customers behave. The “job-to-be-done” market segmentation is a different way of performing this subdivision of the market, but in case of disruption is even more useful than the classical way of segmenting the market.

The Job-to-be-done market segmentation follow the same reasoning of the most common segmentations, which is identifying different clusters of people based on some criteria or values. In this case, the criterion that enables the segmentation of the market is the job that customers are trying or want to get done. This type of reasoning is specifically the one that enables a disruptive behavior by making possible and easier to find jobs that can be done better or jobs that have not been addressed at all, by means of focusing specifically on the jobs that customers are not getting done in the best possible way.

Another concept which is connected in a more broadly way to the disruption concept are make-or buy decisions, which surely depends on the decision of the company but that usually are also connected to the phase in which the market is. There are two phases that can be recognized:

Interdependence which is present if the various parts that compose the good or service to be commercialized cannot be created separately from the other components, so the company producing the product would choose to insource; in this case there is more freedom in designing components in a way that they perfectly fit with the products;

Modularization which is present if there is the possibility of creating and producing the various parts independently, in separate parts of the value chain, so the company would choose to outsource; in this case, compared to interdependence, there is less freedom designing the product, because the components are standardized and sold the same to every company in the market.

When the product is not good enough, the company is more leaned towards interdependence, with a minimal number of parts that are being externalized, instead when the product is good enough, the company is more inclined to accept to outsource more of the parts that compose its products. When overshooting happens, modularity sets in and those that do not outsource have a high probability of dying to modular firms, that in comparison have reduced their cost structure through outsourcing. By the increase in modular firms, once modularization has become the state of the market, due to a strong competition mainly based on prices it can happen that the product begins to be treated by customers as a commodity. This is due to the increase in competition, especially in terms of prices, that characterizes this stage, with companies that keep trying to offer to customers always better product experiences, therefore keeping their products up to date buying from their suppliers the newest and best components. In this way, they manage to move upmarket, increasing their profitability by improving their products, while in the low-end segments, products are more and more comparable to a commodity. The suppliers of components instead benefit from this situation, because they can easily sell their products to whatever company demands it, because it would be a standardized component, that all buyers are prepared to fit inside their products. How to avoid commoditization? Even if the market can eventually go back to a not good enough state, with integrated companies having the advantage, commoditization is not something which is avoidable for the market. Once the market becomes modular, if companies managed to do retain the part of the value chain that will be more valuable in the future (which requires a decent analysis capacity, deep knowledge of the market and predictive capability) and if they managed to produce modular subsystems, they would still be able to gain profits by an additional line of business, which might become the main revenue stream of those companies.

Setting up a separate organization is indeed not only a way to escape commoditization, but also a way to give life to a disruptive company, which is the only way to protect from an eventual disruptor, but there are some steps which are necessary in order for this separate organization to be effective in the market. Another possibility, which is usually preferred by most of the companies is to buy a well formed and growing company on a disruptive trajectory, rather than starting to explore a disruptive business and trying to understand if that business is practically (are there customers demanding for it?) and economically (is it capable to generate enough profits?) feasible, causing them later to invest their money buying companies whose disruptive potential has already been shown in a certain way. Not wanting to explore the possibility of a disruptive business is not only due to asymmetric motivation and to a preference to sustaining the existing innovations, but also to the risks of cannibalization: in fact, there can be a significant chance of hindering the existing business while exploring the new one.

Due to the excessive focus on profits growth, it is not possible for incumbents to invest in a disruptive business, because those are normally unattractive in terms of profitability: the only company that would profit from them is one that is separate and autonomous from the incumbents, with a small enough cost structure that enables it to be profitable in those segments that are unprofitable for the incumbents.

In particular, the new separate organization will be more tolerant fort low growth, because being the company small, an initially small business is sustainable for it, but it must be impatient for profit to test immediately if the threat/opportunity that the company had seen it really was a disruptive opportunity and if it is feasible. In addition, being profitable and not being a liability to the incumbent, is the only way in which that line of business will not be dismissed once disruption really begins. Obviously to set up this separate business unit, the incumbent's business must be still healthy, otherwise the incumbent won't be able to finance at the beginning the separate organization and must be done with due anticipation to the development of the disruptive segment.

The RPV framework can be a useful tool to set up correctly this separate organization, in a way that its organizational structure is solid enough to face the market and its competitors. This framework is based on Resources, Processes and Values, which must be separated and different from those of the main organization. To describe them in a more precise way:

- *Resources* are the most tangible of these three concepts and consist of money, people, equipment, etc.
- *Processes* are the way through which inputs of resources are transformed into output and regards not only physical processes but also those utilized to outline a strategy, to understand the market or more extensively to run a business.
- *Values* are the way by which decisions inside a company are made. They represent judgments about the attractiveness of some customers' segments, ideas and so on and they are the foundations of investments' decisions inside a company.

If the incumbent does not take adequate countermeasures, what the company will face are the typical crisis stages:

- *Blinded stage* is characterized by the inability to recognize the changes that could potentially damage their company;
- *Inaction stage* is characterized by the company not taking any action for the solution of the problem that is facing (which in this case is the disruption put in practice by another company);

- *Faulty action stage* can be identified when the company decide to increase efficiency, reduce costs to try to recover the previous level of profit, but still does not face the problem directly;
- *Crisis stage* is the phase in which crisis intensifies considerably, at a point that the following stage is almost consequential and it has a minimal probability of being able to survive;
- *Dissolution stage* it represents the phase in which the dissolution of the company happens either by selling its assets to pay its debts or by bankruptcy.

4. A focus on the Telecommunication industry: The Free Mobile case

There are some aspects that characterize the telecommunication industry which are useful to understand its structure and its attributes.

The first distinction that it is useful to make concerns operators, which can be MNOs or MVNOs: while MNOs (Mobile Network Operators) own the infrastructure necessary to deliver the service to customers and buy directly the spectrum of frequency from the regulatory body, MVNOs (Mobile Virtual Network Operators) depend and relies on MNOs for infrastructures and spectrum buying part of the spectrum excess that normally MNOs have and by relying on the MNOs' infrastructure for their network.

Secondarily, it is important to evidence the fact that the telecommunication market is a commodity market, with a strong competition based on price as well as an offer differentiation based on different level of allowances provided and, also, on the Value-Added Services (VAS) associated to each respective bundle. This strong price-based competition which tends to reduce prices is recurrent in almost every market, with just a few exceptions and it can be easily linked to the difficulties of operators in differentiating bundles and on price being one of the most critical decision factor for customers.

Other than price, there are some crucial factors which are considered by customers for the operator choice, that are: Network coverage and quality, Bundles of GB and minutes, Device deals, Value-Added Services and Customer service.

Being highly focused on technology it is frequently challenged by disruptions, such as WhatsApp or Skype, which have disrupted respectively SMS and international calls, and both had a relevant impact on the market. Also thanks to those disruption that has interested the industry, the importance of data as well as data consumption, with respect to minutes and SMS has grown considerably, causing MNOs to progressively upgrade their network capacity to satisfy the growing hunger for data of their customers.

The second part of this chapter will be instead more focused on a company, which corresponds to the definition of disruption. Free mobile offering is characterized by one single bundle, comprehensive of 100 GB, unlimited SMS and MMS as well as unlimited national calls and unlimited international calls towards some specified destinations, with all the VAS strictly related to the core services. An additional service from its parent company Iliad is the Freebox, a bundle comprehensive of calls, internet, and multimedia, additionally offering a discount on Free Mobile offer.

The main reason why Free Mobile can be considered a disruptive company and has indeed disrupted the French market, are the following:

- Non-efficient coverage of the French population with its network (solved transforming each Freebox in a hotspot, addressing the lack of coverage and using those hotspots for both calls (VoIP) and data usage;
- A peculiar no-frills offer, to target the low-end segment of the market, for all those customers that did not want VAS attached to their offer and that did not want to pay a premium price for them.

The entrance of Free Mobile in the French market has caused a substantial drop of prices (€/GB) and the reaction of the other three operators, which have tried to reply to Free bundles by launching their own low-cost and no-frills MVNOs, without success. Proceeding with an analysis of the French market, it is easy to see that Free Mobile's bundle has the lowest price between all the operators, and the one that offers the greatest value. If compared with the offers from MVNOs, there is a little more competition, since their prices are lower, but only one of the three has an offer identical in terms of price and GB to that of Free Mobile. If taken into consideration that Freebox subscribers have a discount on this offer, then the bundle from Free is the most convenient also taking into consideration the MVNO environment.

For what concerns the Italian market, there is some concern for the entrance of Free Mobile in Italy, to which Tim has already replied by creating its own low-cost operator (which compared to Free, as of now, is indeed poor). Vodafone will probably launch its own MVNO, but it is cautiously waiting to know the opponent strategy, while Wind Three is still elaborating its strategy, but as of now, Three with its offer is the one which can be the most challenging competitor for Free Mobile. The main problem with Three is that it's the operator with the smallest customer base, so there is the need of an aggressive advertising campaign to be done before Free Mobile's entrance, to acquire a relevant share of the market and later to protect it.

Free Mobile tariffs for the entrance in the Italian market are still unknown, and is unknown even both in the number of offers and their allowances, but surely it will contribute to draw prices down further. To make some hypothesis about Free offer, to really be competitive inside the market, its offer will have to be priced between 10€ and 15€, being this range the one populated by the highest quantity of offer (11 offers out of 20 inside the Voice + Data segment are inside this range) and given the inclination towards large allowance of the company, the associated GB of the offer will probably be inside a range between 30GB and 50GB. Together with these two, it is also probable a third offer option, still competing directly with Three for the segment "less than 5GB", but it is even possible that the 10€-15€ bundle will be so convenient, that it will appeal also to those customers.

Surely the market equilibrium is threatened by Free Mobile's arrival and once it will enter the market, another equilibrium, at a much lower price will be found as MNOs (and not just their low-price counterparts) will have to decrease the pricing of their offer, increase their allowances and also change their offers back to a 30 days' duration, if they want to keep their customers happy and do not want to lose them to this new entrant. As it is now, the companies which have the highest probability of suffering the most from the entrance of Free Mobile in the market are both Vodafone and Tim, which have the highest price/GB in the market, while Wind Three has more possibilities of navigating this sea of difficulties thanks to its separate brand Three, which if set up correctly can become a very convincing rival for Free Mobile, surely contributing to the disruption of the market and to the general decrease in tariffs.

Bibliography

Abboud, L. (2013). *France's Iliad on the attack with smartphone lease deals*. Retrieved September 28, 2017, from Reuters: https://www.reuters.com/article/us-iliad-smartphones/frances-iliad-on-the-attack-with-smartphone-lease-deals-idUSBRE9BG0LP20131217

Alon, I., Jaffe, E., & Vianelli, D. (2012). *Global Marketing: Contemporary Theory, Practice and Cases.* New York: McGraw-Hill.

American Marketing Association. (n.d.). *AMA Dictionary*. Retrieved September 20, 2017, from American Marketing Association: https://www.ama.org/resources/pages/dictionary.aspx?dLetter=M#market+segmentation

Arthur D. Little. (2010). *The New Reality of Network Cooperation.* Arthur D. Little.

Arthur D. Little. (2015). *Voice and MBB Services: Tariff Plans Benchmarking - Europe, US, Middle East.*

Arthur D. Little. (2016). *Free Mobile - A game changer on the French mobile market.* Arthur D. Little.

Arthur D. Little. (2017). *Beyond the best network operations.* Arthur D. Little.

Arthur D. Little. (2017). *Creating a Gigabit Society - The role of 5G.* Arthur D. Little.

Arthur D. Little. (2017). *Voice and MBB Services: Tariff Plans Benchmarking - Middle East.*

Bank of America - Merrill Lynch. (2017). *Global Wireless Matrix 4Q16.* Bank of America - Merrill Lynch.

Bartman, T. (2015). *Confronting a new-market disruption Part 3—Car2Go*. Retrieved September 20, 2017, from A Medium Corporation: https://medium.com/bsse-gets-social-media/confronting-a-new-market-disruption-part-3-car2go-7e01398fb458

Bartman, T. (2015). *Confronting a new-market disruption: When disrupting the disruptor is the only way to succeed*. Retrieved September 20, 2017, from A Medium Corporation: https://medium.com/bsse-gets-social-media/confronting-a-new-market-disruption-when-disrupting-the-disruptor-is-the-only-way-to-succeed-90c228620e22

Basile, V., Kuruvilla, T., & Dadhich, L. (2017). Middle Eastern Telcos - Where is the Next Efficiency Frontier. *SAMENA trends*.

Bayer, J., & Taillard, M. (2013). A New Framework for Customer Segmentation. *Harvard Business Review*.

Bhimani, A., Horngreen, C. T., Datar, S. M., & Rajan, M. (2015). *Management and cost accounting.* Harlow: Pearson Education Limited.

Biondi, A. (2017). Iliad, un miliardo di investimenti in Italia. *Il Sole 24 Ore*.

Borrman, C. (2005). *What is a MVNO, MVNE, MVNA?* Retrieved September 22, 2017, from Mobile Virtual Network Operator: http://www.mobile-virtual-network.com/p/mvno-definitions.html

Bouygues Telecom. (n.d.). Retrieved September 27, 2017, from Bouygues Telecom: https://www.bouyguestelecom.fr

Bower, J. L., & Christensen, C. M. (1995). Disruptive Technologies: Catching the Wave. *Harvard Business Review*.

Bradley, C., & O'Tool, C. (2016). *An incumbent's guide to digital disruption*. Retrieved September 20, 2017, from McKinsey: http://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/an-incumbents-guide-to-digital-disruption

Christensen Institute. (n.d.). *Interdependence & Modularity*. Retrieved September 20, 2017, from Christensen Institute: https://www.christenseninstitute.org/interdependence-modularity/

Christensen, C. M. (1997). *The Innovator's Dilemma.* Boston: Harvard Business School Press.

Christensen, C. M. (2015). Fresh Insights From Clayton Christensen On Disruptive Innovation. (S. Denning, Interviewer) Forbes. Retrieved September 20, 2017, from https://www.forbes.com/sites/stevedenning/2015/12/02/fresh-insights-from-clayton-christensen-on-disruptive-innovation/#1836233a4702

Christensen, C. M. (2017). *Disruptive Innovation*. Retrieved September 20, 2017, from Clayton Christensen: http://www.claytonchristensen.com/key-concepts/

Christensen, C. M., & Overdorf, M. (2000). Meeting the Challenge of Disruptive Change. *Harvard Business Review*.

Christensen, C. M., & Raynor, M. E. (2003). *The Innovator's Solution.* Boston: Harvard Business Review Press.

Christensen, C. M., Hall, T., Dillon, K., & Duncan, D. S. (2016). Know Your Customer's "Jobs to Be Done".

Christensen, C. M., Raynor, M. E., & Matthew, V. (2001). Skate to Where the Money Will Be. *Harvard Business Review*.

Christensen, C. M., Raynor, M. E., & McDonald, R. (2015). What is Disruptive Innovation?

Cromer, C. T., Dibrell, C., & Craig, J. B. (2011). A study of Schumpterian (radical) vs. Kirznerian (incremental) innovations in knowledge intensive industries. *Journal of Strategic Innovation and Sustainability*.

Denning, S. (2012). *Clayton Christensen And The Innovators' Smackdown*. Retrieved September 20, 2017, from Forbes: https://www.forbes.com/sites/stevedenning/2012/04/05/clayton-christensen-and-the-innovators-smackdown/#fe83f135ebe0

Dillet, R. (2012). *How The Telecom Company Free Disrupted The Mobile Landscape In France*. Retrieved September 28, 2017, from Techcrunch: https://techcrunch.com/2012/09/03/how-the-telecom-company-free-disrupted-the-mobile-landscape-in-france/

Ericsson. (2016). *Ericsson Mobility Report: On the Pulse of the Networked Society.* Stockholm: Ericsson.

Ernst & Young. (2015). *Global telecommunications study: navigating the road to 2020.*

European Commission. (2017). *Roaming Tariffs*. Retrieved September 25, 2017, from European Commission: https://ec.europa.eu/digital-single-market/en/roaming-tariffs

Faktor, S. (2016). *How Incumbents Beat Disruption*. Retrieved September 20, 2017, from Forbes: https://www.forbes.com/sites/stevefaktor/2016/04/21/how-incumbents-beat-disruption/#6574856a3137

Fastweb. (2017). *Offerta mobile*. Retrieved September 29, 2017, from Fastweb: http://www.fastweb.it/adsl-fibra-ottica/offerta-mobile/

Folger, J. (2016). *What is a Virtual Mobile Network?* Retrieved September 27, 2017, from Investopedia: http://www.investopedia.com/articles/personal-finance/030116/what-virtual-mobile-network.asp

Free. (2017). *Accueil (Welcome)*. Retrieved September 27, 2017, from Free Mobile: http://mobile.free.fr/

Free. (n.d.). *Hotspots FreeWiFi*. Retrieved September 28, 2017, from Free: http://www.free.fr/assistance/2303.html

Gao, F., Ménard, A., Mercier-Dalphond, A., & Sigurdsson, H. (2015). *Everywhere, all the time, really fast: The importance of network quality*. Retrieved September 25, 2017, from McKinsey: http://www.mckinsey.com/practice-clients/tmt/everywhere-all-the-time-really-fast-the-importance-of-network-quality

Gilbert, C., & Bower, J. L. (2002). Disruptive Change: When Trying Harder Is Part of the Problem. *Harvard Business Review*.

Grant, R. M. (2010). *Contemporary Strategy Analysis* (7th ed.). Chichester: John Wiley & Sons Ltd.

Grijpink, F., Gryseels, M., & Ménard, A. (2011). *Shifting the supply axis: The road to 4G*. McKinsey.

Groene, F., Navalekar, A., & Coakley, M. K. (2017). *An industry at risk: Commoditization in the wireless telecom industry*. Retrieved September 23, 2017, from pwc: https://www.strategyand.pwc.com/reports/industry-at-risk

Hansen, M. T. (2013). Executive Education Is Ripe for Online Disruption. *Harvard Business Review*.

Heinrich, E. (2014). *Telecom companies count $386 billion in lost revenue to Skype, WhatsApp, others*. Retrieved September 25, 2017, from Fortune: http://fortune.com/2014/06/23/telecom-companies-count-386-billion-in-lost-revenue-to-skype-whatsapp-others/

Hill, C. W. (2015). *International Business: Competing in the Global Marketplace.* New York: McGraw-Hill.

Ibarra, M. (2017). Entro l’anno rete superveloce per 2,2 milioni di famiglie. (D. Manca, Interviewer)

iGillottResearch. (2015). *5G in the U.S.: What will it cost to build?* iGillottResearch.

Investopedia. (2015). *How WhatsApp Is Killing SMS Texting*. Retrieved September 25, 2017, from Investopedia: http://www.investopedia.com/articles/investing/071515/how-whatsapp-killing-sms-texting.asp

Investopedia. (2015). *What's the difference between outsourcing and insourcing?* Retrieved September 20, 2017, from Investopedia: http://www.investopedia.com/ask/answers/032715/whats-difference-between-outsourcing-and-insourcing.asp

Investopedia. (n.d.). *Commoditize*. Retrieved September 20, 2017, from Investopedia: http://www.investopedia.com/terms/c/commoditize.asp

Investopedia. (n.d.). *Make-Or-Buy Decision*. Retrieved September 20, 2017, from Investopedia: http://www.investopedia.com/terms/m/make-or-buy-decision.asp

Investopedia. (n.d.). *Return On Assets - ROA*. Retrieved September 20, 2017, from Investopedia: http://www.investopedia.com/terms/r/returnonassets.asp

Kena. (2017). *Offerte ricaricabili*. Retrieved September 29, 2017, from Kena: http://www.kenamobile.it/offerte/

Krishnan, R. (2012). *Disruptive & Radical Innovation: How are they different?* Retrieved September 20, 2017, from From jugaad to systematic innovation: http://jugaadtoinnovation.blogspot.it/2012/08/disruptive-radical-innovation-how-are.html

Lambert, C. (2014). Disruptive Genius. *Harvard Magazine*. Retrieved September 20, 2017, from http://harvardmagazine.com/2014/07/disruptive-genius

Maillé, P., & Tuffin, B. (2014). *Telecommunication Network Economics: From Theory to Applications.* New York: Cambridge University Press.

Mattiacci, A., & Pastore, A. (2014). *Marketing, il management orientato al mercato.* Milano: Hoepli.

Maxham, A. (2016). *The Real Cost of a Carrier vs MVNO's*. Retrieved September 25, 2017, from Android Headlines: https://www.androidheadlines.com/2016/01/prepaid-vs-postpaid.html

McCue, J. T. (2014). *Online Learning Industry Poised for $107 Billion In 2015*. Retrieved September 20, 2017, from Forbes: https://www.forbes.com/sites/tjmccue/2014/08/27/online-learning-industry-poised-for-107-billion-in-2015/#650182247103

McQuivey, J. (2011). *Meet The Digital Disruptors*. Retrieved September 20, 2017, from Forrester: http://blogs.forrester.com/james_mcquivey/11-10-27-meet_the_digital_disruptors

McQuivey, J. (2013). *What Really Counts As Digital Disruption?* Retrieved September 20, 2017, from Forbes: https://www.forbes.com/sites/forrester/2013/01/09/what-really-counts-as-digital-disruption/#4cedadca2fdc

Meola, A. (2016). *WhatsApp's 100 million voice calls per day are evidence that people are moving away from traditional forms of voice communication*. Retrieved September 25, 2017, from Business Insider: http://www.businessinsider.com/whatsapps-100-million-voice-calls-per-day-are-evidence-that-people-are-moving-away-from-traditional-forms-of-voice-communication-2016-6?IR=T

Moussanet, M. (2017). Telefonia, Iliad sbarca in Italia da novembre con il marchio Free e punta al 25% del mercato. *Il Sole 24 Ore*.

MVNO Dynamics. (2016). *What is an MVNO?* Retrieved September 22, 2017, from MVNO Dynamics: http://www.mvnodynamics.com/mvno/

MVNO news. (2017, September 28). *Iliad, cresce la rete proprietaria. La situazione aggiornata del roaming Wind|3*. Retrieved 2017, from MVNO news: https://www.mvnonews.com/2017/09/26/iliad-cresce-la-rete-proprietaria-la-situazione-aggiornata-del-roaming-wind3/

O'Connor, G. C., & Rice, M. P. (2013). New Market Creation for Breakthrough Innovations: Enabling and Constraining Mechanisms. *Journal of Product Innovation Management*.

Olivieri, A. (2017). Il mercato ha fatto cambiare idea a Tim. *Il Sole 24 Ore*.

Orange. (n.d.). Retrieved September 27, 2017, from Orange: http://www.orange.fr/

Orgill, J., & Hervey, D. (2011). How Online Innovators Are Disrupting Education. *Harvard Business Review*.

Oxford College of Marketing. (2016). *Digital Disruption: What Is It and How Does It Impact Businesses?* Retrieved September 20, 2017, from Oxford College of Marketing: http://blog.oxfordcollegeofmarketing.com/2016/02/22/what-is-digital-disruption/

Oyeyemi, K. (2014). *Kill or get Killed: The Marketing Killer instinct.* Dallas: TP House.

Parker & Lynch. (n.d.). *Outsourcing versus insourcing: Aligning your approach to your business*. Retrieved September 20, 2017, from Parker & Lynch: http://www.parkerlynch.com/clientservices/Pages/outsourcing-infographic.aspx

PosteMobile. (2017). *Piani Tariffari*. Retrieved September 29, 2017, from PosteMobile: http://www.postemobile.it/privati/piani-tariffari

RED. (n.d.). Retrieved September 27, 2017, from RED: https://www.red-by-sfr.fr

SFR. (n.d.). Retrieved September 27, 2017, from SFR: https://www.sfr.fr

Sood, A., & Tellis, G. J. (2011). *Demystifying Disruption: A new model for understanding and predicting disruptive technologies.* Cambridge: Marketing Science Institute.

Sosh. (n.d.). Retrieved September 27, 2017, from Sosh: http://www.sosh.fr/

Strategyn. (n.d.). *Jobs-To-Be-Done Theory and Methodology*. Retrieved September 20, 2017, from Strategyn: https://strategyn.com/jobs-to-be-done/jobs-to-be-done-theory/

TeleGeography. (2012). *Iliad's odyssey underway as Free Mobile finally launches*. Retrieved September 28, 2017, from TeleGeography: https://www.telegeography.com/products/commsupdate/articles/2012/01/10/iliads-odyssey-underway-as-free-mobile-finally-launches/

Three. (2017). *Piani voce ricaricabili*. Retrieved September 28, 20147, from Tre: http://www.tre.it/tariffe/piani-voce-ricaricabili

Three. (2017). *Roaming nazionale*. Retrieved September 29, 2017, from Tre: http://www.tre.it/tariffe/roaming-nazionale

Thull, J. (2010). *Avoid The Commoditization Trap*. Retrieved September 20, 2017, from Forbes: https://www.forbes.com/2010/04/23/commoditization-trap-branding-leadership-managing-marketing.html

Tim. (2017). *Voce e internet*. Retrieved September 28, 2017, from Tim: https://www.tim.it/offerte/mobile/voce-e-internet#section1

Universo Free. (2017). *Che fine hanno fatto i MVNO che dovevano contrastare Free Mobile in Francia?* Retrieved September 27, 2017, from Universo Free: https://www.universofree.com/2017/02/24/che-fine-hanno-fatto-i-mvno-che-dovevano-contrastare-free-mobile-in-francia/

Vodafone. (2017). *Tariffe per Smartphone*. Retrieved September 28, 2017, from Vodafone: http://www.vodafone.it/portal/Privati/Tariffe-e-Prodotti/Tariffe/tariffe-per-smartphone-vodafone?icmp=TeP_Abb

Williams, C., Champion, T., & Hall, I. (2011). *MGMT.* Nelson: Nelson College Indigenous.

Wind. (2017). *Offerte*. Retrieved September 28, 2017, from Wind: https://www.wind.it/privati/

York, D. (2013). *10 Years Of Skype - Massive Disruption... But Will Skype Remain Relevant?* Retrieved September 25, 2017, from Disruptive Telephony: http://www.disruptivetelephony.com/2013/08/10-years-of-skype-massive-disruption-but-will-skype-remain-relevant.html