

Creating Value throughout the Marketing Process with Artificial Intelligence

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INTRODUCTION

Artificial Intelligence, also denominated AI, is a captivating field that has a wide range of valuable uses and nowadays is being utilized more and more by companies. What is more, AI can be employed in many industries and fields such as medicine, security, education, etc. as it will be noticed throughout my work. In addition, AI is today a fundamental part of numerous industries.

Furthermore, AI, as observed through this chapter, has many applications throughout marketing as well. Furthermore, marketing is a dynamic field where marketers have to adapt and incorporate new technologies. That is why companies should incorporate “new technologies” such as Artificial Intelligence and Digital Marketing to their general Marketing Process in order not to become obsolete and to be able to adapt to an environment where people are heavily making use of technology.

I would like to stress that I denote them as “new technologies” since, in fact, AI dates back to 1956 (Henao, 2009) while the term of Digital Marketing was used for the first time in the 1990s (Monnappa, 2019). However, it is now that these technologies have resurged. This has happened in the case of Artificial Intelligence mainly because of the present existence of advanced algorithms, enhancements in computing power and storage and due to the increasing (huge) volumes of data, also known as Big Data (“Artificial Intelligence: What it is and why it matters,” 2019).

Taking into consideration all this and the fact that marketing is a dynamic field and needs to incorporate technologies such as AI to its general Marketing Process, some of the main objectives of this work consist of demonstrating my belief that AI can be used throughout the general Marketing Process in order to create value and that Artificial Intelligence can not only be applied to marketing but also it can improve the general Marketing Process. Additionally, although the focus of this work is on Artificial Intelligence, the Marketing Process should also integrate Digital Marketing into its general Marketing Process, and this is explained in chapter two.

Nevertheless, before all this, the relationship among marketing, the marketing process, digital marketing and AI should be understood.

The reason I have opted for this topic has a double explanation. First of all, I have read about the topic of Machine Learning, which is a subfield of AI, in an article from a subject I attended while studying abroad in Canada. I found it interesting and believed that its application could be really valuable. And, secondly, while discussing with a professor from my university I was suggested Digital Marketing as being a promising topic as well. All in all, I decided to write about both since both sparked my interest, and to focus my study mainly on Artificial Intelligence due to its huge potential and since it fascinated me.

Regarding the objectives of this Bachelor thesis, the main and secondary objectives are presented next.

MAIN OBJECTIVES

- Understand the relationship among marketing, the marketing process, digital marketing and AI as a requirement for the incorporation of digital marketing and AI to the marketing process.
- Analyze and prove that Artificial Intelligence can be applied to the Marketing Process in order to create value.

- Demonstrate the presence of Artificial Intelligence in every stage of the Marketing Process through cases or examples in real companies.
- Demonstrate that the application of AI in the Marketing Process can even make enhancements in this process or optimize it.
- Demonstrate the huge potential that Artificial Intelligence has in the marketing area.

SECONDARY OBJECTIVES

- Understand what AI and Digital Marketing are and their characteristics.
- Explain AI and Digital Marketing as well as their connection to the Marketing Process using a simple language as well as figures and videos to illustrate the ideas where applicable, with the aim of making the information easy to understand for the reader.

The main **methodology** used to develop this work has been **bibliographic research**. I have employed books, articles, news, reports, a Bachelor thesis from a former student from my university, webpages and blog posts. I encountered myself with the problem that for the chapter Understanding Artificial Intelligence I did not find just a book that explained all that AI consists of and its characteristics, therefore, I had to use many references in order to gather all the data needed. On the other hand, I found many books about AI that were too technical since they were for engineers or computer scientists, thus, there were many books that I could not utilize. And that is why I also had to make use of other type of data sources such as articles, webpages, news and even blog posts, among others.

Regarding chapter three, I could not detect just one book or source or a few of them that explained the application of AI throughout the Marketing Process, consequently, I had to go in every step of this process little by little and for each idea find a different source. Hence the big amount of source used for this work.

Observation was also used mainly for the chapter number three since in order to make conclusions about how companies are using AI in the Marketing Process, I observed the specific cases and drew conclusions. As a result, I would say that the sort of **observation** employed was the one **based on cases**.

Concerning the **idiomatic origin** of the sources that I made use of has been mainly English, although some sources have a Spanish idiomatic origin.

With regard to the structure of the work, this latter is developed through three chapters. These chapters include figures, pictures and videos and are written using a simple language in order to accomplish the second secondary objective.

CHAPTER 1: UNDERSTANDING ARTIFICIAL INTELLIGENCE

In this chapter, the goal is to make the reader understand what Artificial Intelligence is and its main features. That is why the definition of AI, its major subfields, types, its origins, history, present, future, advantages and disadvantages and its successful cases are explained in this chapter.

The application of Artificial Intelligence throughout the Marketing Process cannot be understood if first what AI consists of is not comprehended.

CHAPTER 2: THE RELATIONSHIP AMONG THE PHILOSOPHY OF MARKETING, THE MARKETING PROCESS, DIGITAL MARKETING AND AI

This chapter begins with the idea that marketing, as a dynamic field, it should integrate technologies like Digital Marketing and Artificial Intelligence due to the fact that it should adapt to and incorporate technologies that enable it to keep up to date and therefore, better create value for them and, and as a result, capture value from them.

However, before the integration occurs, the relationship that exist among the philosophy of marketing, the marketing process, digital marketing and AI should be understood in order to comprehend how Digital Marketing and Artificial Intelligence can benefit marketing.

First of all, the philosophy of marketing is explained, then the Marketing Process and all its five steps, next how the Marketing Process is an application of the philosophy of marketing, later Digital Marketing and its main strategies and features are described, and finally the connection of the marketing process with digital marketing and the connection of digital marketing with Artificial Intelligence are revealed.

CHAPTER 3: AI IN THE MARKETING PROCESS

The last chapter commences by explaining that it is necessary to incorporate AI to the Marketing Process and it also discusses the relevance of AI in the marketing sector. It then starts the development of the chapter where it is analyzed and proved that AI can be employed in the Marketing Process and in every step or stage of it to create value. And it is even demonstrated that the application of AI in the Process of Marketing can even enhance or optimize most of the activities, actions or strategies of this process. This is the chapter where it is observed the huge potential that AI has in marketing.

CHAPTER 1: UNDERSTANDING ARTIFIFIAL INTELLIGENCE

Artificial Intelligence is a fascinating area, that not only has nowadays many useful applications, but it can evolve even more in the future resulting in a field that can mimic human capabilities (known as Artificial General Intelligence) or even surpass them (this is a hypothetical stage of AI called Artificial Super Intelligence).

Nevertheless, it is imperative to first explain what Artificial Intelligence means and involves in order to fully understand it. That's why, throughout this chapter, its definition will be given and its characteristics, such as subfields, types, origins and history, successful cases, present and future, and advantages and disadvantages will be described.

1.1. DEFINITION OF AI

Artificial Intelligence can be applied to a wide range of fields and uses a big amount of techniques such as natural language, automatic reasoning, robotics, etc. That's why there hasn't been reached a consensus on just one definition by the experts of this study area (Muñoz, 2004).

Among the many definitions available, I would highlight the following ones:

- “The field of computer science aimed to develop computer programs or applications which would have capabilities comparable in some way to human cognitive abilities (e.g., speech recognition, visual pattern or image identifications, language translations, natural language processing (NLP)” (Kumar, 2017, p. 33), or making deductions in decision-taking) (Kumar, 2017).
- According to Winston (1992), “The study of the computations that make it possible to perceive, reason and act” (Russell & Norvig, 2004, p. 2).

Moreover, in the book Artificial Intelligence: A modern approach, considered as a classic in the literature about AI, its authors organize many definitions that exist about AI into four categories, namely: systems that think humanly, act humanly, think rationally and act rationally (Russell & Norvig, 2004).

And the leader in analytics, SAS, which “transform[s] data in intelligence” (“Our company: SAS...,” 2019, para. 1), explains that “AI makes it possible for machines to learn from experience, adjust to new inputs and perform human-like tasks” (“Artificial Intelligence: What it is...,” 2019, para. 1).

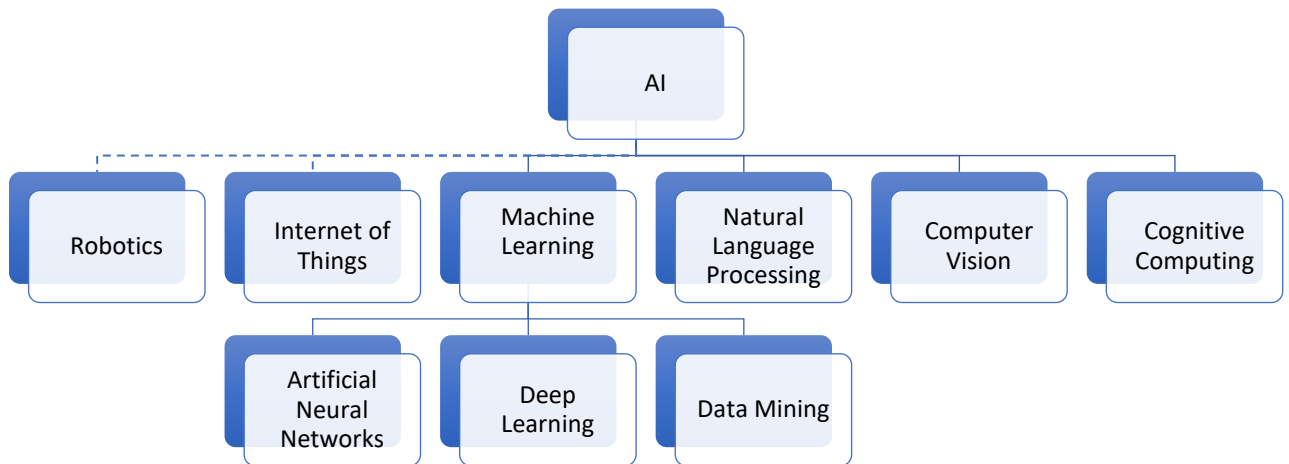
Taking into consideration all these descriptions, I would define Artificial Intelligence as:

- The field of computer science aimed to develop computer programs or machines
- which are able to perceive,
- can learn from experience,
- think and act rationally, and all of these with human intelligence (human cognitive abilities).

1.2. MAJOR SUBFIELDS

Artificial Intelligence comprises a wide range of theories, methods and technologies. However, at the heart of it, it consists of four major subfields, according to the leader in analytics, SAS (“Artificial Intelligence: What it is...”, 2019). These ones will be analyzed below and depicted in Figure 1 as a summary of all of them.

FIGURE 1: Major subfields of AI



SOURCE: Own elaboration based on the information from the current point, 1.2.

- **MACHINE LEARNING (ML)**

ML was defined by the pioneer of ML, Arthur Samuel, as a "field of study that gives computers the ability to learn without being explicitly programmed" (Guruvayur & Suchithra, 2017, p. 1188).

Concisely, this subfield of AI works in the following way, according to Shadle (2019): it uses algorithms in order to analyze and assess big volumes of data, identify patterns and finally based on these patterns decide or predict.

In other words, and to understand the difference between AI and ML, the first one is a broad scientific study area which intends to imitate human abilities and the second one is a subset of Artificial Intelligence which teaches machines how to learn.

➤ **Importance of Machine Learning**

Nowadays there are huge volumes of data and every day new data is being created. Furthermore, there are cheaper computational processing and storage of data. These facts imply that it is easier and quicker to process or analyze huge and complex amounts of data and to obtain better results, which enables companies to recognize opportunities or avoid risks. That's why the role of ML is very important ("Machine Learning: What it is and why it matters", 2019).

➤ **Artificial neural network (ANN)**

Dormehl (2019) indicates that one of the instruments that is used the most in the field of Machine Learning is artificial neural networks.

The neural word from the concept indicates that they are systems inspired from the brain, which are designed to imitate the human learning process.

Therefore, an artificial neural network is a network of millions of artificial neurons which tries to imitate the network of neurons from the human brain and by doing this, the computer can learn and make decisions in the way that a human being would do (Marr, 2018 September 24).

➤ **Deep Learning (DL)**

Deep learning is a subfield of machine learning ("Five AI technologies that you need to know...", 2019) that "uses huge neural networks with many layers of processing units, taking advantage of advances in computing power and improved training techniques to learn complex patterns in large amounts of data" ("Artificial Intelligence: What it is...", 2019, para 35).

As opposed to Machine Learning, the neural networks of DL possess many (deep) layers which make learning possible (Marr, 2018 October 1).

Thus, DL teaches computers to carry out tasks that would usually be done by humans like "recognizing speech, identifying images or making predictions" ("Deep Learning: What it is and why it matters", 2019, para. 1).

➤ **Data Mining**

Among the many subfields and applications that Machine Learning has, we can find data mining (Luxton, 2016).

Data mining is defined as the process of "extracting valid, previously unknown, comprehensible, and useful information from large databases and using it. It is an exploratory data analysis, trying to discover useful patterns in data that are not obvious to the data user" (Olaru & Wehenkel, 1999, p. 19).

Moreover, Olaru & Wehenkel (1999) state that "Machine Learning is the center of the data mining concept" (p. 23).

• **NATURAL LANGUAGE PROCESSING (NLP)**

"Natural Language processing (NLP) is a branch of artificial intelligence that helps computers understand, interpret and manipulate human language" ("Natural Language Processing...", 2019, para. 1).

Thanks to NLP, machines can have a conversation with human beings since this technology enables them to “read text, hear speech, interpret it, [and] measure sentiment” (“Natural Language Processing...,” 2019, para. 7).

Throughout the basic tasks performed by NLP, “language detection and identification of semantic relationships” (“Natural Language Processing...,” 2019, para. 15) can be found. Nevertheless, there are additional ones, which belong to a higher-level NLP, for instance: sentiment analysis (recognize subjective opinions or how a person feels in extensive texts), speech-to-text and text-to-speech conversion (convert orders or directions into texts and the other way around) and machine translation (one language is translated into another; it can be text or the spoken language) (“Natural Language Processing...,” 2019).

• **COMPUTER VISION**

Computer vision is an area of AI, which uses pictures and videos from cameras, together with deep learning, in order to teach computers to observe the world that can be seen and react to it.

It works in an easy 3 steps process:

- First, the image is obtained by either taking a picture or recording a video.
- Secondly, the picture is processed.
- Lastly, the photograph is interpreted so that it can be understood.

Depending on how the image has been understood, Computer vision can take distinct actions, such as object detection (an item, or a set of them, is recognized in a picture), facial recognition (it can identify the face of somebody or even a person in particular), pattern detection (it distinguishes visual aspects in a picture that appear again and again, as shapes and colors, among others), etc. (“Computer vision: What it is and why it matters”, 2019).

• **COGNITIVE COMPUTING**

Cognitive computing involves the machines or computers that learn, rationalize and speak and react to people or other intelligent systems in a natural way.

They learn and reason from interacting with people or from being exposed to events in the environment, instead of being directly programmed (Demirkan, Earley & Harmon, 2017).

Besides all these four major subfields of AI, one report from the One Hundred Year Study on Artificial Intelligence (AI100), from the Stanford University, states other subareas, which are trendy and in demand nowadays, among which, there can be found Robotics and the Internet of Things (IoT) (Grosz et al., 2016).

• **ROBOTICS**

First, it should be explained what a robot is. Well, Waddell (1999) contends that it is a machine that has been created to follow directions and to observe the environment and react to it.

After understanding this concept, robotics can now be clarified, which is about finding ways to teach robots to interact with people or everything else that surround them, including interacting in environments where they have to handle objects.

Robotics will still be able to evolve and improve thanks to advances in technologies such as computer vision, among others, many of which will be propelled by ML.

- **INTERNET OF THINGS (IoT)**

The Internet of Things refers to the fact that a very big number of devices such as appliances, vehicles, cameras, etc. are connected among them through technology and wireless networking, in order to share the data that they gather.

Artificial Intelligence, however, can manage this vast volume of information to achieve intelligent aims (Grosz et al., 2016).

1.3. TYPES OF AI

Not only has Artificial Intelligence different areas or subfields, but it also comprises three different types.

In this section, the various kinds of AI will be analyzed, which are showcased in the following table (Table 1). This table is my own elaboration based on the authors cited in brackets.

TABLE 1: Types of Artificial Intelligence

TYPE OF AI	DESCRIPTION
Artificial Narrow Intelligence (ANI)	ANI is a sort of AI, which focuses on performing better than a human a single or specific task. This term is designated as Weak AI too. Currently, Artificial Narrow Intelligence is the type of AI that is used the most.
Artificial General Intelligence (AGI)	AGI consists of the ability of a machine to carry out a task in the same intelligent way that a human would. It is also called Strong AI or Human Level AI. In comparison to Narrow AI, AGI does not include specific narrow capabilities, but the broad or general human abilities. Some of these capacities of the Artificial General Intelligence are, for instance, the faculty to reason, find solutions to problems, take decisions, plan, learn, communicate in a natural way and use all of this in order to achieve an aim (Allan, 2018). According to Skerrett (2018), AGI “has not yet been developed” (p. 14).

Artificial Super Intelligence (ASI)	ASI refers to computer systems that achieve an intelligence greater than the best and smartest human brains (Allan, 2018). The Centre for Public Impact states that this kind of AI “surpasses human intellect and abilities in nearly all areas” (Skerrett, 2018, p. 14).
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SOURCE: Own elaboration

1.4. ORIGINS AND HISTORY OF AI

The term of Artificial Intelligence is not new, as opposed to what many of us may think. Nonetheless, before starting to talk about the origins of AI, it should be remarked that they can be understood only if the contribution of Alan Turing is first explained.

- **ALAN MATHISON TURING**

Alan Turing was a British mathematician, who has contributed with lots of scientific works throughout his life. Moreover, he invented the famous **Turing Machine**, which was a theoretic mechanism capable of shaping any computable function. This made him to be regarded as the father of computer science, since this machine has been used as the theoretic basis of computation and it is thought in all universities all over the world.

He even collaborated with the British intelligence during World War II to break cryptography and decode the secret message from the German army using the well-known **Enigma** machine, which it is believed to have helped in the war.

Regarding Artificial Intelligence, he was the first person ever to create a computer program to play chess (at the end of the 1940s). What’s more, in 1950 the article **Computing machinery and intelligence** was published, in which Turing declared that computers could behave with intelligence and it also stated the renowned **Turing Test**. The last one could be used to find out whether a computer showed intelligence or not through the Imitation Game: a person who was the examiner or tester, had to interact with an intelligent entity (human being or computer) that could not see because it wasn’t in the same chamber, and if he or she wasn’t able to realize which was the human and which the machine, then the computer was said to have an intelligent behavior (Lopez de Mantaras & Meseguer, 2017).

Smith et al. (2006) note that “Computer Machinery and Intelligence” (p. 5) “opened the doors to the field that would be called AI” (p. 5).

- **ORIGINS AND HISTORY OF AI**

After understanding the contribution of Alan Turing to Artificial Intelligence, the official origin of AI can now be revealed. This dates back to 1956, when **John McCarthy** organized the **Dartmouth conference** and during which the **notion of Artificial Intelligence** was stated, and it was reached the conclusion that a machine could present human intelligence (Henaio, 2009). In addition, scientists that later developed AI further such as **John McCarthy**, **Marvin Minsky**, **Allen Newell** and **Herbert Simon** attended

this event. Not to mention that A. Newell and H. Simon introduced the **Logic Theorist**, which was the first ever artificial intelligence system (Benitez et al., 2013).

These two scientists developed their work further and created the General Problem Solver (**GPS**) in 1957, which was aimed at solving problems in general, in contrast to the Logic Theorist, which gave solutions to specific problems (Henao, 2009).

Between 1958-1960, McCarthy devised the **Lisp language**, which together with its dialects (**Scheme** and **Common Lisp**) continues to be used nowadays in the Artificial Intelligence field (Flasinski, 2016).

Natural Language Processing (**NLP**), whose goal was to understand what words and sentences meant, started to exist shortly after the inception of AI in 1956. During 1960s, many NLP systems appeared. For example, in 1966, Weizenbaum devised the **Eliza** system, which had a conversation without understanding the meaning of the words and was based on pattern matching, this is, after a person has given the answer, the machine takes key words from it, which are used to make another question to the person. The same idea use the **chatbots**, which have been inspired by the Turing test, and it should be highlighted that, contrary to what others may think, they are not better than Eliza.

When talking about the handling of natural language, there are several tasks that are carried out, like: text classification, information retrieval, question answering, information extraction and machine translation.

In 1952, it took place the first conference about **machine translation**, where it was thought that completely automatic translations could be possible through electronic dictionaries.

Not only machine translation emerged, but also some question-answer systems were created in the sixties. One of the first ones was, as stated in Feigenbaum & Feldman (1963), **Baseball**, which answered questions about baseball matches from a specific year; and another one was **SAD SAM**, which could be asked questions about the relation (whether they are related) among people. Other example elaborated later in 1974 by a student of Marvin Minsky, Bertram Raphael, was the question-answer system referred to as **Semantic Information Retrieval (SIR)**, which basically involved connecting terms through relationships and it had to do with common sense (Lopez de Mantaras & Meseguer, 2017).

At the beginning of the decade of 1960, a model of the human mind was conceived via a net of neurons by Frank Rosenblatt, this resulted in what is known as a **perceptron**. Even today this model is employed as the foundation of neural networks.

The expert programmes, through which a solution is predicted under a set of conditions, arose between 1965-70. One example of these programmes that can be remarked is **DENDRAL**, which helped chemists with Euclidian complex chemical structures; and another one is **MACSYMA**, that aided engineers and scientists to solve complex mathematical equations (Henao, 2009). According to Benitez et al. (2013), this kind of systems could make diagnosis and could take decisions using the information given by professional experts.

1975 is the year when the **expert languages** (shells) started their existence. For instance, some of them were **EMYCIN**, **EXPERT**, **OPSS**, among others (Henao, 2009).

Moreover, also in the seventies, thanks to Charles Rosen and its team of scientists, one of the most famous mobile robots of the history of AI was created at the Stanford Research Institute, which was called **Shakey**. This robot was able to move through environments which contained objects, due to its capability to identify objects through neural networks and a system which planned its movements.

From the mid-seventies until mid-eighties it took place what is known as **winter of AI**. This latter was a period of time during which scientists lacked interest in undertaking research into AI and, as a consequence, progress in AI also ceased.

In 1972, the professor James Lighthill published a report named Artificial Intelligence: A General Survey, which criticized the research in AI done so far, since the methods used to solve problems could be used only with easy and short issues, and not with problems from the real world. As a result, both the financing organizations of the UK and the US cut back the funding for research into AI. Other concerns about AI were instilling common sense into the AI machines (Lopez de Mantaras & Meseguer, 2017).

However, in the 1980s, things changed, and for the first-time commercial applications of Artificial Intelligence began to develop. These were mainly aimed to solve production problems, processes control or accounting (Benitez et al., 2013).

In 1986, professors such as Rumelhart, Hinton and Sejnowski enabled the revival of **neural networks**.

In 1997, the chess computer **Deep Blue**, from IBM, won a match against the world champion Gary Kasparov. In the same year, it is held in Japan the first international **RoboCup**.

Later, in 2003, robots participating in RoboCup showed their potential in terms of AI and robotics (Ertel, 2011). According to Lopez de Mantaras & Meseguer (2017), RoboCup was a championship of robots which played football.

In 2006, **service robotics** commence to be a significant research area in Artificial Intelligence.

Next, **autonomous robots** themselves began in 2010 to learn their policies.

Moreover, IBM created a program known as **Watson**, which was able to understand natural language and to answer questions. This machine beat in 2011 in the U.S. two persons who were champions in the television quiz show Jeopardy! (Ertel, 2011).

1.5. SUCCESSFUL CASES IN AI

Throughout the history of Artificial Intelligence there have been many successful inventions, which are stated in Table 2. This table is my own elaboration based on the authors cited in brackets.

TABLE 2: Successful cases of Artificial Intelligence

SUCCESSFUL CASE	DESCRIPTION
Computer games	<p>The first one to point out is the computer-based game of chess, called Deep Blue, which was created in 1977 by a team from IBM. Chess games played an important role in AI and this game, in particular, could beat the world champion at that moment, Gari Kasparov. It was a complex system which had databases of about 700,000 matches and it could analyze 200 million moves just in a second. Nevertheless, the field of AI also analyzed other games including checkers, Othello or Go.</p> <p>As for the checkers game, the computer system that stands out is CHINOOK, which likewise beat the world champion in its entertainment area in 1990. This program plays in a perfect way and that is why it never loses a match.</p>

	<p>The program AlphaGo appeared in 2015 (Lopez de Mantaras & Meseguer, 2017). AlphaGo is an artificial-intelligence program developed by Google DeepMind and which has won the Go master from South Korea, Lee Sedol 4:1 (“AlphaGo an AI giant”, 2016). Go is a board game from China (“Artificial intelligence; where does AlphaGo go?”, 2016).</p>
Robots	<p>Now, robotics applications in AI will be discussed. In addition, the three different kind of robots that will be presented are among the five best robots in the history. These machines are Spirit, Opportunity and Stanley.</p> <ul style="list-style-type: none"> • Robots in space <p>Spirit and Opportunity were sent by NASA to Mars in 2004. These ones had a better performance than Sojourner, which NASA sent in 1997 and became the first robot to be sent by this agency. This machine didn’t incorporate Artificial Intelligence, but it did establish the foundation for future robots which certainly used AI.</p> <p>What distinguished Spirit and Opportunity (which utilized AI) from Sojourner was that the first two were bigger and heavier, and their navigation system was more complicated and almost autonomous.</p> <p>Another robot named Curiosity was sent to Mars by NASA in 2012 thanks to the knowledge gained from the robots discussed above. This machine still works nowadays. Moreover, Curiosity is more sophisticated than its previous precursors in the red planet in terms of Artificial Intelligence.</p> <ul style="list-style-type: none"> • Autonomous vehicles <p>The American agency DARPA started to develop in the mid-eighties R+D programmes aimed to military ends, more concisely, it began to conceive and fabricate terrestrial automated vehicles. The first one to be created was an off-road ALV (Autonomous Land driven Vehicle), which incorporated a limited artificial computer vision and autonomous robotic control and could reach speeds below 10 km/h. According to After cancelling this program, DARPA initiated the so-called DARPA Grand Challenge with the purpose to continue making progress with autonomous means of transport (Lopez de Mantaras & Meseguer, 2017).</p> <p>During this event, the vehicles had to do 142 miles, but none of them could complete them due to problems the machines had like the perception systems. Nevertheless, this experience made it possible to learn from the issues and, thus, enabled the next Grand Challenge of DARPA to be successful owing to the fact that out of the 23 vehicles that participated, 5 of them could arrive at the end. The winner was a modified Volkswagen Touareg called Stanley created</p>

	<p>by the Stanford university and it included two new AI learning algorithms to find out whether the land was accessible and to adjust the speed.</p> <p>In 2007, it took place the DARPA Urban Challenge, whose ambience resembled parts from cities such as streets, traffic lights, etc. The champion, a Chevrolet car, possessed a high-level software together with lasers, radars and cameras.</p> <p>These challenges triggered the interest of many car manufacturers to produce automated cars.</p>
Language	<p>Regarding the area of language in Artificial Intelligence, the top cases are the Watson, Siri and Mastor systems. Their performance can be equal or even better than a human being.</p> <ul style="list-style-type: none"> • Watson <p>Watson was developed by IBM and is a program which won in 2011 a television game named Jeopardy!, in which general knowledge questions were asked to several contestants.</p> <p>Watson was based on the DeepQA technology, and this latter integrated natural language, reasoning and learning, among others. Besides this, Watson had a great amount of data in the form of text, voice and image. Not to mention, that this program managed to beat even the most brilliant contestants in Jeopardy!.</p> <ul style="list-style-type: none"> • Siri <p>Siri is a virtual personal assistant which was created by Apple for its iPhones. The way it works is listening the questions which are imposed and answering them. Among its functions there are replying queries, giving recommendations and using the web in order to help the user by, for example, finding a restaurant, in addition to others.</p> <p>It processes natural language and its key element is that it can recognize speech (Lopez de Mantaras & Meseguer, 2017).</p> <ul style="list-style-type: none"> • Mastor <p>Mastor or Multilingual Automatic Speech-to-Speech Translator is a system which has been conceived by IBM and it automatically translates the voice. It is composed of automatic recognition of speech, automatic translation of natural language and speech synthesis which enables two people who don't speak the same language to have a conversation in real time.</p>
Other applications	<p>However, AI has a wide range of applications and successful cases in other different fields as well.</p> <p>For instance, in the area of animaloid robotics (where the robots are animal shaped), the AIBO robots can be highlighted, which resembled dogs and were created by SONY. These had various</p>

applications, one of them being the robot football championship named **RoboCup**. In fact, in this competition, there was a category only for AIBOs. Moreover, these machines were used to make progress in Artificial Intelligence, precisely, in integrating together perception, reasoning and action.

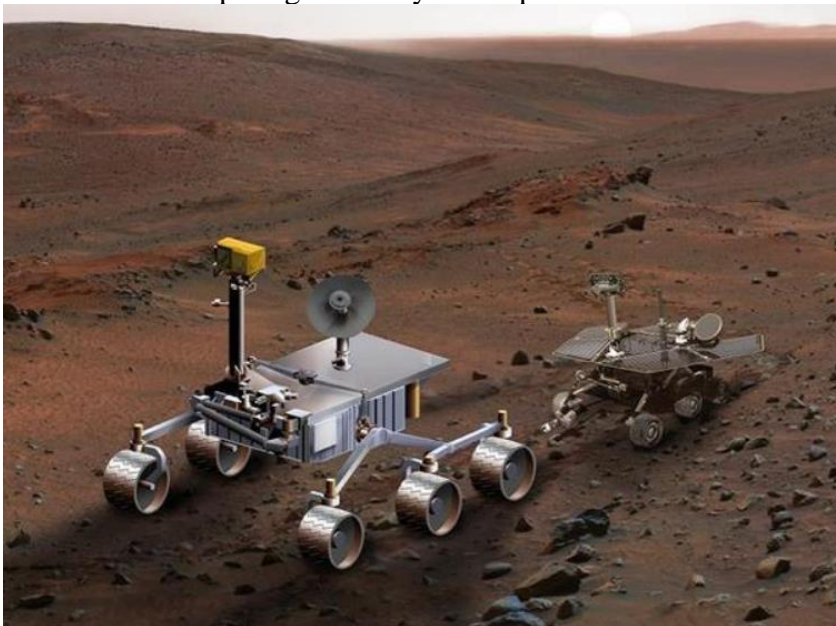
However, AI has also been employed in another disciplines, such as medicine. One example is **ATHENA**, which is a system that supports doctors' decisions when dealing with hypertension problems in patients. It works by processing the information about the patient and, by using its own database about hypertension, it gives advice to the doctor about how to better handle the clinical personalized assistance (Lopez de Mantaras & Meseguer, 2017).

SOURCE: Own elaboration

Some of the inventions stated in the Table 2 are now presented in picture format.

In this first image, Curiosity and Spirit can be observed. Curiosity, which is the robot at left, is bigger than the Spirit/Opportunity generation ("Mars rover Curiosity,"n.d.).

IMAGE 1: Comparing Curiosity with Spirit



SOURCE: "Mars rover Curiosity" (n.d.)

IMAGE 2: Stanley at the DARPA Grand Challenge, where it can be seen the laser sensor of Stanley



SOURCE: Thrun et al. (2006)

IMAGE 3: Boss, the Chevrolet car that won the 2007 DARPA Urban Challenge



SOURCE: "Driverless Tahoe" (2007)

IMAGE 4: Watson participating at the Jeopardy! contest



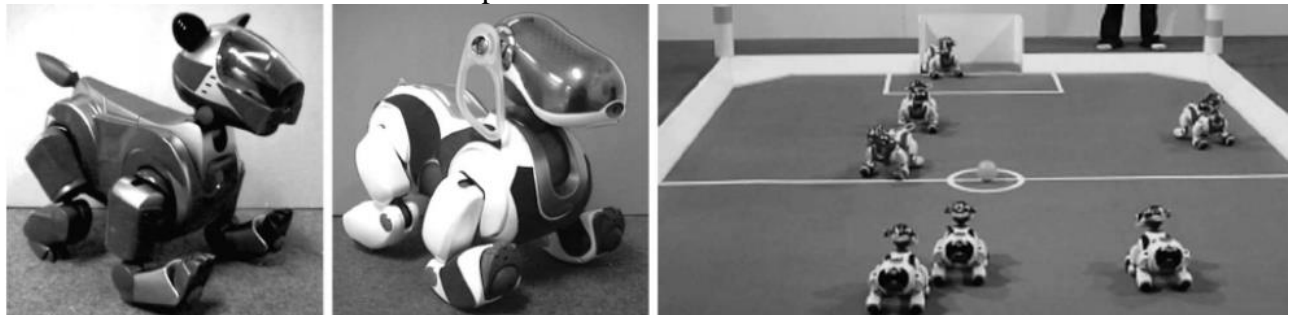
SOURCE: Markoff (2011)

IMAGE 5: Apple's Siri



SOURCE: Siliconreview Team (2019)

IMAGE 6: Robots from the RoboCup 2004



SOURCE: Chalup et al. (2007)

1.6. PRESENT OF AI

According to Skerrett (2018), nowadays, the AI that exists is the aforementioned **Artificial Narrow Intelligence** (see point 1.3.). This is, AI is still used only to learn and analyze patterns in data in order to perform repetitive tasks. Thus, there is still progress needed to be done in the field of AI and it can currently be utilized just to give solutions to specific problems.

Moreover, AI is focused today on **pattern matching**, however, this latter is not sophisticated. For instance, pattern matching is the base of AI in the following cases: the product recommendations given at Amazon, content suggestions at the Facebook page, Apples' Siri identifying the voice, Google Maps driving recommendations, etc.

Regarding **machine learning**, it is advancing rather slow as it can be noticed in examples such as voice recognition, where at the beginning the first help systems didn't provide good results, but now there are better ones like **Siri, Google Now, Alexa** and **Cortana**. These ones, although they still give errors in complex phrasing and are not fully developed for accents and pronunciation patters, are helpful in many contexts.

Nevertheless, the more complex and disordered the context is, the more difficult it is for computer systems to learn, either because they are incomplete or due to the challenging environment they interact with. For instance, concerning self-driving cars, they can learn how to drive through patterns and signals from the road and other cars, however, when dealing with weather, pedestrian, cyclist behaviors, etc., the learning becomes harder and more demanding (Gruman, 2017 June 15).

The following ones are some examples of industries that use currently AI in their everyday operations:

- **Banking and Finance – fraud detection**

There are a great number of banks that use Artificial Intelligence in order to prevent fraud. The way that it functions is the following one: the AI software receives a big sample of both fraudulent and non-fraudulent purchases and with this data is trained to find out whether a transaction is valid or not. With time, the software improves and eventually becomes an expert at detecting fraudulent transactions based on what it has already learned.

- **Retail – online customer support**

Various websites have what is called ‘chat’ options for clients through which they can talk to a customer support representative or a sales representative. Nevertheless, what is usually used to begin conversations is automated AI. These AI chat bots can quickly support customers at finding out what they need to know, getting information from the website or directing them to a website or person for additional assistance owing to the fact that these chat bots can understand natural language, this is, human conversation.

- **Security**

Many renowned companies are enhancing their cybersecurity in order to protect their data since more and more cyber-attacks take place today while also the sophistication of the attacks increases. Therefore, what businesses need and what AI can provide is threat detection, mitigation and prevention. Employing machine learning algorithms and giving them big amounts of data enable IT and security experts to teach the AI systems to “monitor behavior, detect anomalies, adapt and respond to threats and issue alerts” (Wakefield, 2019, para. 10). All in all, AI has become a paramount element in a firm’s cybersecurity infrastructure (Wakefield, 2019).

Moreover, Artificial Intelligence is not only present in the business field, but also in a large number of others, for instance, in Medicine.

- **Medicine**

In this particular area, AI has currently a variety of applications, from which four will highlighted:

1. Diagnostics of diseases

As it has been previously mentioned in this chapter, Machine Learning is a subfield of Artificial Intelligence. This ML technology, and more specifically, Deep Learning algorithms, have experienced a great development in terms of diagnosing illnesses automatically. The result of this is more affordable and accessible diagnostics.

In order to detect patterns and learn, ML algorithms need a big amount of examples, and these latter ones should be digitized since computers are not able to read between the lines in textbooks.

Therefore, the fields where ML can help the most are the ones in which the diagnostic information is digitized. Examples of these can be: “detecting lung cancer or strokes based on CT scans [,] assessing the risk of sudden cardiac death or other heart diseases

based on electrocardiograms...[or]... classify[ing] skin lesions from images of the skin” (“Artificial Intelligence in Medicine,” n.d., para. 6).

Moreover, the large availability of good data in these cases enables algorithms to be comparable to experts at diagnosing. The only difference is that the algorithm can reach conclusions in seconds, and it can be duplicated cheaply worldwide. That’s why shortly quality top expert radiology diagnostics will be available inexpensively to everybody in every corner of the globe.

2. Faster development of drugs

Machine Learning can make the analytical processes in drug development more efficient, which leads to the reduction of both years of work and huge amounts of investment.

3. Treatment personalization

Each patient responds to drugs and treatment in a different way. Hence, personalized treatment is important as it can make the patients’ lifespans longer. However, determining the factors that should affect the choice of treatment is an arduous work.

This laborious statistical work can be automated through Machine Learning. In addition, ML can also “help discover which characteristics indicate that a patient will have a particular response to a particular treatment” (“Artificial Intelligence in Medicine,” n.d., para. 26). Therefore, the algorithm can make a prediction on what the probable response of a patient to a specific treatment might be.

These predictions make the design of the right treatment plan simpler for doctors (“Artificial Intelligence in Medicine,” n.d.).

4. Gene editing improvement

First, it should be remarked that genome editing represents the technology that is used by scientists to alter the DNA (“A step closer to Genome Editing,” 2019). CRISPR is employed in order to edit human genomes (Glasure, 2018).

In this context, Artificial Intelligence is employed in order to enhance the accuracy of editing genes with CRISPR. This latter one, also known as clustered regularly interspaced short palindromic repeats, is a technology that can be “designed to cut and alter DNA at a specific point in a specific gene” (Roach, 2018 January 10, para. 2).

The issue with CRISPR is that, since many genomic regions are similar, CRISPR can end up working on a wrong gene and lead to unintended consequences (named off-target effects), which should be avoided (Roach, 2018 January 10).

The good part is that Machine Learning models can make predictions on these off-target effects (“Artificial Intelligence in Medicine,” n.d.).

All in all, as for today, **Artificial Intelligence** is not only utilized to make a **profit**, but it can be applied to a wide range of fields where it actually has a **social effect** on people like in Medicine, where, as it has already been observed, it can improve their life quality or even lifespan.

1.7. FUTURE OF AI

As LeCun et al. point out (2015), it is believed that, in the future, the crucial research topics will still be based on **huge and very large data-driven AI**, this is, on accessing vast amounts of data and processing them with hardware faster and faster with the aim of finding relationships among them, detect patterns and learning through probabilistic models such as deep learning (Lopez de Mantaras & Meseguer, 2017). Other aspects from AI (which are more classical) that will be investigated a lot as well are **multiagent systems, reasoning based on experience, artificial vision, multimodal communication between the person and the machine, the humanoid and animaloid robotics**, and specially the new findings in **development robotics**, which can be the key to instill common sense in robots.

In terms of the applications of AI, the ones that will remain essential will be the ones related to the **web, the videogames and the autonomous robots** (particularly the **autonomous vehicles, social robots, robots employed to explore other planets**, etc.). Moreover, the applications for the environment, the energy saving, the economy and the sociology will also have great importance.

Nonetheless, no matter how smart the future AI machines will get, including the AGI ones, their intelligence will never be the same as the human one. This is because the mental development necessary for any complex intelligence depends upon the interactions with the environment, and the latter ones depend, in turn, on the body, and more specifically they rely on the perceptive system and the motor system. Due to all this and since the machines won't experience socialization and culturalization processes like ours, these robots will achieve different intelligences compared to us, no matter they level of sophistication.

Furthermore, according to Skerrett (2018), "there are three evolutionary steps predicted for AI: now, near, and next" (p. 14).

As it has already been depicted in the previous point (1.6.), now we have the narrow AI (ANI), however, and, in the future, near is the **Artificial General Intelligence (AGI)** and next is Artificial Super Intelligence (ASI) (Skerrett, 2018).

AGI "has not yet been developed" (Skerrett, 2018, p. 14) and ASI represents a "hypothetical stage in AI" (Skerrett, 2018, p. 14).

Lopez de Mantaras & Meseguer (2017) observe that, regarding the general AI, there is still a long and difficult way to get there, after all, Artificial Intelligence exists since only 60 years ago.

On the other hand, even though **AI** has a great potential, it also entails **concerns**. There is fear that in the future Artificial Intelligence will be **misused** in areas such as **military** applications, social media and **politics, cybersecurity** and data privacy, among others (Manyika & Bughin, 2018 October). In particular, the side effects could be a loss of human control on the battleground due to the increase of autonomous weapon systems, manipulation of the political system and new sorts of cyber-attacks (Brundage et al., 2018 February). Not to mention that a great deal of **jobs** will be **destroyed** over the next 10 to 15 years (Chui, Lund, & Gumbel, 2018 March).

In order to **control the threats** of AI, the **developers of policies and laws** need to cooperate with **technical researchers** at the moment in order to comprehend and prepare for future possible wrong uses of AI (Brundage, 2018 February). In terms of employment,

though many jobs will be eliminated, many others will be created or changed. In addition, the ones that will originate, will require new skills and even higher educational qualifications. However, the spread worry of massive job place losses can be neutralized by looking at the past (it is not assured that the future will be like the past, but it is an encouraging perception): in the US the percentage of people working in agriculture decreased in 1900 from 40 percent to only 2 percent in 2000. But the US doesn't have an employment rate of 35 percent, instead, the country has been able to create new jobs. This latter was possible thanks to the investment made in education (Chui, Lund, & Gumbel, 2018 March). All in all, despite the fact that there will be job losses, new ones or modified ones will emerge, and, taking into account the past, if investments in education are made, it may happen that it won't be necessary to worry about unemployment rates.

1.8. ADVANTAGES AND DISADVANTAGES OF AI

After thoroughly understanding what Artificial Intelligence is and its features, it is important to get to know which are its assets and its drawbacks. Some of them have already been mentioned so far, however, here they are summarized together with others in order to be able to perceive the whole picture of all the advantages and disadvantages:

ADVANTAGES

- Error reduction. AI makes it possible to decrease the error and to work in a more precise way.
- Difficult exploration. Artificial-Intelligence-based-robots can access places that are difficult or dangerous to be accessed by humans, such as the fuel exploration or the ocean floor.
- Daily application. AI technologies as automated reasoning, learning and perception are frequent in our daily life with examples like Siri or Cortana.
- Repetitive jobs. Repetitive jobs that have a monotonous basis can be performed by machine intelligence.
- Medical applications. AI has a broad application also in the area of medicine, where doctors can evaluate the patients and their health risks thanks to artificial machine intelligence.
- No breaks. One difference between machines and humans is that machines do not need breaks and can carry out tasks continuously without getting bored, distracted or tired.

DISADVANTAGES

- High cost. Since artificial intelligence machines are very complex, they imply high costs for their creation, repair and maintenance.
- No replicating humans. An ethical issue consists of deciding whether human intelligence should be replicated or not.
- No original creativity. Artificial intelligence computers lack the creativity and imagination of the human brain.
- Unemployment. The increasing use of AI may lead to the loss of jobs of many people (Reddy, n.d.).

CHAPTER 2: THE RELATIONSHIP AMONG MARKETING, THE MARKETING PROCESS, DIGITAL MARKETNG AND AI

Marketing is a field where change is dominant. Therefore, businesses must be able to master and exploit change (Louth, 1966).

Moreover, throughout the human history, visionaries from their era knew how to leverage the new technologies that emerged back then as the printing press, the radio, the TV, etc. in order to revolutionize the marketing area. Thus, it could be said that **marketing** is a **dynamic** activity or discipline, this means that it is a discipline that changes throughout the time as new technologies appear (Otegui, 2017). So, when new technologies such as AI or Digital Marketing develop, marketing should be ready and adapt to change and consequently incorporate AI and Digital Marketing to the general Marketing Process (explained in this chapter) in order to improve it. That is why, this chapter consists of understanding which relationship exists among the concept of marketing, the marketing process, digital marketing and AI. For achieving this, these concepts will be explained and then the relationship among them will be revealed.

2.1. MARKETING PROCESS AS AN APPLICATION OF THE PHILOSOPHY OF MARKETING

To start with, the philosophy of Marketing will be described using books written by Philip Kotler, who is considered as one of the most important figures in marketing worldwide (Kotler & Armstrong, 2007) and Gary Armstrong. Later, the Process of Marketing will be explained by employing also books from the same authors.

2.1.1. THE PHILOSOPHY OF MARKETING

Here, the philosophy of marketing will be explained together with its main notions.

DEFINING AND UNDERSTANDING THE PHILOSOPHY OF MARKETING

First of all, it should be remarked that the philosophy of marketing copes mainly with **customers**. Moreover, before giving a more detailed definition, a simpler one will be given: **the philosophy of marketing consists of managing customer relationships that are profitable** (Kotler& Armstrong, 2004).

On the other hand, it is very important to understand that **marketing** is a **philosophy**. Indeed, marketing is a philosophy that deals with how the company should perceive the exchange relationship, which involves to begin by understanding the needs and wants of the customers and ensuring that these needs and wants are satisfied in the most beneficial way for both the clients and the company (Santesmases, 2012).

According to Kotler and Armstrong (2012), one of the **marketing management orientations** or philosophies is the marketing concept. The **marketing concept** is “a philosophy that holds that achieving organizational goals depends on knowing the needs and wants of target markets and delivering the desired satisfactions better than competitors do” (Kotler & Armstrong, 2012, p. 10).

These definitions will be explained by analyzing the **main notions of the philosophy of marketing**: (1) needs, wants and demands; (2) marketing offerings (products, services and experiences); (3) value and satisfaction; (4) exchanges, transactions and

relationships; and (5) markets. Moreover, the fact that these key marketing concepts are connected among them one by one, can be observed in Figure 2 (Kotler & Armstrong, 2004).

FIGURE 2: Key marketing concepts connected among them



SOURCE: Own elaboration based on the figure 1.1 from Kotler and Armstrong, 2004

NEEDS, WANTS AND DEMANDS

Human **needs** are the most essential notion of the philosophy of marketing. They are “states of felt deprivation” and consist of three different kind of human needs:

-” *physical* needs for food, clothing, warmth, and safety” (Kotler & Armstrong, 2012, p. 6)

-” *social* needs for belonging [to a group] and affection” (Kotler & Armstrong, 2012, p. 6)

-” *individual* needs for knowledge and self-expression” (Kotler & Armstrong, 2012, p. 6)

Marketing isn’t the creator of these needs, simply they are a basic part of human nature (Kotler & Armstrong, 2004).

“**Wants** are the form human needs take as they are shaped by culture and individual personality” (Kotler & Armstrong, 2012, p. 6). Therefore, it can be stated that wants are determined by the society the individual lives in, and these wants are depicted in terms of objects that satisfy those needs.

Demands are human wants that are supported by acquisition power.

MARKET OFFERINGS: PRODUCTS, SERVICES AND EXPERIENCES

Market offerings are a mix of products, services, information or experiences, which are offered to a market in order to fulfil a need or a want. Thus, the needs and wants of clients are satisfied through market offerings (Kotler & Armstrong, 2012).

Market offerings include:

- *physical* products, which are tangible goods (Kotler & Armstrong, 2004)
- *services*, this is, activities or benefits that can be purchased, are basically intangible, and cannot be owned; for instance, banking, airline or hotels
- more in general, the market offerings are also composed by other aspects, like *experiences, persons, places, organizations, information and ideas* (Kotler & Armstrong, 2012).

CUSTOMER VALUE AND SATISFACTION

There is usually a broad offering of products that may satisfy the customer's need. In order to choose from these market offerings, what clients do is basing their decisions on their expectation about the value and the satisfaction offered by the different products and services.

The *value for the client* represents what it remains from the values that the customer obtains for having and utilizing a product after the cost of getting that product is deducted. What customers do is establishing expectations about the value of the different product offerings and purchase according to them.

After the customer carries out the buying, his *level of satisfaction* relies on how much the outcomes from the product reach the expectations that the customer has previously formed.

As a result of all this, it is important that businesspeople are careful when they create customer expectations. Low expectations imply satisfying the ones that are buying, but won't appeal the sufficient number of clients. As for really high expectations, the result will be unhappy customers.

All in all, the value for the client and their level of satisfaction play an important role in enhancing and handling customer relationships.

EXCHANGES, TRANSACTIONS AND RELATIONSHIPS

When people take the decision to satisfy their needs and wants by exchanging, then marketing arises. The term **exchange** means that a person obtains a desired item from somebody else, and he or she offers something in return. The exchange represents the key marketing notion and, conversely, a transaction alludes to a unit of measure of marketing. In other words, a **transaction** is a value exchange that takes place between two parties: X is given by one party to the other and in exchange receives Y. For example, someone goes to a store and pays 350\$ and in return receives a television.

According to Kotler & Armstrong (2012), "Marketing consists of actions taken to build and maintain desirable exchange **relationships** with target audiences involving a product, service, idea or other object" (p. 7). Businesses want more than just appealing new customers and creating transactions, they want to keep the customers they have and to expand their firms. Marketers seek to establish and maintain solid relationships through providing superior customer value (Kotler & Armstrong, 2012).

MARKETS

The exchange and relationships notions conduct to the notion of a market. A **market** is “the set of actual and potential buyers of a product or service” (Kotler & Armstrong, 2012, p. 7). These buyers have in common that they all have a concrete need or want that can be fulfilled via exchange relationships.

2.1.2. THE MARKETING PROCESS

Marketing has already been described, so in order to explain how it is connected to the Marketing Process, first, the latter should be depicted.

On the other hand, since in this chapter I will also mention digital marketing strategies, I believe that it is important to remark and clarify now that the digital marketing strategies that will be explained later on should be well integrated in the strategies that will be described now from the Marketing Process. This is, the digital marketing plan has to fit within the general marketing plan of the company; in short, they are not distinct or independent plans.

A **simple model of the Marketing Process** is displayed in Figure 3, where it can be observed that it is composed of five steps. Businesses work in the first four steps in order to “understand consumers, create customer value, and build strong customer relationships” (Kotler & Armstrong, 2012, p. 5). In addition, it is in the final step when firms are recompensed for creating superior customer value. When they create *value* for customers, they attain in return *value* from customers, which can take the shape of sales, profits and long-term customer equity.

FIGURE 3: Simple model of the Marketing Process



SOURCE: Kotler & Armstrong (2012)

1. UNDERSTAND THE MARKETPLACE AND CUSTOMER NEEDS AND WANTS

The first thing that marketers need to do is to comprehend customer needs and wants, as well as the marketplace in which they operate (Kotler & Armstrong, 2012).

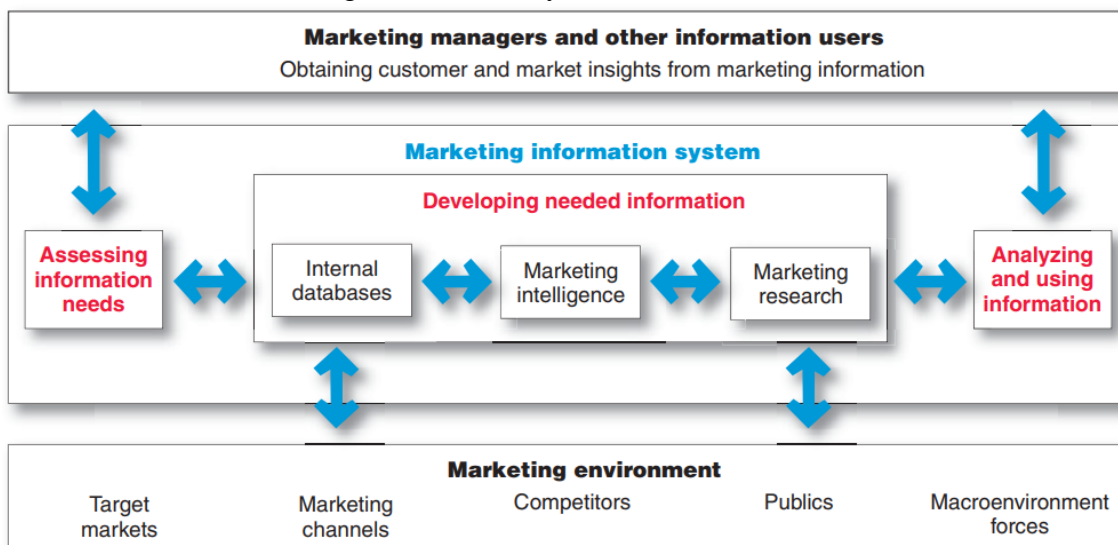
According to Kotler & Armstrong (2012), needs, wants and demands; market offerings (products, services and experiences); value and satisfaction; exchanges and relationships; and markets are main customer and marketplace notions.

Therefore, these concepts are the same ones as those described in the subpoint 2.1.1. The philosophy of Marketing.

The first step of the Marketing Process is to understand the marketplace and the customers' needs and wants. Therefore, to accomplish such aim and be able to generate value for customers and build strong relationships with them, marketers need to gain insights into what consumers need and want, and these insights can be obtained from good marketing information. Moreover, data from the marketplace such as competitors or resellers, among other actors or forces, is also needed by the corporation. Therefore, information is crucial for gaining insights, this is, fresh understandings, about the marketplace and customers and it helps marketers to make better decisions and it is a relevant strategic instrument and marketing tool.

Furthermore, what helps users to analyze and employ the information in order to originate customer insights, take marketing decisions and perform the management of client relationships is the **Marketing Information System (MIS)**. A marketing information system refers to people and methods that evaluate information needs, develop the information that is needed, and support decision makers to employ the information in order to originate customer and market insights. Moreover, in the following figure, the MIS can be observed, as well as the fact that this system starts and ends with information users: it evaluates their information needs and, in the end, it provides information that satisfy the needs. These types of users are “marketing managers, internal and external partners, and others who need marketing information” (Kotler & Armstrong, 2012, p. 99).

FIGURE 4: The Marketing Information System



SOURCE: Kotler & Armstrong (2012)

In this figure it can be noticed that the MIS works in this way: firstly, it begins by assessing the information needs of the users, next, it gets in contact with the marketing environment to originate information that is necessitated by using *internal company databases*, activities of *marketing intelligence*, and *marketing research*. Lastly, MIS assists users at examining and employing the data so that customers insights can be generated, marketing decisions can be taken, and customer relationships can be managed (Kotler & Armstrong, 2012).

Internal databases are electronic sets of information about the clients and the market, which are attained from sources of data that belong to the network of the organization.

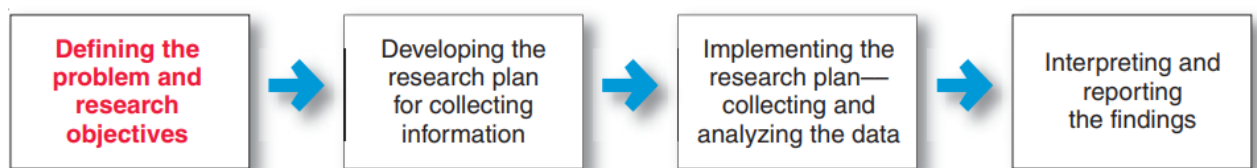
Competitive marketing intelligence is the “systematic collection and analysis of publicly available information about consumers, competitors, and developments in the [external] marketing environment” (Kotler & Armstrong, 2012, p. 101).

Marketing research is the process of designing, gathering, evaluating and reporting the information that is related to a **concrete** marketing problem faced by the enterprise.

The **marketing research process** has four steps: “defining the problem and research objectives, developing the research plan, implementing the research plan and interpreting and reporting the findings” (Kotler & Armstrong, 2012, p. 103).

In the figure that comes next, the four steps are showed. The first one is crucial as it guides the whole research process.

FIGURE 5: The Marketing Research Process



SOURCE: Kotler & Armstrong (2012)

➤ **Defining the problem and research objectives**

First, the problem is defined and then the manager and researcher decide which the research objectives are.

➤ **Developing the Research Plan**

After the problem and the objectives of the research have been established, the next step is to find out the information that is needed, create a plan to collect it in an efficacious way, and showcase the plan to management. The research plan is a summary of sources of data that already exists, and it specifies the research and contact methods, as well as the sampling plans and the tools employed by researchers to collect new data. Moreover, in order to satisfy the information needs of the manager, the research plan may require collecting either secondary data or primary data, or the both of them.

Research approaches for collecting primary data consist of observation, surveys and experiments.

Contact methods. Mail, telephone, personal or online interview are used in order to collect information.

Sampling plan. Usually marketing researchers investigate a small sample of the whole consumer population in order to make judgements about big groups of consumers.

Research instruments. Marketing researchers can gather primary data by using two of the main research instruments, which are the *questionnaire* and *mechanical devices*.

➤ **Implementing the research plan**

The next step that the researcher performs is implementing the marketing research plan. "This involves collecting, processing, and analyzing the information" (Kotler & Armstrong, 2012, p. 118).

➤ **Interpret and report the findings**

As the final step, the market researcher makes an interpretation of the findings, "draw[s] conclusions and report[s] them to management" (Kotler & Armstrong, 2012, p. 118).

All in all, in order to obtain a thorough understanding of the marketplace and customer needs and wants, which represent the first step of the Marketing Process, **research** has to be carried out and the **marketing information** has to be **managed**. For this latter aim, customer relationship management (CRM) is employed. Here, the meaning of **CRM** is more related to **data-management**.

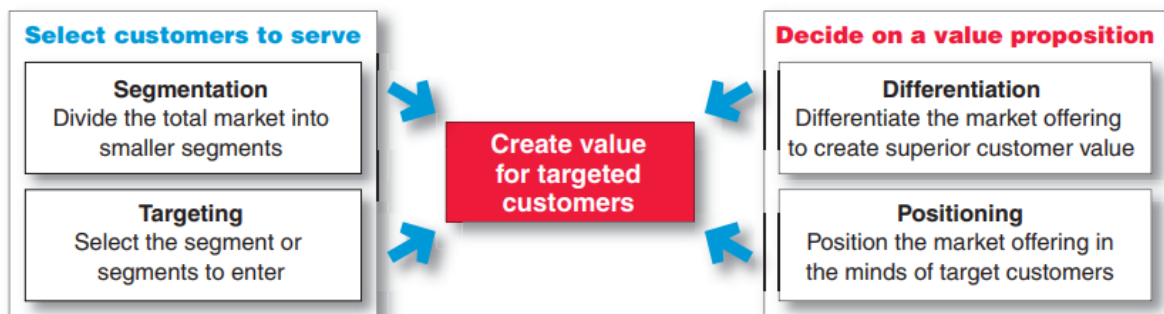
2. DESIGN A CUSTOMER-DRIVEN MARKETING STRATEGY

Once the business has comprehended its consumers and the marketplace, it must determine the customer-driven marketing strategy, this is, the customers that it will serve and how it will deliver them value.

Nowadays companies cannot attract all the customers from the marketplace, at least it cannot appeal to all of them using the same methods and techniques. In attempting to attract and serve all customers, it can happen that not a single customer is served well. Thus, what the company has to do is to design **customer-driven marketing strategies** that make it possible to establish the "right relationships with the right customers" (Kotler & Armstrong, 2012, p. 190).

In figure 6, the four main steps of designing a customer-driven marketing strategy are displayed. Throughout the first two steps that involve **market segmentation and targeting**, the customers that the firm will serve are determined. And in the last two steps that are **differentiation and positioning**, the business selects a value proposition, this is, it decides the way in which it will generate value for target customers (Kotler & Armstrong, 2012).

FIGURE 6: Designing a customer-driven marketing strategy



SOURCE: Kotler & Armstrong (2012)

Now, all these four steps will be explained in detail.

Select customers to serve

- **Market segmentation**

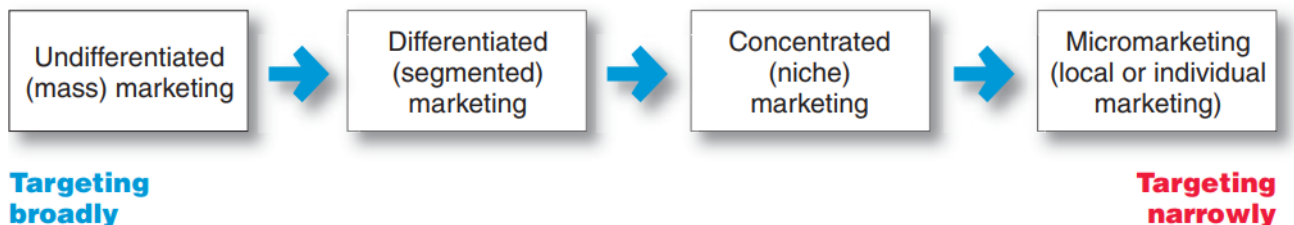
According to Kotler & Armstrong (2012), Marketing segmentation implies the fact that the market is divided into smaller segments that have different needs, features or behavior that may need separate marketing strategies or mixes.

It doesn't exist only one way to segment a market. Thus, distinct variables are tested by the marketer to find out which is the one that provides the best segmentation opportunities. The main **segmentation variables** for consumer marketing are geographic, demographic, psychographic, and behavioral

- **Market targeting**

After discovering its market segment opportunities thanks to market segmentation, the enterprise assesses the different segments and decides which segments and how many of them it can serve best. This is, it evaluates different segments and then it must take the decision about which and how many of them it will target. A **target market** is a group of buyers that have the same needs or features in common, which the firm decides to serve. Therefore, **market targeting (or targeting)** involves “evaluating each market segment’s attractiveness and selecting one or more market segments to enter” (Kotler & Armstrong, 2012, p. 190). In the following figure it can be observed that market targeting can use different strategies, which are: undifferentiated marketing, differentiated marketing, concentrated marketing and micromarketing.

FIGURE 7: Market Targeting Strategies



SOURCE: Kotler & Armstrong (2012)

- **Undifferentiated marketing**

Undifferentiated marketing or mass marketing is a market strategy in which the company chooses to ignore the differences of market segments and target the entire market with a single offer.

- **Differentiated marketing**

Differentiated marketing or segmented marketing is a market strategy in which the organization chooses to target various market segments and for each of them designs a distinct offer.

➤ **Concentrated marketing**

Through the concentrated marketing strategy, an enterprise, rather than targeting a small share of a big market, it targets a big share of one or a few smaller segments or niches. Therefore, **concentrated or niche marketing** “involves focusing on one or a few market segments only” (Kotler & Armstrong, 2012, p. 216).

➤ **Micromarketing**

Micromarketing consists of the customization of products and marketing programs to the needs and wants of concrete individuals and local customer segments; therefore, it comprises individual marketing and local marketing.

Decide on a value proposition

- **Differentiation and positioning**

After deciding which segments to enter, the corporation must opt for its differentiation and positioning strategy.

Differentiation comprises distinguishing the market offering in order to generate customer value that is superior.

Positioning is about planning a market offering so that it occupies a clear, unique and desirable place in the minds of target customers compared to products from the competition.

The task of **differentiation and positioning** is composed by **three steps**: “identifying a set of differentiating competitive advantages on which to build a position, choosing the right competitive advantages, and selecting an overall positioning strategy” (Kotler & Armstrong, 2012, p. 208). After this, the firm has to communicate and distribute the selected position to the market.

1. Identifying possible competitive advantages

Marketers can build relationships that are profitable with target customers by comprehending better customer needs than their competitors and delivering more value to the customers. As the company achieves to differentiate and position itself as delivering superior customer value, it obtains **competitive advantage**, which is an advantage over competitors that is attained by providing higher customer value (Kotler & Armstrong, 2012).

2. Choosing the right competitive advantage

Providing that a company finds some potential differentiations that deliver competitive advantages, it must select the ones on which it will build its positioning strategy. It has to take a decision about how many differences it will promote and which ones.

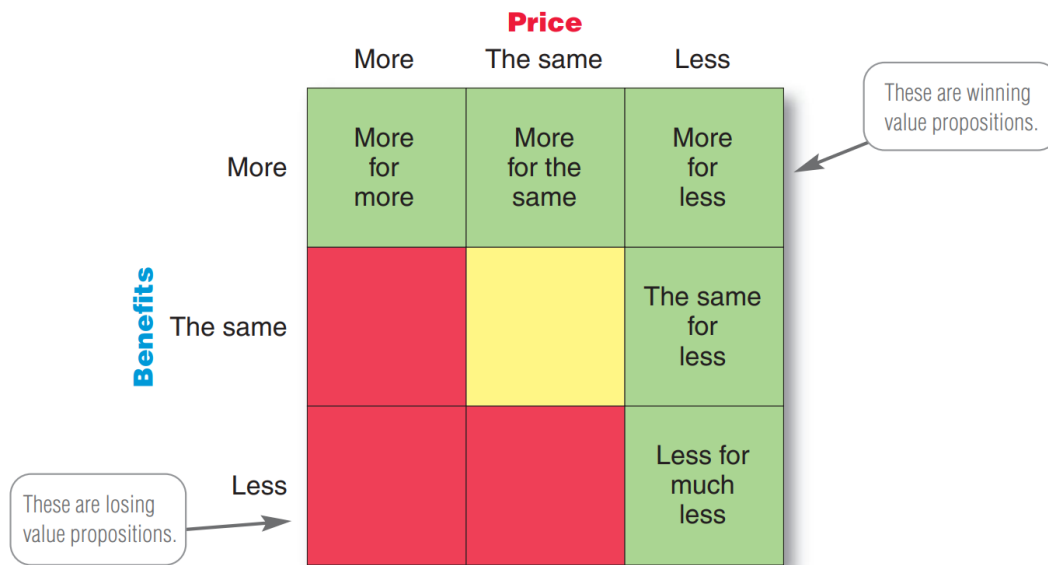
- **How many differences to promote.** Some marketers believe that the companies should promote just one benefit of the product to the target market, whereas others think that firms ought to promote more than one differentiator.
- **Which difference to promote.** All brand differences are not equally beneficial; not every difference may result to be a good differentiator. Differences that are worth establishing should satisfy some or all of these criteria:
 - *Important:* the difference allocates a benefit, that is greatly valued, to target buyers.
 - *Distinctive:* either the difference is not offered by competitors, or the company offers it in a more distinctive way.
 - *Superior:* the difference is superior to other means that customers may find to get the same benefit.
 - *Communicable:* the difference is both communicable and visible to shoppers.
 - *Preemptive:* the difference cannot easily be copied by competitors.
 - *Affordable:* “buyers can afford to pay for the difference” (Kotler & Armstrong, 2012, p. 212).
 - *Profitable:* the difference can be introduced profitably by the organization.

3. Selecting an overall positioning strategy

A brand’s full positioning is designated as the brand’s value proposition. The **value proposition** of a brand is the “full mix of benefits on which a brand is differentiated and positioned” (Kotler & Armstrong, 2012, p. 212). This is, it is the group of benefits or values it assures to provide to clients in order to fulfil their needs. Moreover, differentiating one brand from another is what value propositions do. They respond the customer’s inquiry: “Why should I buy your brand rather than a competitor’s?” (Kotler & Armstrong, 2012, p. 9).

The next figure depicts possible value propositions on which firms may position their products:

FIGURE 8: Possible Value Propositions



SOURCE: Kotler & Armstrong (2012)

-The five **green cells** from the figure stand for winning value propositions, i.e. “differentiation and positioning that gives the company competitive advantage” (Kotler & Armstrong, 2012, p. 213).

-The **red cells** stand for losing value propositions, that is to say, differentiation and positioning that doesn’t deliver any competitive advantage to the firm.

-The **yellow cell** that can be found in the middle can, in the best case, stand for a marginal proposition.

Hereunder, the **five winning value propositions** on which businesses can position their products are described: more for more, more for the same, the same for less, less for much less, and more for less (Kotler & Armstrong, 2012).

-More for more. The more-for-more positioning implies delivering the most exclusive product or service and requiring paying a higher price in order to compensate for the elevated cost.

-More for the same. The more-for-more positioning of a competitor can be attacked by firms through the submission of a brand with a similar quality but cheaper.

-The same for less. With this positioning, companies such as discount stores provide the same brands as department stores or specialty stores but at very low prices.

-Less for much less. This positioning is based on offering a lower quality and a much lower price.

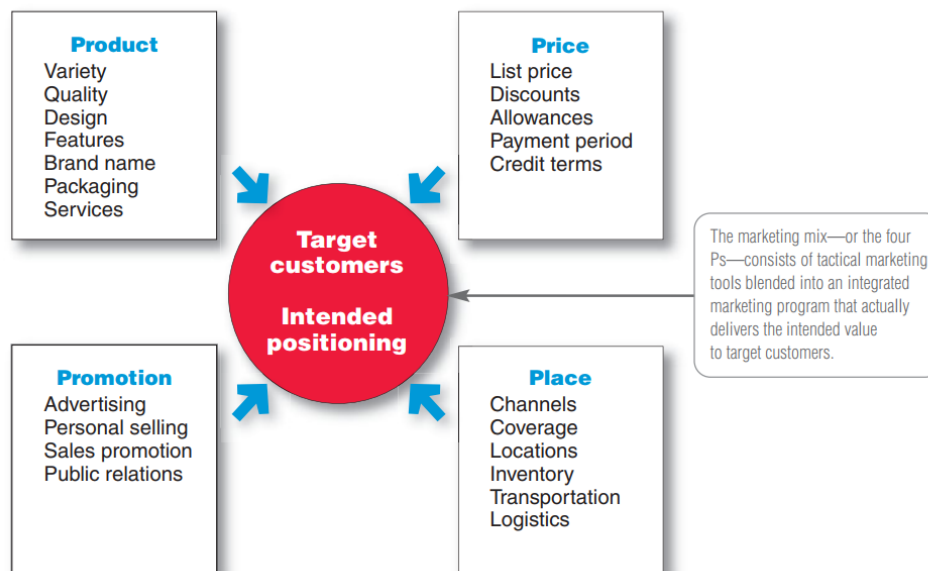
-More for less. This is the winning positioning and consists of offering more for a lower price. Although it is feasible in the short run, in the long run, however, it is very hard to continue with it since providing more implies more costs which is not in line with a low price.

As already mentioned, after all this process, the firm communicates the position that has been chosen to the market.

3. CONSTRUCT AN INTEGRATED MARKETING PROGRAM THAT DELIVERS SUPERIOR VALUE

This section revolves around the **integrated marketing plans and programs** (a marketing mix) that the firm performs to allot, in fact, the intended customer value to target clients. The marketing program establishes customers relationships and it does this by converting “the marketing strategy into action” (Kotler & Armstrong, 2012, p. 12). It comprises the company’s **marketing mix**, which is “the set of marketing tools the firm uses to implement its marketing strategy” (Kotler & Armstrong, 2012, p. 12). The main tools of the marketing mix are categorized into 4 groups, also known as the **four Ps** of marketing: product, price, place, and promotion. The **instruments under each P** are illustrated in the following figure:

FIGURE 9: The four Ps of the marketing mix



SOURCE: Kotler & Armstrong (2012)

- **Product**

Kotler & Armstrong (2012) state that a **product** is anything that can be provided to a market for attention, purchase, usage or consumption that may fulfill a want or need. Moreover, **products** are a combination of **goods**, this is physical/tangible products, and **services**, this is, intangible products.

Services are a sort of product that are composed by activities, benefits, or satisfactions that can be sold, are mainly intangible and do not lead to the possession of anything.

Moreover, products also include **experiences, events, people, places, organizations, ideas**, or a blend of these.

Products and services can be classified into two groups depending on the type of consumers that use them: **consumer products** and **industrial products**.

1. Consumer products

Consumer products consist of products and services that final customers purchase for their personal consumption. These products and services can be further classified by the way (how) consumers engage in buying them. Thus, what distinguishes them is how buyers purchase them and, as a consequence, also the way they are marketed.

2. Industrial products

Industrial products are products that individuals and companies buy to process them even more or to employ them in managing a business. Therefore, a consumer product and an industrial product differ in the purpose for which the product is acquired.

-Services Marketing

As it has already been stated, services are products too. One of the main characteristics of services and which it differentiates them from physical products is that they are mainly intangible.

- **Price**

Price can be defined from a narrow point of view as the quantity of money that is charged for a product or service. However, from a broader sense, it can be described as the sum of the values that clients barter for the benefits of possessing or making use of a product or service.

One of the most arduous tasks of marketers is establishing the right price.

There are three **main pricing strategies**: customer value-based pricing, cost-based pricing, and competition-based pricing.

Customer value-based pricing. A customer-oriented pricing that is effective requires the comprehension of how much value customers put on the benefits they get from the product and establishing a price that seizes this value. Thus, **customer value-based pricing** “uses buyers’ perceptions of value, not the seller’s cost” (Kotler & Armstrong, 2012, p. 291), in order to set the price.

Cost-based pricing implies that the company establishes prices based on the costs for fabricating, distribution, and selling the product plus a reasonable rate of return for the firm’s effort and risk.

Competition-based pricing entails that a price is fixed based on the strategies, costs, prices and market offerings of competitors. In this case, customers will judge the value of a product based on the prices that competitors impose for comparable products.

- **Place**

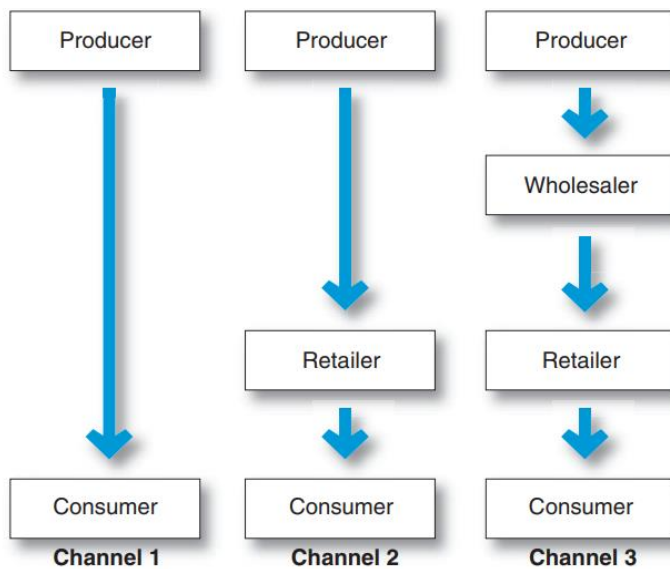
The third marketing mix tool, **place** or **distribution**, is composed of activities of the business that make the product accessible to target consumers.

Moreover, most of the producers do not sell their products directly to final users, but they employ intermediaries to make their products available in the market. They try to create a **marketing channel** or **distribution channel**, this is, a combination of mutually

dependent organizations that aid to make a product or service accessible for usage or consumption by the consumer or business user (Kotler & Armstrong, 2012).

Businesses might perform such a design of their distribution channels so that products and services are made available to consumers in distinct ways. In other words, they can employ different channel levels. A **channel level** is “a layer of intermediaries that performs some work in bringing the product and its ownership closer to the final buyer” (Kotler & Armstrong, 2012, p. 343). Moreover, the *length* of a channel is indicated by the *number of intermediary levels*. Here, the focus will be on the consumer. Thus, in the underneath figure a handful of **consumer distribution channels** of different lengths can be discerned:

FIGURE 10: Customer marketing channels



SOURCE: Kotler & Armstrong (2012)

Channel 1 is denominated **direct marketing channel** and is a distribution channel that does not have any intermediary levels, therefore there is a direct sale between the company and the customer. The rest of the channels, channels 2 and 3, are **indirect marketing channels**, this is, they are channels that are made up of one or more intermediary levels, which can include retailers or wholesalers. **Retailing** involves all the activities related to the sale of goods or services in a direct way to final customers for their personal, nonbusiness usage. **Wholesaling** consists of all the activities related to the sale of goods and services to the ones that purchase in order to resale or for business use (Kotler & Armstrong, 2012).

It is also important to remark **marketing logistics** or **physical distribution**. **Marketing logistics** implies planning, implementing, and controlling the physical movement of materials, final goods, and data that is related, from the place of origin to the place where products are consumed in order to meet the requirements of the client profitably. The **main logistics functions** are *warehousing, inventory management, transportation, and logistics information management*.

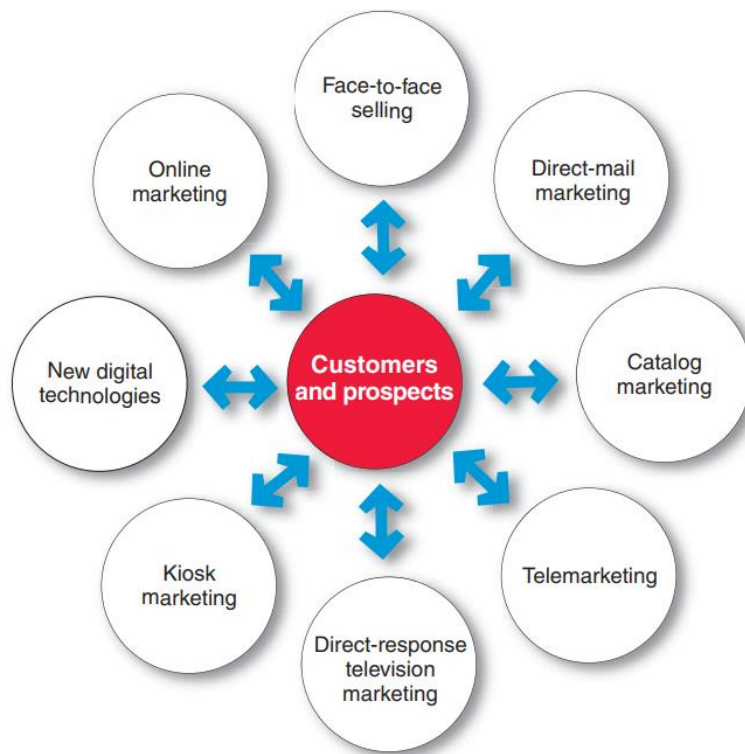
- **Promotion**

Promotion is formed of activities that convey the benefits of the product and convince target clients to purchase it.

The **promotion mix** or **marketing communications mix** of a firm is composed of the concrete combination of advertising, sales promotion, personal selling, public relations, and direct-marketing instruments that are employed by the company to communicate customer value and establish customer relationships in a persuasive way. The definitions of the five main **promotion tools**, together with examples of them, are the following ones:

- **Advertising**: “any paid form of nonpersonal presentation and promotion of ideas, goods, or services by an identified sponsor” (Kotler & Armstrong, 2012, p. 408). For example: broadcast, print, and the Internet.
- **Sales promotion**: incentives given on a short-term basis in order to stimulate the buying or vending of a product or service. For instance: discounts, coupons, and displays. This tool usually works closely with advertising and personal selling.
- **Personal selling**: the company’s sales force makes personal presentations with the aim of selling products and building customer relationships. As an illustration: sales presentations and trade shows.
- **Public relations (PR)**: building favorable relations with the enterprise’s manifold publics by attaining positive publicity, developing a good corporate image, and controlling or preventing unfavorable rumors, stories and events. For example: press release, sponsorship, special events, and web pages.
- **Direct marketing**: direct connections with individual customers that are cautiously targeted in order to accomplish an instantaneous response and cultivate durable customer relationships. For instance: catalogs, telephone marketing, direct mail, and online marketing. The *eight main forms of direct marketing* are visualized in the figure that follows:

FIGURE 11: Forms of direct marketing



SOURCE: Kotler & Armstrong (2012)

4. BUILD PROFITABLE RELATIONSHIPS AND CREATE CUSTOMER DELIGHT

All the three stages of the marketing process which have already been discussed, conduct to the most significant step, the fourth one: building customer relationships that are profitable.

- **Customer Relationship Management (CRM)**

Customer relationship management, also named **CRM**, is defined, according to Kotler & Armstrong (2012) as the general process of establishing and keeping profitable customer relationships by supplying superior customer value and satisfaction.

- **Relationship Building Blocks: Customer Value and Satisfaction**

Generating superior customer value and satisfaction is the requisite to build durable customer relationships.

Customer Value. The action of attracting and retaining clients is not an easy thing to do. Customers normally can choose from a wide variety of products and services. A consumer purchases from the company that has the highest **customer-perceived value**, that is to say, “the customer’s evaluation of the difference between all the benefits and all the costs

of a marketing offer relative to those of competing offers” (Kotler & Armstrong, 2012, p. 12). It is important to stress that usually customers do not assess values and costs in an accurate way, but they act on perceived value.

Customer satisfaction. Customer satisfaction involves “the extent to which a product’s perceived performance matches a buyer’s expectations” (Kotler & Armstrong, 2012, p. 13). If the performance of the product does not meet the expectations, the client is not satisfied. Conversely, if performance meets expectations, then the consumer is satisfied. And if performance outdoes expectations, the state of the buyer is extremely satisfied or delighted.

Actually, there are studies that reveal that the larger the levels of customer satisfaction, the higher the loyalty of the customer. This results in an improvement of the performance of the firm.

- **The changing nature of customer relationships**

Currently companies are relating to their customers in different ways as they did in the past. This is, firms from yesterday employed mass marketing with all their customers, while the ones from today try to develop relationships that are deeper, more direct and last longer with customers that are chosen more carefully. Significant present trends in how companies and customers relate to each other nowadays include: (1) relating with customers that are chosen more carefully and (2) relating in a deeper and more interactive fashion.

1. **Relating with more carefully selected customers**

There are practically no firms today that still use true mass marketing, i.e. using a standardized way of selling to all customers buying from the business. Presently, what marketers want is not to have relationships with every client, but to target the fewer and more profitable customers.

2. **Relating more deeply and interactively**

Nowadays companies do more than just choosing customers in a more selective way: what they do is using deeper and more meaningful ways to relate with selected customers. Currently, marketers do not employ only one-way, mass-media messages, but, instead, they are combining them with brand-new and more interactive methods that are useful to build two-way customer relationships (Kotler & Armstrong, 2012).

Two-Way Customer Relationships. New technologies have emerged in the communication field such as the e-mail, Web sites, blogs, cell phones and social networks (for instance, Facebook, YouTube or Twitter), etc. These technologies have altered the way in which firms and brands relate to clients. These new methods of communication enable marketers to originate a more intense customer involvement and a “sense of community surrounding the brand” (Kotler & Armstrong, 2012, p. 17) in order to convert the brand into an important element of the clients’ conversations and lives.

Nevertheless, even though these new technologies represent opportunities for building relationships, they also represent challenges. They provide larger power and control to consumers. Therefore, the **marketing field** of today includes both **customer relationship management** and **customer-managed relationships**. Regarding **customer-managed relationships**, they are marketing relationships where consumers, with the help of the new digital technologies, intend to model or alter their relationships with brands by interacting with companies and among them (Kotler & Armstrong, 2012).

- **Partner Relationship Management**

Today, marketers cannot generate on their own customer value or establish solid customer relationships. Hence, they have to work together with the departments from the company, this is, with the partners inside the company, and with partners outside the firm. All this indicates that marketers have to take into account not only customer relationship management, but also partner relationship management. **Partner relationship management** is “working closely with partners in other company departments and outside the company to jointly bring greater value to customers” (Kotler & Armstrong, 2012, p. 19).

5. CAPTURE VALUE FROM CUSTOMERS TO CREATE PROFITS AND CUSTOMER EQUITY

Looking back at Figure 6, it can be observed that what the company does in the first four steps of the Marketing Process is creating value for target customers and through the superior customer value originated and delivered, it builds strong customer relationships. If all this is done successfully, the final step takes place, which is when the business “can capture value from customers in return in the form of loyal customers” (Kotler & Armstrong, 2012, p. 20) who purchase more, which leads to higher long term returns for the firm. Here, the results of creating customer value are described: “customer loyalty and retention, share of market and share of customer, and customer equity” (Kotler & Armstrong, 2012, p. 20).

- **Creating customer loyalty and retention**

According to Kotler & Armstrong (2012), customer delight is generated by good customer relationship management (CRM). In exchange, customers that are delighted stay loyal and talk positively regarding the enterprise and its products. Moreover, due to big effect that satisfaction has on loyalty (a small satisfaction decrease can cause a great decrease in loyalty), customer relationship management aims at originating both customer satisfaction and delight.

What’s more, the loss of a client implies more than just the loss of a single sale. It entails that the whole succession of purchases that the customer would make throughout his or her life span as a client will be lost. The value of the whole series of purchases that the customer would make over his or her lifetime as a customer is named **customer lifetime value**.

Furthermore, “customer delight creates an emotional relationship with a brand, not just a rational preference” (Kotler & Armstrong, 2012, pp. 20-21). And thanks to that relationship, customers return.

- **Growing share of customer**

Good customer relationship management (CRM) does more than only retain “good customers to capture customer lifetime value” (Kotler & Armstrong, 2012, p. 21), as it also assists marketers at increasing their **share of customer**. This latter is the share or portion of the purchase of the customer that the firm obtains in its product categories. For instance, airlines want higher share of travel and supermarkets and restaurants want to increase the share of stomach. They all want to get a bigger share of the spending budget of each client.

In addition, companies can increment the share of customer by either offering a wider variety to present customers or by generating programs in order to extra sell or sell more to customers that already exist. One example is Amazon.com, which was only an online bookstore, however, now it offers a broad range of products such as music, toys, electronics, accessories and even groceries. This company also makes product recommendations to its clients (recommendation system), which have an influence on 30% of the sales.

- **Building customer equity**

At this point it can be observed that it is crucial not only to obtain clients, but likewise to keep and enlarge them.

What businesses want is not just the creation of profitable customers. They also wish to own them for a lifetime, gain a larger share of their purchasing, and acquire their customer lifetime value.

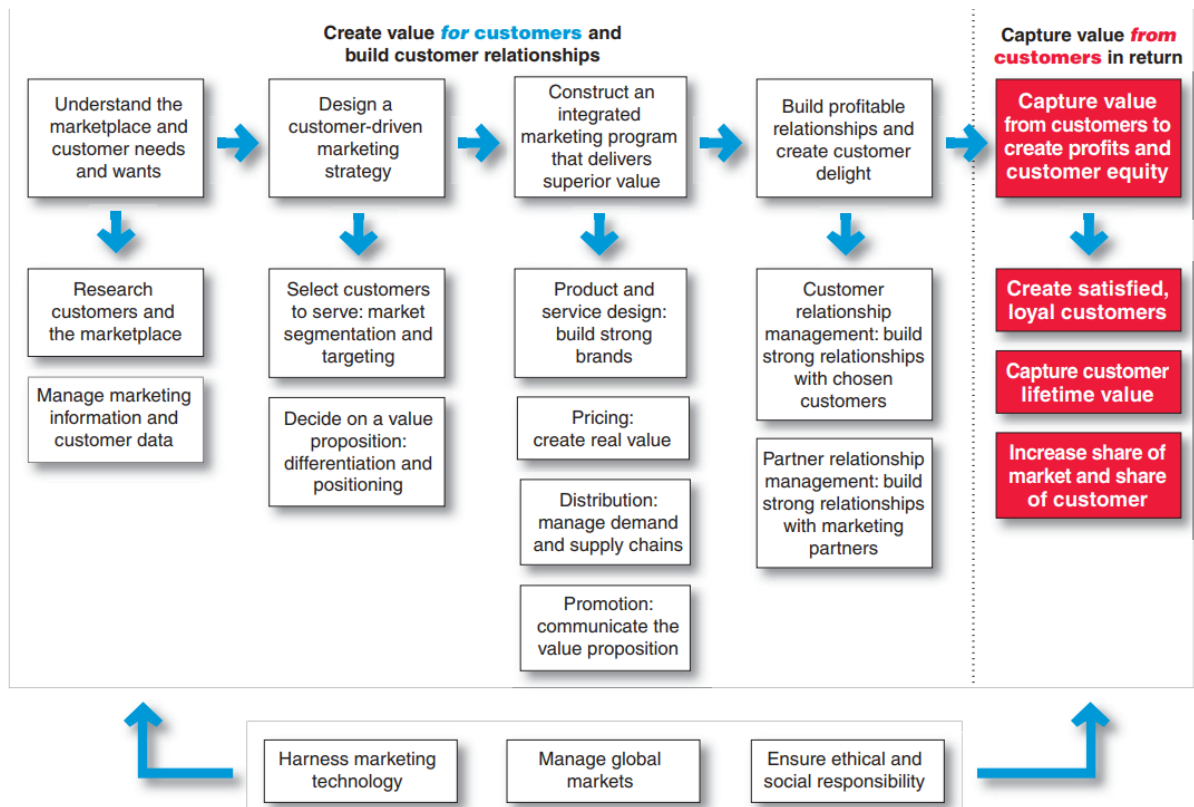
Nevertheless, the main objective of customer relationship management is to create high customer equity. “**Customer equity** is the total combined customer lifetime values of all of the company’s current and potential customers” (Kotler & Armstrong, 2012, p. 21).

The customers can be classified by the enterprise in terms of how profitable they might be and manage its relationships with them correspondingly.

In short, what is crucial to point out is that depending on the type of customers, different relationship management strategies have to be employed. The main aim is to establish the “right relationships with the right customers” (Kotler & Armstrong, 2012, p. 22).

All in all, an expanded model of the Marketing Process is displayed below, so that the main aspects of it can be visualized:

FIGURE 12: Expanded model of the Marketing Process



SOURCE: Kotler & Armstrong (2012)

In addition to the five steps of the process which have already been explained, the company should also take into account three factors, which are: “harness marketing technology” (Kotler & Armstrong, 2012, p. 30), make the most of global opportunities, and guarantee ethical and social responsibility (Kotler & Armstrong, 2012).

2.1.3. MARKETING PROCESS AS AN APPLICATION OF THE PHILOSOPHY OF MARKETING

Now that both the philosophy of marketing and the Marketing process have been explained, I conclude that the **Marketing Process is an application of the philosophy of marketing**, since the philosophy of marketing, according to Santesmases (2012), revolves around understanding the exchange relationship, and consists of comprehending the needs and wants of clients and satisfying those customer needs and wants profitably. This definition is applied in the Process of Marketing throughout its five steps since in those steps, first, in the four ones the company creates value for the customers and builds durable relations with them and in the last one the firm captures value from them.

Therefore, the Process of Marketing is used to put into practice the theory behind the philosophy of marketing of comprehending the needs and wants of clients and satisfying those customer needs and wants profitably, which creates value for customers. The concepts, tools, instruments and strategies of the philosophy of marketing are used throughout the Process of Marketing in order to generate value for the clients and build

relationships with them thanks to the superior value generated. On the other hand, if all these concepts, tools instruments and strategies are employed well in the four steps of the Marketing Process, the final step occurs, this is, the company captures value from clients.

Furthermore, it has already been explained that marketing is a philosophy that deals with how the company should perceive the exchange relationship, which involves to begin by understanding the needs and wants of the customers and ensuring that these needs and wants are satisfied in the most beneficial way for both the clients and the company (Santesmases, 2012). Here, the Marketing Process can be used to find out which are the needs and wants of the customers and also to satisfy those needs and wants in the most beneficial way which makes it possible to generate value for clients and enables the company to capture value from them. This is another point of view utilized to reinforce the fact that the Marketing Process can be applied to the philosophy of marketing, this is, it can be used to put into practise the philosophy of marketing.

2.2. CONNECTION OF THE MARKETING PROCESS WITH DIGITAL MARKETING AND DIGITAL MARKETING WITH ARTIFICIAL INTELLIGENCE

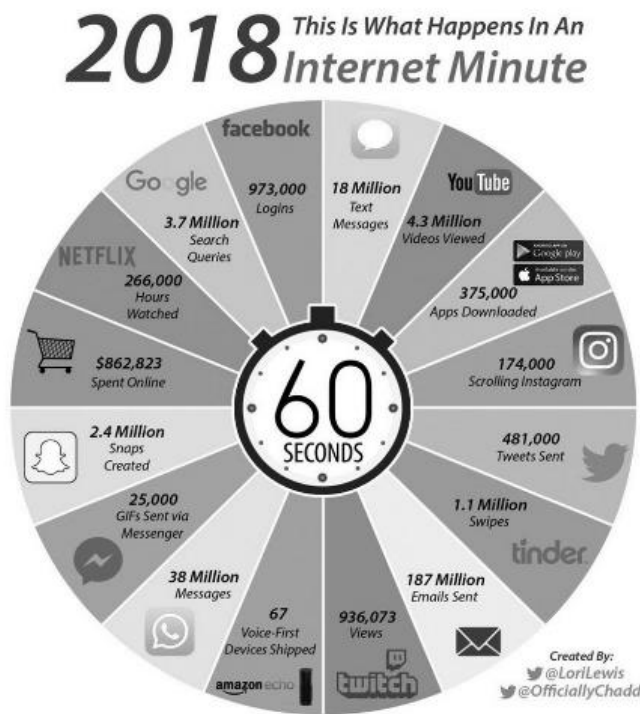
Here, the connection of the Marketing Process with Digital Marketing and Digital Marketing with Artificial Intelligence will be described. Nevertheless, before doing this, it is important to understand what Digital Marketing is and its features.

2.2.1. DIGITAL MARKETING

In this section, Digital Marketing will be explained by employing mainly the book *Strategies of Digital Marketing* of Fernando Maciá Domene, who is considered a pioneer in digital marketing and one of the fathers of SEO in Spain.

First, it should be pointed out that before the inception of the Web in the 90s, strategies such as advertising on TV, radio, newspapers; the public relations or direct marketing, among others, were used by marketers in order to connect entities that offered products, such as companies, with their (potential) customers. Nonetheless, nowadays, as people spend more time on their phones or computers and therefore digital means have a great potential as observed in figure 13, companies invest a larger part of their marketing budgets in Internet strategies: search engine optimization (SEO), pay-per-click, email marketing, etc. This doesn't mean that marketing does not use the media employed prior to the 90s, but it signifies that new and improved tools enabled by the digital field have been incorporated to marketing (Maciá, 2018).

FIGURE 13: Amount of users on Internet in a minute in different social media in 2018



SOURCE: Maciá (2018)

In the figure from the above, the tremendous potential of digital means is observed, since in just one minute, the number of users is impressive.

Digital Marketing or online marketing represents all that can be done in Internet in order to improve the commercialization of products, promote content, and enable the recognition of the brand. Digital marketing makes use of **media** that support the various **strategies**. Moreover, there are usually some media that are related to certain strategies. Which strategies will be selected rely on the **objectives** that are stated in the marketing plan, the **resources** and investment that are allocated to achieve those objectives, and the **term** in which it is expected to be carried out. Thus, a **digital marketing plan** that is clever would be an effective combination of the strategies and media available so that the established objectives can be achieved within a specific term or deadline and with minimum resource investment. Therefore, there is an interdependency among the established objectives, the resources/investment that has to be done and the term or deadline within those objectives have to be reached.

- **Objectives of Digital Marketing**

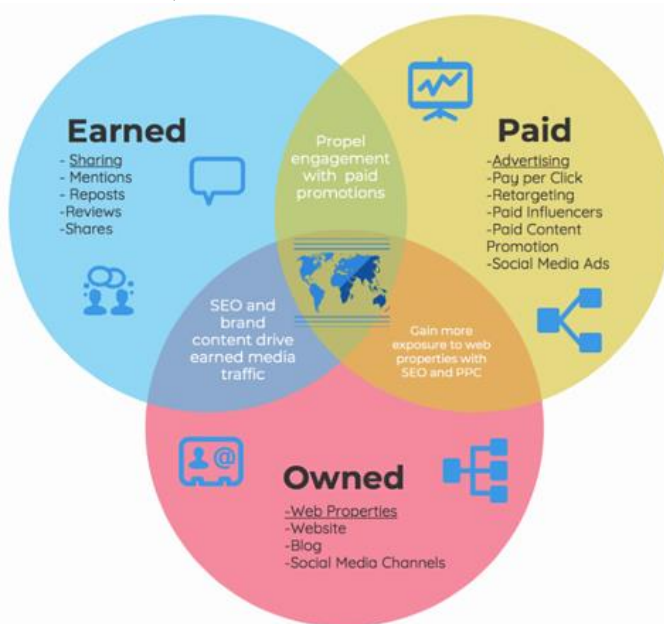
In the first place, a **digital marketing plan** starts with setting the **objectives**. That is because, as mentioned, the other aspects such as the selection of media, strategies, the required investment and the estimation of a term or deadline rely on the objectives (Maciá, 2018).

Furthermore, the media and strategies of a digital marketing plan depend also on how much the online project has evolved, the type of business and the economic resources that are needed.

The attainment of a successful online business is possible if, in any given situation, the most efficient media and strategies are selected wisely. That's why, next, the media of the digital marketing will be explained together with a clarification of how they can be better mixed in order to create the firm's strategy.

- **Media that Digital Marketing employs**, as seen in the following figure:

FIGURE 14: Paid, owned and earned media



SOURCE: Purvey (2018)

➤ **Paid media**

According to Maciá (2018), **paid media** represent the media for which a direct economic investment is done in order to obtain the traffic that they originate. Examples include: a Google Ads campaign, a Facebook campaign, or a banners campaign.

The **benefits** of paid media are: if there is allotted sufficient money, the traffic can quickly be *attracted* and, maybe, even transformed in sales; when the demand is high (as in sales, Christmas or Black Friday campaigns), the paid media are useful to improve the *visibility* of the online business; *segmentation*: paid media can also be employed in order to focus the investment on potential customers that are segmented in terms of sociodemographic aspects as age, sex, geographical localization, interests, etc.; among other advantages. However, the main **drawback** is the cost of paid media since the conversions that they create have a higher Cost per Acquisition (CPA, which is the cost of obtaining visits or sales on Internet) than the owned or earned media.

All in all, the **conclusion** is that paid media is useful when an online business starts its activity as this kind of media can propel it from its inception, paid media is also helpful when no other ways of obtaining cheaper quality traffic are available, and they are also suitable when the demand is high and the company wants to increase its visibility fast (Maciá, 2018).

➤ **Owned media**

Owned media are those ones that represent the online presence of the firm, and whose content is generated and controlled by the firm. For instance: the company's own Website, its blog, its YouTube channel, and its social networks.

Furthermore, in the long-term, owned media usually attract quality traffic at a lower cost than paid media.

Some of their **advantages** are: *control*, this is, the company can for example publish the content that desires on its owned media or publish what it offers in the manner that they consider; *accumulative effect*, this is, when an investment is done continuously in providing new content and revitalize social networks, a certain post will still receive visits even years after being published.; and *lower cost* than paid media. Nevertheless, their **disadvantages** include that owned media requires time in order to generate original and of quality content; and credibility since users trust more the opinions of other users rather than the content developed by the company, which users identify as mere advertisement.

➤ **Earned media**

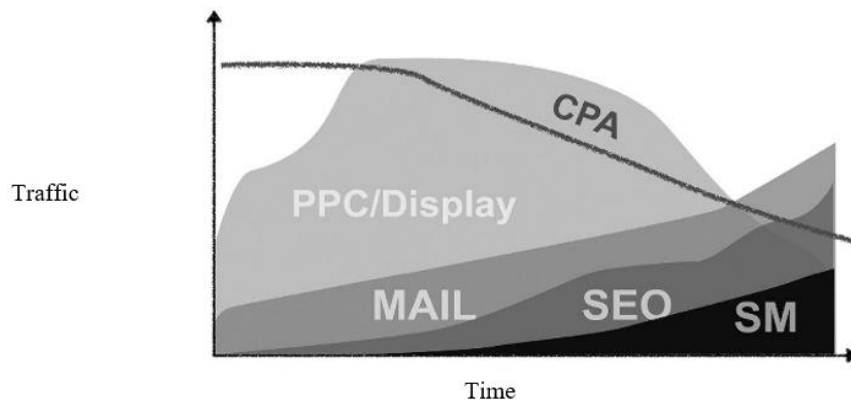
Earned media is all that content for which the participation of others is needed, since thanks to their contribution, they attract quality traffic. It involves the area of **users**. For example: users' opinions, comments, recommendations and critics, among others.

The **benefits** of earned media involve: *credibility*, because users find the opinions and comments of other users more credible, especially if they think that those opinions are not linked to commercial interests as in the case of influencers; and the *cost* is lower than in paid media. There are also **drawbacks**: lack of control as the enterprise cannot control everything that is being published about it; earned media can lose all their credibility if comments that are biased or manipulated by the firm are easily recognized, etc.

Moreover, in the digital field, earned media are the reciprocal of the company's Public Relations.

Before the explanation of all three sorts of media, it was pointed out that the clarification of how they can be better mixed up will be given. This is described next based on the figure below. So, when the company starts to invest in paid media, the global CPA that the company has to support may turn the project in nonprofitable in the long run. However, if the company can achieve the data of part of that traffic or if the users follow the firm on social networks as the business improves its position on searching engines, the firm will be able to attain little by little its traffic from owned and earned media. After some time, the traffic obtained from owned and earned media will represent a big percentage and, thus, the global CPA will decrease until the project is profitable (Maciá, 2018).

FIGURE 15: Progression of the distinct media in constructing the traffic of a Website

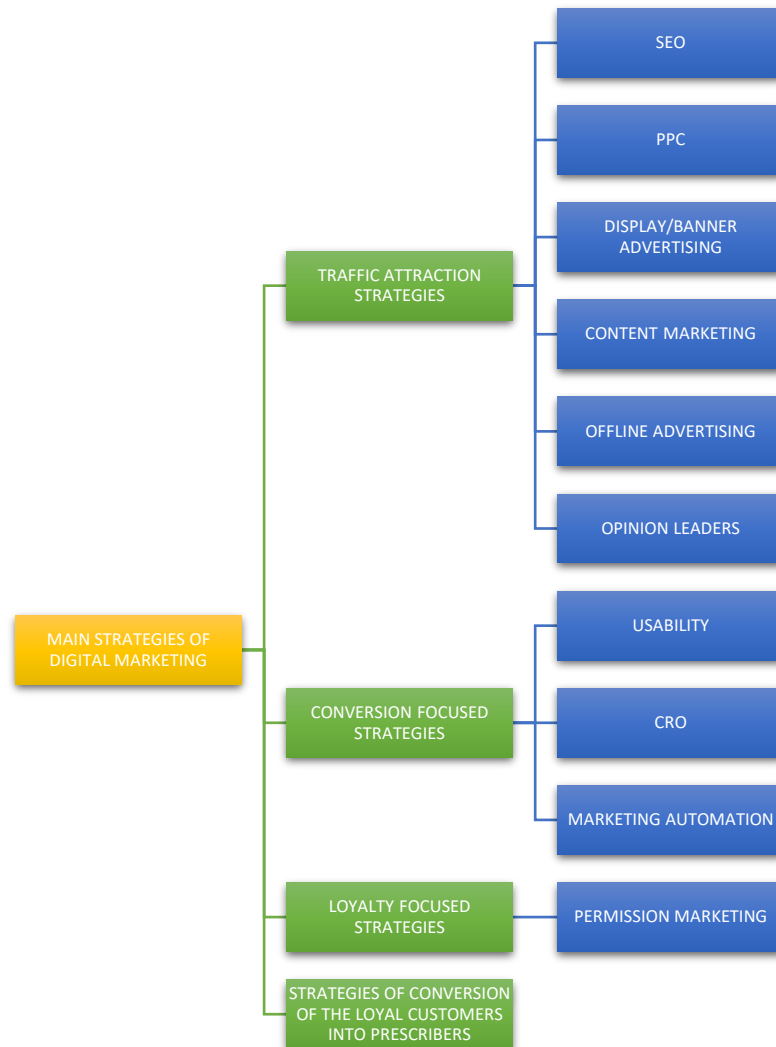


SOURCE: Maciá (2018)

- **Main strategies of Digital Marketing**

The paid, owned and earned media have already been described. Now, the strategies of Digital Marketing will be explained and are displayed in figure 16.

FIGURE 16: Main strategies of digital marketing



SOURCE: Own elaboration with information extracted from Maciá (2018)

1. Traffic attraction strategies

In the traffic attraction strategy, the objective is that the Website attracts quality traffic to it. This can be achieved in the following ways:

➤ **Search engine optimization or SEO**

Search engine optimization (SEO) consists of optimizing a certain Website so that the search engines index (explained below) its content and when potential customers search

on these search engines, these latter would show the pages of the Website among the first results. SEO is also called organic traffic.

SEO is one of the main sources of quality traffic for most of the Websites. Moreover, SEO is a strategy based on owned media, since it is the Website of the company. That is why the Cost of Acquisition (CPA) is lower than the CPA of other digital marketing strategies.

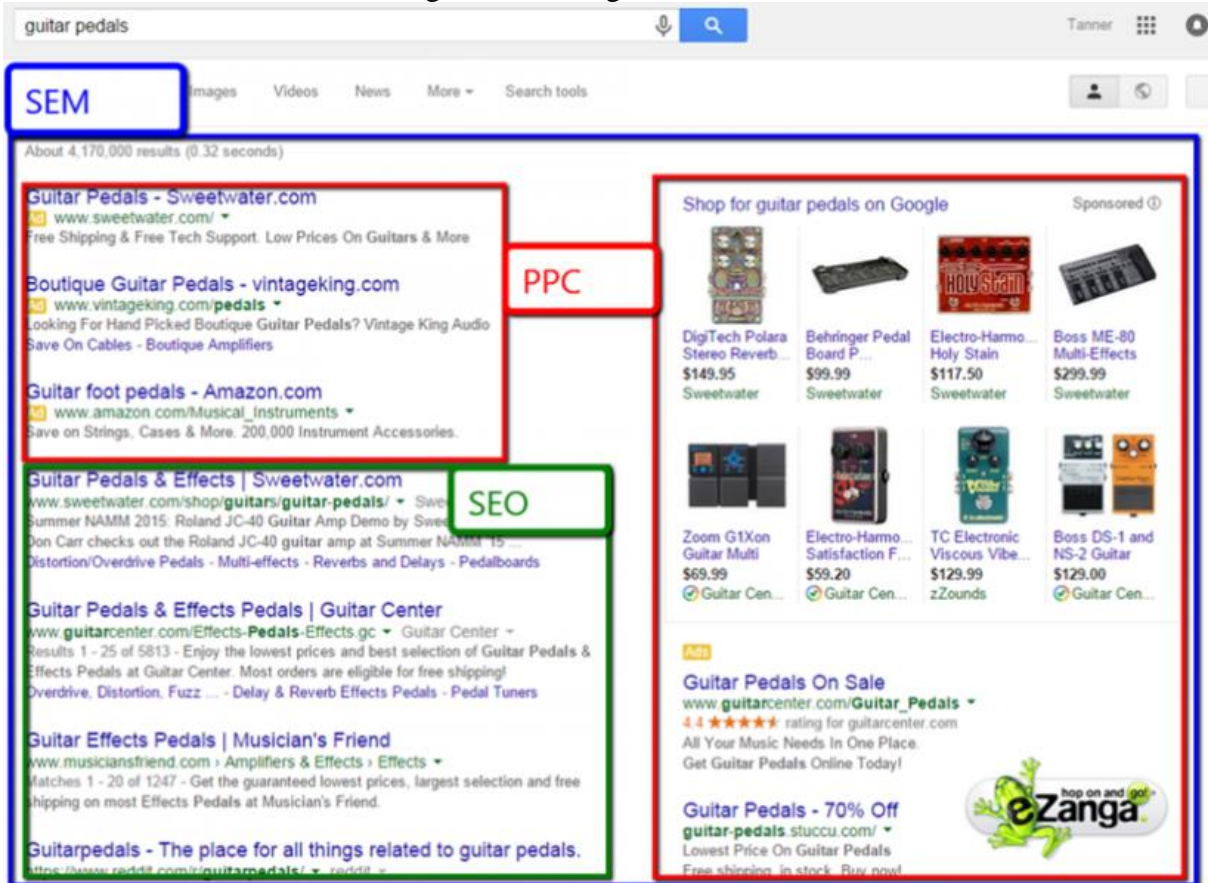
Index a Website. First, it should be stated that search engines make use of robots, also known as spiders, so that these robots navigate over the Internet and discover new content. Therefore, if the content from a Website is discovered by the search engine and it finds it different or better than other indexed results, the search engine will add the site to its index, this is, it will index it (Maciá, 2018).

➤ **PPC**

Pay-per-click (PPC) or sponsored links (Maciá, 2018) involve that every time one of the ads of the advertisers are clicked, they pay a fee. (“What is PPC?,” n.d.) According to Fernando Maciá (2018), sponsored links complement the strategy of SEO. PPC can be helpful to position better the Website on search engines when there is lots of competition and the site doesn’t achieve to be among the first positions, or PPC can make it possible to have visits from the beginning, or enhance the visibility of the Website (with Google Ads, Bing Ads, or Facebook Ads) when there is a higher demand due to seasonal products.

Moreover, **SEM or Search Engine Marketing** is a digital marketing strategy that includes SEO and Pay-per-click (PPC) strategies, and it can be visualized in the following figure:

FIGURE 17: SEM or Search Engine Marketing



SOURCE: Hackney (2015)

➤ **Display advertising or banner advertising**

According to Maciá (2018), **display advertising or banner advertising** implies that the advertisement of banners, interstitials (explained below) or other format of advertisement is contracted by a company in websites that have a users' profile that is similar to the one of the company's potential client. Mainly big companies can afford these display advertisements since a large investment is needed for them.

The aforementioned **interstitial ads** are "ads that appear in a separate ('pop up') window while a webpage is loading or are inserted between the contents of the page" ("Interstitial advertising," n.d., para. 1). An example of this is depicted below.

FIGURE 18: Interstitial ad



SOURCE: “Disallowed interstitial implementations” (n.d.)

Moreover, banner advertising is also used for **retargeting strategies**, which involve that advertisement is showed to users that have previously seemed to be interested in the online business.

Some examples of banner advertising are displayed below:

FIGURE 19: Banner advertising



SOURCE: Vrontas (2018)

➤ **Content Marketing**

Content Marketing is used before launching an online business. It can consist of, for instance, before starting the online business, beginning to publish regularly content on a blog, start a You Tube channel and post videos on it, create a Twitter, Facebook, Instagram or Pinterest profile, etc. All this is performed so that the months before of the launching of the online business that are used to prepare for the launch (look for suppliers, program the site, etc.) are taken advantage of and used to activate the online store's profile (Maciá, 2018).

➤ **Offline advertising**

If the company has a sufficient budget, it can use a massive media advertising campaign by employing TV, radio, magazines, newspapers or exterior advertising (billboards) in order to support the launch of a new Website. This will foster a direct traffic at the beginning or many brand searches.

➤ **Opinion leaders**

At the beginning, the firm doesn't have a follower community in social networks, thus, a strategy could be the involvement of opinion leaders in social networks that already have lots of followers and have a great capacity of influence. This involvement is carried out, in most cases, by paying or gifting the opinion leaders products.

The aforementioned Google Ads (PPC), display advertising and offline advertising represent the paid media. If the company attracts little organic traffic (SEO), it has to invest more in Google Ads, display advertising or offline advertising, which have a higher cost of acquisition (CPA).

2. Conversion focused strategies

Throughout the previous point, traffic attraction strategies have been discussed. Thus, **conversion strategies** aim at achieving that the sales or conversions obtained from that traffic are maximal.

Therefore, after the firm attracts visitors to its Website, it then aims to achieve something from them, some sort of value for the company. This can represent the benefit obtained from the sale of a product or even from the advertisement performed.

Moreover, it has to be pointed out that the traffic attraction's objective is conversion. The various **types of conversions** that can be aimed at are: **sale**, **booking** (for example, travel or room bookings), **download** (for instance, an app download), **leads** (there are business models that do not allow the conversion to be completed directly online, this is, there are transactions that require the client to make a previous presential negotiation before the actual conversion, as for example car dealerships that sell new or used cars; in these cases the principle aim of the Website is to achieve potential customers or **leads**).

The conversion strategies include the following ones: usability, conversion rate optimization (CRO), and marketing automation.

➤ Usability

A Website or app is **usable** when its usage is easy and pleasant. A Website or app is usable when they are designed in such a way so that the navigation over the site is easy, the functionalities are not complicated, but mainly, so that the completion of any conversion objectives (buying, booking a room, etc.) is not only simple, but is a satisfactory experience for the user. Therefore, **usability** represents the necessary condition or optimum basis based on which a Website that is conversion-focused can be created. In addition, when the quality of **usability** is present, users don't notice it, however, when it is missing, users get frustrated.

➤ Conversion rate optimization (CRO)

However, usability is not enough for a Website to get good results. A site can achieve a competitive advantage if, in addition to usable, it is **oriented to conversion**. This means that the Website's design has been performed in such a way so that the focus of aspects as the menu, the page's structure and the functionalities that are related to the site's objectives (room's reservation, shopping cart, etc.) is based on **optimizing the conversion rate** (explained below). In order to attain this, several analysis techniques are used to find out which are the best designs (Maciá, 2018).

The **conversion rate** is the relation existing between the visitors that are attracted to the Website and the ones that end up converting themselves (e.g. purchasing something). In other words, it includes how many people end up converting themselves out of all the individuals that make a visit on the Website.

➤ Marketing automation

Usability and the optimization of the conversion rate aim at achieving the maximum amount of conversions. However, in some situations, because of causes that are difficult to determine, it is not possible to prevent the user from abandoning the buying process. An example of those causes could be the fact that when the buyer was purchasing, his phone rang, or he ran out of battery. In these cases, **marketing automation tools** can be employed, which can activate actions that would *recover the sale autonomously*. For instance, in the case that the user had an account in the store, an email with the products that he or she put in the shopping cart could be sent to him or her at the very moment when this customer abandoned the purchase. In this way, it is more probable that this potential customer will be recovered, and a sort of conversion will be obtained.

3. Loyalty focused strategies

When the enterprise has already begun to obtain customers, what should be focusing on is gaining customer loyalty. **Gaining customer loyalty** implies making them to come back repeatedly, making them to buy again and again, or making them subscribe to the information that are interested in. **Permission marketing, mail marketing or permitted e-mail** is one of the most useful tools employed to gain customer loyalty on the Internet (Maciá, 2018). **Permission marketing** is a technique of marketing that sends marketing

or other promotional offers (via email) to customers only with their consent and not by pushing to them (“Permission Marketing,” n.d.).

Moreover, the success of loyalty strategies relies on a well-segmented user-database: the more relevant and personalized the sent-advertising-messages are, there are higher probabilities that the user will open or read the message and end up clicking on one of the links. Here, marketing automation is also helpful in the cumulative gathering of valuable data from each user that can be later utilized in micro-segmentations that are more precise and to send personalized messages.

If the online business expands the number of new visitors through SEO, PPC or banners, then the permission marketing or permitted e-mail is the key to gain the loyalty of existing customers, as well as to increase the frequency of those clients and how much they purchase.

4. Strategies of conversion of the loyal customers into prescribers

Social networks can also be used as a strategy for gaining customer loyalty. The company could communicate to their followers or fans in Facebook new offers or launches. However, the distinctive value that the company’s followers or fans deliver is their influence on the buying decisions of new users.

A purchaser of a product, in most cases, has among its friends or family somebody who has the same taste or hobbies. Thus, when an online business’ follower manifests that he or she likes or shares some content from the company, he or she manifests that to the group of people from his or her environment where it may be a potential customer; moreover, in this case, this follower of the business is a **prescriber** of the product. This has the advantage that this follower is somebody known and trusted by his or her group of friends and family, therefore, they do not consider that his or her opinion is biased. This type of prescription has a great impact on the traffic and the attainment of new customers.

On the other hand, there are two stages that a company performs in its social network activity. First, the aim is to obtain followers. Here, the firm achieves this by employing its resources in order to establish an online community, in other words, to achieve enthusiastic followers that are involved and share the same values as the company. And second, when the business already has a solid online community, it can use it in order to spread its messages, to viralize its content (through influencers for example) and extend the company’s customer base; and it is here when the enterprise begins to attain a return on investment (ROI) (Maciá, 2018).

So far, the media used to support marketing strategies and the objective that it can be reached thanks to them from a customer journey point of view: attraction, conversion, gaining customer loyalty and conversion, have been explained.

Now, the various strategies will be tackled from a different perspective: the way in which their impact is perceived by the recipients. And here two strategies will be described: **inbound marketing** and **outbound marketing**.

➤ **Inbound marketing strategies**

There are individuals that believe that inbound marketing is a synonym of permission marketing, however, according to Fernando Maciá (2018), **inbound marketing** consists of strategies based on email, content marketing, SEM and user micro segmentation as media, whereas permission marketing is linked to strategies that rely mainly on the email as media. Thus, inbound marketing involves more strategies than permission marketing, and it is based on attraction, conversion and gaining customer loyalty strategies. Moreover, it also employs marketing automation tools.

It should be also remarked that **users** usually perceive **inbound marketing** as being **less intrusive** as advertisement, due to the fact that inbound marketing is better aligned with their interests, it doesn't interrupt the navigation of the users or sends too much advertising emails that are not desired.

Own media and **earned media** are the media that are usually linked to **inbound strategies**. **Inbound strategies** are the following ones:

- **“SEO**
- **PPC or SEM**
- **Permission/e-mail marketing**
- **Content marketing”**
- **“Social networks**
- **Viral marketing”**
- **Courses, guidelines, etc.**

➤ **Outbound marketing strategies**

Outbound marketing strategies are those ones that use advertising. It is also known as **interruption marketing** as this advertising is displayed to the users while they are navigating on the Website and it is regarded as intrusive by the users.

Paid media is usually linked to **outbound strategies**.

The **main strategies** of **outbound marketing** are:

- **“Display advertising campaigns**
- **Interstitials**
- **Remarketing**
- **Retargeting**
- **Spots in the content of videos**
- **Advertising campaigns in social networks**
- **Advertising email that is not wanted (spam)”**

From all of this it may seem that outbound strategies are not desirable and only inbound strategies are, however, in order to achieve their objectives, companies usually uses a combination of both of them (Maciá, 2018).

- **The importance of measuring**

A company's plan can end up being successful if the firm monitors it throughout its execution so that it can know whether it is achieving or not the established objectives within the expected deadline and budget. For this, the enterprise should identify its project's **key performance indicators (KPIs)**, the way these KPIs should evolve in order to attain the established goals on time, and whether the company is achieving those goals or not. A **balanced scorecard (BSC)** includes these KPIs, and this BSC is used by the marketing professional to make decisions in order to correct any deviation from the established plan. That is way, the measurement of all that the company does as well as of its results, is crucial.

- **Digital Marketing Plan**

The **digital marketing plan** has already been mentioned in this section of Digital Marketing, and now, what this digital marketing plan is and how it works will be explained.

However, first it should be described what a plan is: a document that includes all the steps required in order to achieve an objective. So, a **digital marketing plan** involves everything that the company will perform online to promote its products or content. Generally, the plan starts by analysing the current situation of the firm, which is not ideal, and then the plan describes the strategy and methods that will be carried out in order to reach the ideal situation on good time. The attainment of the ideal situation with a mix of the strategies that will make the company to be successful with the minimum investment, is the **objective** of the plan (Maciá, 2018).

2.2.2. CONNECTION OF THE MARKETING PROCESS WITH DIGITAL MARKETING AND DIGITAL MARKETING WITH ARTIFICIAL INTELLIGENCE

It has already been mentioned in the subpoint 2.2.1. Digital Marketing, that tools from the traditional marketing as advertising on TV or newspapers, public relations or direct marketing, among others, were used before the creation of the Web in the 90s. However, now, companies invest a great amount in new digital marketing technologies (Maciá, 2018). As explained by Maciá (2018), this does not mean that marketing and the Process of Marketing do not use anymore those traditional marketing tools, but it means, in my opinion, that **the Process of Marketing can be carried out by employing both traditional and digital means and tools, belonging the latter ones to Digital Marketing.**

Moreover, as Kotler & Armstrong (2012) point out, new technologies that have emerged have changed the way in which companies relate to customers. Therefore, I would say that the Process of Marketing should and can adapt to the new environment were people use new technologies such as Web sites, blogs, social networks, email, etc. (and companies also use them to relate to customers) by using Digital Marketing tools and strategies in order to create value and build strong relationships with customers and , in return, capture value from them in a world where technology is heavily utilized by clients.

Now, the connection between Digital Marketing and AI will be mentioned.

It was stated that Google Ads is used in Digital Marketing and, as Maciá (2018) explains in his book *Strategies of Digital Marketing*, Google Ads uses Artificial Intelligence in order to give recommendations to its users. Another illustration is the outbound marketing strategy of retargeting (Maciá, 2018), where Machine Learning is employed to make use of the information about what users have searched on the web or products have viewed in order to remind them about articles or products they may still be interested in buying (Dod, 2019).

These are just some examples of the fact that the **digital means, tools or strategies of Digital marketing can employ Artificial Intelligence.**

According to Kotler et al. (2017), Marketing 4.0 is a method of marketing that is a combination of both online and offline interaction between firms and clients. Marketing 4.0 takes advantage of the connectivity of machine-to-machine and artificial intelligence to enhance marketing productivity (Kotler et al., 2017). Therefore, I would say that **Artificial Intelligence can be employed in the digital field as in Digital Marketing in order to improve the productivity of marketing and deliver better results.**

All in all, I think that the Digital marketing means, tools, media or strategies can make use of Artificial Intelligence and even enhance their productivity with it.

CHAPTER 3: AI IN THE MARKETING PROCESS

Artificial Intelligence has an important role in the marketing field, since it can improve the general Marketing Process which has been described in chapter 2. Furthermore, in this chapter, it will be analyzed how Artificial Intelligence can be employed in the Marketing Process and examples of it will also be given. However, I could not observe that Artificial Intelligence is being used in some activities or subprocesses of the Marketing Process and, as a consequence, I could not provide examples in those cases.

ARTIFICIAL INTELLIGENCE IN THE MARKETING SECTOR

As it has been indicated in the second chapter, **marketing** is a **dynamic** activity or discipline, this means that it is a discipline that changes throughout the time as new technologies appear (Otegui, 2017). As already explained in the previous chapter, when new technologies such as AI develop, marketing should incorporate them to the general Marketing Process in order to improve it.

According to van Hooijdonk (n.d.), AI and specially Machine Learning, is now a fundamental part of numerous industries, within which Marketing is present.

Hence, hereunder, how AI is utilized throughout the Marketing Process will be explicated.

3.1. UNDERSTAND THE MARKETPLACE AND CUSTOMER NEEDS AND WANTS

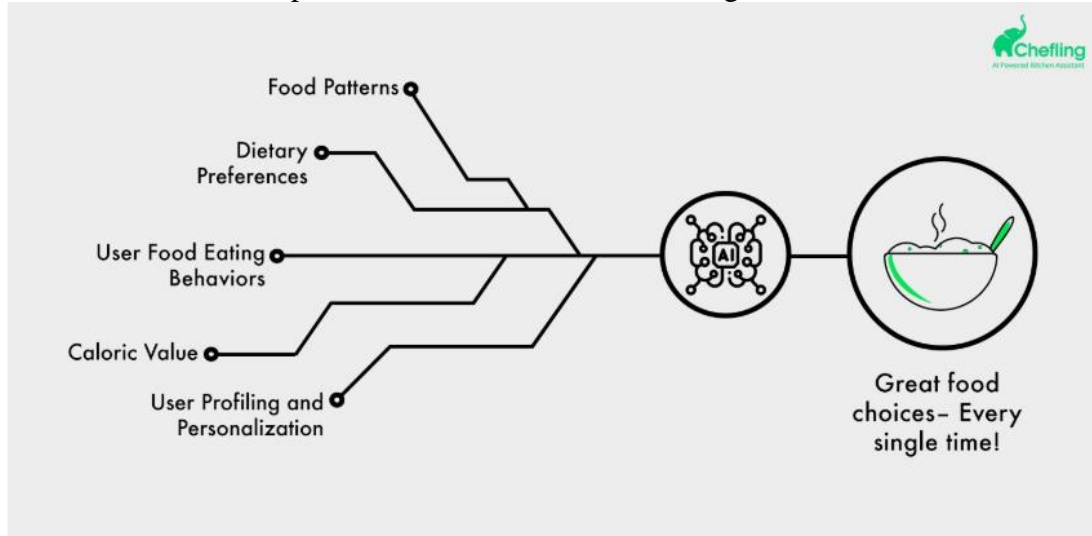
NEEDS, WANTS AND DEMANDS

➤ Needs

○ Physical needs

Individuals may sometimes lack the knowledge to choose the optimum meal, the meal that is the healthiest and like the most among other preferences. Here, AI and machine learning can be used to personalize each meal for every person. For example, *Chefling* (AI powered kitchen assistant) has an AI model that makes it possible to personalize recipes for each individual by learning from individuals and comprehending their food preferences better (Kumar, 2018). Therefore, **physical needs** for food can be better fulfilled by AI as in the case of Chefling. An illustration of this is showed underneath.

FIGURE 20: How AI powered kitchen assistant Chefling works



SOURCE: Kumar (2018)

- **Social needs**

What can satisfy **social needs** can be the social networks (Otegui, 2018). And Artificial Intelligence can support social networks such as Facebook in enhancing the user's experience. Examples of this include: *Facebook* employing AI to study the activity of the users and demographics in order to provide a better user experience; and thanks to AI algorithms, Facebook users can tag one another in a more effective way via face recognition, and find their friends effortlessly by using user location and other data that they provide (Moore, 2019).

- **Individual needs**

Individual needs for knowledge can be covered by AI-powered platforms, which can not only provide knowledge to students, but also make the way of learning more efficient. One example of it is Century Tech.

Schroer (2018 December 3) explains that *Century tech* is an AI platform that combines cognitive neuroscience, data analytics and Artificial Intelligence in order to generate personalized learning plans, decrease the workload of teachers, monitor the progress of students, recognize knowledge gaps and provide study recommendations for each student. The way this platform work can be seen in the following video:



SOURCE: “How CENTURY works” (2019), **URL:**
<https://www.youtube.com/watch?v=1ad3RrNl5Sk>

➤ **Wants**

If an individual **wants** a hamburger, a dress, a guitar, etc., that person can easily get it with almost no effort by using an AI-based device. According to Jarek & Mazurek (2019), an area of AI applied to marketing is voice processing technology and an example of it is *Amazon Alexa App*. As it can be seen in the video below, when a person wants something, he or she can purchase it simply by saying so to Alexa and Alexa will buy it for them.



SOURCE: “Voice Shopping with Alexa” (2016), **URL:**
<https://www.youtube.com/watch?v=mCjvV3iFsuw>

➤ Demands

Companies like Netflix, Amazon or Facebook use recommendation engines or systems, which are systems that filter data and upload it in a customized way to the users based on their interests, preferences or behavioral history on an object or article; this engine can forecast the concrete preference of a user on an object based on his or her profile. Examples are: on *Netflix* “Other movies you may enjoy” (“Understanding basics,” n.d., para. 1), on *Amazon* “Customers who bought this item also bought...” (“Understanding basics,” n.d., para. 1), or on *Facebook* “People you may know” (“Understanding basics,” n.d., para. 1). Here, Artificial Intelligence makes it possible for recommendation engines to give fast and exact recommendations, which are customized to each client’s needs and preferences (“Understanding basics,” n.d.).

Thus, I would say that these recommendation engines offer customers products tailored to their interests and preference, which, compared to offering random products not related to their interests, increases the demand. For example, when a client looks on Amazon and has acquisition power and a personalized product recommendation is suggested to the customer, there is a higher probability that the client will want and buy that product than one randomly taken from the company’s offering.

In order not to repeat the same information twice, some information from this first step of the Marketing Process can be also found in other steps, as it is indicated below.

How AI is used for products, services, experiences can be seen in the section 3. construct an integrated marketing program that delivers superior value. The way AI is employed for customer value and satisfaction as well as the usage of it for relationships is outlined through the point 4. build profitable relationships and create customer delight.

As it has been mentioned in chapter 2, for the first step of the Marketing Process companies must gain insight into what customers need and want, this is, they must find out what are the clients' needs and wants. And to achieve this, firms can make use of the Marketing Information System (**MIS**) (Kotler & Armstrong, 2012). Here, the presence of **Artificial Intelligence** can be spotted in **marketing research**.

MARKETING RESEARCH

The application of AI is not present in the first step of the Marketing Research, which is **Defining the problem and research objectives** nor in the **creation/development of the research plan**, but in the steps of **implementing the research plan** and **interpreting and reporting the findings**, as it will be remarked.

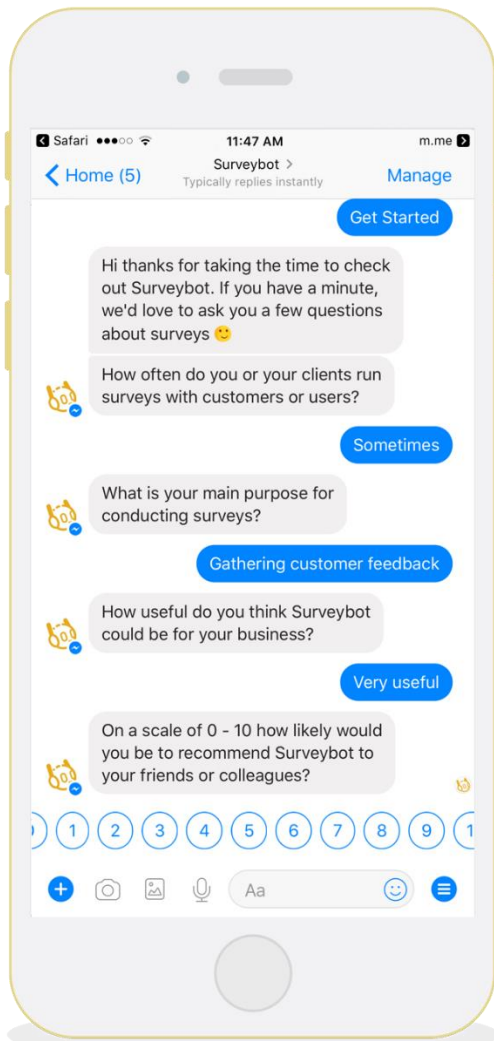
Implementing the research plan

First, the process starts with collecting **secondary data** and then **primary data** (Kotler & Armstrong, 2012). In any case, according to Smith (2019), data can also be gathered using *chatbots*, since thanks to AI they can request information from the people they interact with and are able to even ask for data without any intervention from human beings. Another way of data collection are *online surveys* driven by AI, which have the ability to adapt and react to aspects such as sentiment and context in order to find out how to reply and when to pose more questions.

For the collection of **primary data**, a plan has to be designed, for which, in turn, some decisions must be taken related to *research approaches, contact methods, the sampling plan* and *research instruments* (Kotler & Armstrong, 2012).

The **research approach** that is used the most for data collection is **survey research** (Kotler & Armstrong, 2012). Here, in my opinion, Artificial Intelligence can help again through the aforementioned AI-based *chatbots* and *online surveys*. These two tools can make questions to people about aspects as preferences and buying behavior in order to gather primary data. Underneath an example of a chatbot requesting information can be observed:

FIGURE 21: Survey performed by a chatbot



SOURCE: “Chatbots are the new way of survey” (n.d.)

Contact methods can also employ AI. For instance, **personal or online interview** and **online marketing** research that help to collect primary data can also be performed via AI-based *chatbots* or *online surveys*. Moreover, Artificial Intelligence can also be utilized for **mail**, which is another contact method. In this latter case, according to George (n.d.), the way AI improves e-mailing is in that it makes it possible to personalize the content of the message and send autonomously the right message for each appropriate audience at the right time. Therefore, I would say that these *AI-based emails* are more beneficial for the company than traditional emails since there will be a bigger chance that the audience will open the AI-based mails and answer to the questions since the content is more in line with their interests.

Regarding the **sampling plan**, I have not detected any evidence of Artificial Intelligence being used for the sampling plan.

According to Kotler & Armstrong (2012), the generally utilized **research instrument** is the **questionnaire**, which, as explained in the previous chapter, can be performed by email or online, among others. For the **questionnaire by email**, the *AI-based email* can be implemented, and for the **online questionnaire**, *chatbots* that use AI can be put into practice.

Nevertheless, I find it important to stress that I think that **Artificial Intelligence** is not only useful to collect and analyze new information, this is, **primary data**, but also Machine Learning, subfield of AI, can be used to analyze and learn from already existing data, this is **secondary data**.

The **implementation of the research plan** implies not only collecting the data, but also processing and analyzing it (Kotler & Armstrong, 2012). For example, KAI is a conversational AI platform that operates with virtual assistants and intelligent robots. In addition to this, KAI has also a deep-learning analytical combination of tools that make it possible to collect and analyze data (“Top 15 Artificial...,” n.d.). Therefore, AI can also be used for data analysis and not only to collect the information.

Apart from this, according to Boisseau & Wilson (2019), when there are large quantities of data, the patterns can be discovered and comprehended through Artificial Intelligence. This opinion is reinforced by Hunter (2018 June 5), who asserts that Deep Learning can “extract meaningful patterns from large datasets for decision making” (para. 8). I agree with them since in the first chapter, Machine Learning has been said to use algorithms in order to analyze and assess big volumes of data, identify patterns and based on those patterns, decide or predict (Shadle, 2019). And Deep Learning, which is a subfield of ML (“Five AI technologies that you need to know...,” 2019) has been said to “learn complex patterns in large amounts of data” (“Artificial Intelligence: What it is...,” 2019, para. 35).

Therefore, I conclude that *Machine Learning*, which is a subfield of AI and includes Deep Learning, can be employed in the step of marketing research process of **implementing the research plan**, and also in **interpreting and reporting the findings**. In the **implementation** step it can collect data; analyze and assess the data that the researchers have collected, this is primary data, or already existing data, this is, secondary data, or data that the company may have collected in their internal databases or through marketing intelligence. As for the **interpreting** step, ML with the help of Deep Learning, can identify patterns in the data that has been collected, and based on them, it can decide or predict, this is, ML can help researchers to interpret the information and even make predictions based on that information.

3.2. DESIGN A CUSTOMER-DRIVEN MARKETING STRATEGY

Artificial Intelligence can also help in the process of designing a customer-driven marketing strategy, as it is present in its four main steps.

- **Market segmentation**

Artificial Intelligence makes the customer data to be analyzed more in detail in order to create more detailed and targeted segments. Moreover, the usage of AI to create customer segments is more advantageous than when it is performed manually, since human bias is eliminated, when there is a change in the marketplace AI auto-updates the segments, AI makes it possible to have practically illimitable numbers and sizes of segments, etc. (“How to use AI to improve...,” 2019). As a consequence, I think that not only can AI be employed in market segmentation, but it can also improve the process of segmentation.

One example is *AgilOne*, which supports companies at precisely segmenting their customers to attain more efficient marketing (Mejia, 2018). According to Mejia (2018),

its software is based on a Machine Learning model, and this ML model is trained on data from customer segments and thanks to this training the ML algorithm can detect which data is related to more concrete subsets of clients, which can result in a new segment.

- **Market targeting**

How AI can be used in market targeting will be explained through an example by using *uDiscover*.

uDiscover is an engine that utilizes Artificial Intelligence to precisely target customers. *uDiscover* analyzes very large amounts of data in order to find out who the company should target in its campaign and to decrease the dependence on the intuition of human beings as well as on analytical models that are difficult to manage or require to spend too much time (“*uDiscover*,” n.d.). Concluding, Artificial Intelligence can also be used for market targeting.

- **Differentiation and positioning**

According to Kotler & Armstrong (2012), the task of **differentiation and positioning** is composed by three steps, which are mentioned next together with the role of AI in each of them:

1. Identifying possible competitive advantages

When the company differentiates and positions itself as delivering higher customer value, it obtains **competitive advantage** (Kotler & Armstrong, 2012). The company can provide superior customer value by employing AI.

According to Hamilton (2019), in a research carried out by Epsilon, it was discovered that “eight in 10 consumers are more likely to purchase from brands that offer personalized experiences” (Hamilton, 2019, para. 1). On the other hand, machines can be utilized to examine how, when, and what clients purchase, and based on this, what each buyer wants can be predicted by firms.

For instance, as it has already been mentioned in this chapter, *Amazon* makes use of a recommendation engine. Moreover, about 35% of the online revenue of the company is possible thanks to this engine. Thanks to this recommendation engine, clients have experienced customized online shopping experiences. Furthermore, not only does AI recommend similar products, but, for example in the case of British fashion retailer *Asos*, it helps customers to select their perfect size based on which articles they keep and on which they return. The Fit Assistant of *Asos* relies on Fit Analytics, which employs machine learning to make millions of recommendations on a month on sizes (Hamilton, 2019).

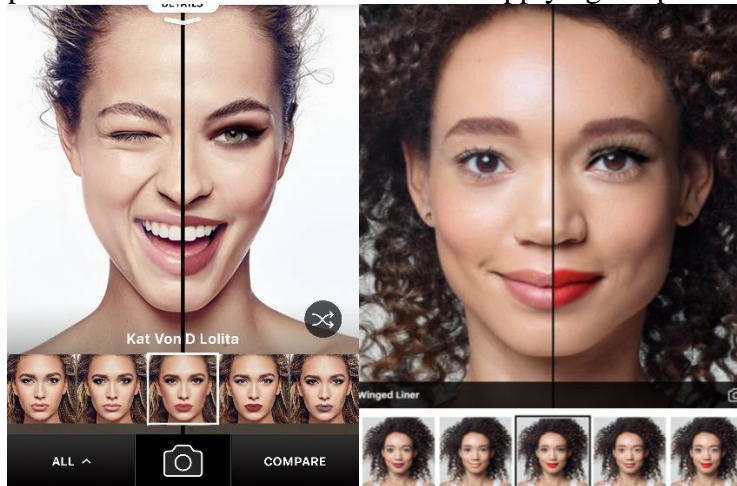
All in all, I think that a company can obtain a **competitive advantage** through the **personalization** that **AI** makes possible by predicting what each customer will desire to buy and therefore make personalized recommendations. As I have already explained, ML, subfield of AI, can be used to find patterns in the data and make predictions (Shadle, 2019).

Moreover, Hamilton (2019) asserts that personalization is based on big data, which is almost impossible to analyze manually, therefore, AI should be used for such an aim.

Another illustration of personalization fueled by AI, that can also represent a **competitive advantage** is the following one from *Sephora*.

According to Thiel (n.d.), personalization can also be observed through the *Sephora's virtual artist*. Visitors can use this virtual artist on the website or app, and this technology enables users to test various types of cosmetic products in order to match the tone of their skin. Sephora's virtual artist is powered by AI and thanks to it, it recognizes facial features and is able to apply the product to the face of the person. What is more, the virtual artist is connected to the inventory of Sephora, and enabled by AI, can make instantly personal recommendations. Here, I would say that personalization is carried out by applying cosmetics in a customized way to each client and in making individual recommendations to them.

IMAGES 7 & 8: in both images it can be seen how Sephora's virtual artist works on faces, and in the picture on the left, it can be observed that this virtual artist works even when the face is in movement; in addition, in both pictures the image is divided in two parts so that the face before and after applying the products can be discerned.



SOURCE: Sephora (2017) **SOURCE:** "Looks" (n.d.)

2. Choosing the right competitive advantage

➤ How many differences to promote

Firms have to decide whether to promote one or more benefits or differentiators of the product (Kotler & Armstrong, 2012). I believe that this decision has to be done by human beings, and AI cannot help here, since here the human rationale has to be used.

➤ Which difference to promote

Considering the example of Sephora's virtual artist, I would say that the **difference** representing the tool of Sephora is worth promoting because it is:

- *Important:* the possibility, enabled by AI, of having the cosmetic products applied to your face instantly without having to go to the shop or to actually perform it, is important for customers.
- *Distinctive:* other competitors such as Douglas do not offer a virtual assistant, which I have checked it myself.

- *Communicable*: Sephora's virtual artist is truly visible on Internet since there are many articles, pictures and YouTube videos about it.
- *Preemptive*: this tool cannot be easily copied since you need the AI technology for it, which is a complex one.
- *Affordable*: Sephora's virtual artist can be used by anybody for free.

3. Selecting an overall positioning strategy

As depicted in the previous chapter, companies have to choose on which value proposition will position their products (Kotler & Armstrong, 2012).

The winning value proposition where AI is present are:

-More for more positioning

Skillshare is an eLearning platform that uses videos and class projects and not AI (Ann, 2018). Moreover, on its website you can start with a free month after which you can choose to either pay 6,99€/month or 14€/month ("*Skillshare*," n.d.).

Knewton is also an eLearning platform that has a program known as *alta* which uses AI to provide an adaptive learning technology (Schroer, 2018 December 3). Users also have to pay for *alta*. Its price is \$39.95 ("Start where you are...," n.d.).

Here, *Knewton* and its *alta* program has a more for more positioning since it offers more through its AI powered adaptive learning technology, and as a consequence, it has a higher price.

-More for less positioning

Coursera is an open online course MOOC which also uses Artificial Intelligence (Bachinskiy, 2019). In addition, according to Shal (2018), the courses that *Coursera* provides are free unless you want to obtain a certificate.

I would say that *Coursera* also offers more as *Knewton* does, in comparison to *Skillshare*; however, compared to *Knewton*, *Coursera* offers more for free, which implies that here the positioning of *Coursera* would be more for less.

-More for the same positioning

However, I believe that, in the case that a customer will want to do a course at *Coursera* and obtain a certificate, the customer will have to pay, and if it is compared only with *Skillshare*, the positioning of *Coursera* would be more for same, providing the price is the same.

-The same for less positioning

Considering *Coursera* again, but from the point of view of *Knewton*, I could remark that *Coursera* would have a same for less positioning, because both utilize AI technology, but *Coursera* offers free courses.

Differentiation: I believe that the company can employ AI in order to differentiate its offering.

Positioning: I think that the aforementioned personalization that for example *Sephora* uses can be used by the firm to position its offering in the mind of target customers.

3.3. CONSTRUCT AN INTERGATED MARKETING PROGRAM THAT DELIVERS SUPERIOR VALUE

Now, it will be analyzed how AI can be used within the **marketing mix**, this is throughout the four **Ps**, which according to Kotler & Armstrong (2012) are **product, price, place and promotion**.

- **Product**

- Products can be classified in **consumer products** and **industrial products** (Kotler & Armstrong, 2012).

1. **Consumer products**

Amazon Go is a store with no cashier or self-service checkout, the clients just enter the store, take the products that they need and leave. First, the client installs an App and logs in with his or hers Amazon account, then the customer enters the store and at the door, before passing the gleaming turnstile, he or she has to scan his or hers personal barcode from the app. Inside, there are hundreds of cameras that monitor everything that the customer puts in the basket and thanks to which Amazon knows which client took what product. Packages have a code which is read by the software and so it knows which product the consumer has selected. Moreover, weight sensors detect when a product is taken away and when it is returned to the shelf. When the buyer gets out and passes through the turnstile, his or her credit card is billed by Amazon and later the customer receives a receipt on the app.

The several Amazon Go stores that are in the USA use sophisticated image recognition software and Artificial Intelligence (McFarland, 2018). The way Amazon Go works can be visualized in the next video.



SOURCE: “Introducing Amazon Go and...” (2016), **URL:** <https://www.youtube.com/watch?v=NrmMk1Myrxc>

Therefore, in my opinion, products that final customers purchase for their personal consumption, which is what consumer products are according to Kotler & Armstrong (2012), can be bought in an innovative way and quicker at Amazon Go stores, and all this thanks to Artificial Intelligence.

2. Industrial products

Peak is a company that offers services to businesses. Its Peak AI system makes it possible to introduce AI across many business functions such as Marketing, Merchandising, Supply Chain, Finance, etc., and therefore AI can be used to make enhancements throughout the whole firm (“Peak AI System,” n.d.).

Thus, Peak sells industrial products in the form of AI-based services to other companies and these companies buy them in order to better manage their businesses.

-Services Marketing

In terms of **services**, as for example finance and banking, AI is used, in the form of deep learning, in the service provided by *Alpaca*, which consists of providing “short and long-term forecasting applications” (Schroer, 2019 May 23, para. 36), which help to enhance predictions in financial markets and manage risk (Schroer, 2019 May 23).

-Experiences

As indicated in chapter 2, products also include **experiences** (Kotler & Armstrong, 2012).

From my point of view, examples already mentioned like *Amazon Go*, *Sephora's virtual artist*, and the recommendation engines of Amazon, all of them improve the customer's experiences thanks to Artificial Intelligence.

In the case of Amazon Go, there are no cashiers and the client just enters the store, takes what he or she needs and leaves, making buying super easy and quick, which improves the experience of the customer.

According to Thiel (n.d.), the role of AI in creating experiences is important since it makes prediction and personalization to be feasible. Thus, I would say that the recommendations engines of Amazon, thanks to the AI-powered prediction and recommendations, can improve customer experience by providing products more similar to the client's taste.

Regarding Sephora, Cheung (2019) argues that thanks to the AI technology that Sephora uses in Sephora's virtual artist, it transforms the manner in which its clients purchase. I agree since I think that thanks to this tool, consumers can test their products without having to go to the store or even actually trying the cosmetics on and can buy them immediately, which enhances their experience.

Those are concrete examples, however, in general, it can be remarked that, as stated by Dod (2019), the main applications of Machine Learning and AI utilized to enhance the customer or user experience are chatbots, personalization, high-quality recommendations, among others.

- **Price**

Considering price, companies can use **dynamic pricing**, which relies on AI and Machine Learning in order to reprice products or adjust prices in an autonomous way.

The engine of **dynamic pricing** mixes data from competitors and customers in order to calculate the appropriate prices in accordance with the strategies created to achieve the objectives of the company ("Optimize thousands of prices..." n.d.).

A concrete example of how it works can be observed in the following figure.

FIGURE 22: One example of how dynamic pricing functions



SOURCE: "Optimize thousands of prices..." (n.d.)

A real-world example is the dynamic pricing solution *Perfect price*, which uses Artificial Intelligence in order to help businesses, as for instance car rental firms, to do dynamic pricing (de Jesus, 2019).

- **Place**

Different channel levels can be employed so that products and services are made available to consumers (Kotler & Armstrong, 2012).

As an example, I picked *Lidl* to show how it uses AI for the **channel 2**, which involves a **retailer** according to Kotler & Armstrong (2012).

Lidl UK is a retailer that has partnered with Aspect Software to create an autonomous Facebook Messenger chatbot that utilizes AI in order to help customers in the UK to choose the best wine for their meal or moment. The name of the chatbot is *Margot* (“Lidl UK launches AI wine...,” 2018).

AI can also be applied to **marketing logistics**. In fact, in the logistics area, with the help of Artificial Intelligence, companies have better capabilities that improve operations. One example is the employment of AI to calculate the rapidest routes, which has a double benefit: it improves productivity and decreases the costs of transportation (“Impact of Artificial...,” n.d.).

A real-life illustration is the company *UPS*, which “uses AI to create the most efficient routes for its fleet” (Morgan, 2018, para. 5). More specifically, the firm utilizes a GPS tool that works with Artificial Intelligence and is called *ORION* (On-road Integrated Optimization and Navigation) and this AI-based tool makes it possible to generate the routes that are the most efficient for the company’s fleet (Morgan, 2018).

- **Promotion**

The utilization of AI through the **promotion tools** is explained below.

- **Advertising**

One way that AI can be used in advertising is for the collection of information about how consumers interact with advertising, and with that data generate insights, which are used by AI to improve the campaigns of the enterprise and their performance.

For instance, *Albert* is an AI-based platform that evaluates the data from a company’s ad accounts and client databases, and next, using Machine Learning, it can “target, run and optimize” (Kaput, 2019, para. 37) the ad campaign of that firm (Kaput, 2019).

Another way is through *programmatic advertising*. Programmatic advertising is a system that is based on auctions and makes it possible to autonomously purchase and sell advertising space. Here, AI can be employed by both advertisers, who are the ones that buy ad space, and publishers, who are the ones that sell ad space, in order to optimize the outcomes they achieve through programmatic advertising (“AI in Programmatic Advertising: everything...,” n.d.).

- **Sales promotion**

For example, *Pace* is a company that has a ML-powered software that supports the management of hotels in finding the prices that matches supply and demand. Moreover, thanks to this software, the hotels can offer the price that clients want to pay taking into account their demographics, the seasonality or time of the year, etc. (de Jesus, 2019).

Therefore, in my opinion, this ML-powered software can be used with a hotel based closed to the beach for example, in order to offer **discounts** to clients in winter, since there are not as many people coming as in summer, or in any other situation where the hotel wants to attract more clients.

➤ **Personal selling**

Personal selling includes **tradeshows** (Kotler & Armstrong, 2012). The use of AI in trade shows can be observed through the following example.

IBM's *World-of-Watson (WOW)* is a technology that uses AI and was used in a tradeshow. The aim of WOW was attracting 50% of the attendees of a conference to a private tradeshow. The strategy that was employed consisted of separating the tradeshow into individual zones that displayed examples of how real firms used Watson to reduce costs, enhance sales or products. Thanks to the support of AI in this tradeshow, this latter was successful in that out of the 20,000 visitors of the conference, 17,000 attended the tradeshow and 15,000 were converted into leads (Baur, n.d.).

➤ **Public relations (PR)**

The situation today in **PR** companies is that they have too many consumer data and do not fully take advantage of it. Here is where AI will help PR companies as it will analyze this data to discover the behavioral patterns of consumers. Thanks to the insights on consumer behavior that PR companies gain, they can recommend to their customers to convey more targeted messages (Afzal, 2018).

➤ **Direct marketing**

I believe that AI-based *chatbots* and *personalized direct emails* powered also by AI can be used in order to initiate or establish direct connections with individual customers.

3.4. BUILD PROFITABLE RELATIONSHIPS AND CREATE CUSTOMER DELIGHT

Artificial Intelligence can also help to build profitable relationships and create customer delight, as it will be observed.

- **Customer Relationship Management (CRM)**

Customer relationship management and **AI** can be combined, which leads to the benefit that AI can analyze all that data that CRM has access to (e.g. information about prospects, customers and companies, etc.), and based on all the information the system has gathered about a customer or prospect, clever recommendations about that person can be provided by AI (Chipman, 2018). According to Ilyas (2019), a prospect is a potential customer that has showed interest in the products of the company.

Moreover, Chipman (2018) points out that an example of a CRM company that has integrated AI is *Salesforce*. Salesforce has an AI-powered tool denominated *Einstein*, which employs AI to predict and give recommendations taking into account the firm's unique business process and client data. In addition, Einstein can be incorporated into every aspect of the CRM platform of Salesforce.

According to Kotler & Armstrong (2012), CRM revolves around building profitable customer relationships, which can be achieved by delivering superior customer value and satisfaction. How companies that use AI generate superior customer value and satisfaction is explained below.

Customer value. The **customer-perceived value** was described in the previous chapter, and here I will showcase what the customer-perceived value of some companies that use AI could be from my point of view.

- **Century:** more personalized and efficient learning for students as well as support for teachers.
- **Sephora** (visual artist): customer convenience and personalization since the customer can try the products through the visual artist from home and receives personal recommendations and can also purchase the cosmetics directly from home.
- **Amazon Go:** brand new way of buying which is quicker and easier.

In conclusion, the customer-perceived value in these cases is higher thanks to Artificial Intelligence and superior customer value is delivered.

Customer satisfaction. Now, using the examples from above, I will reveal in each case on what the extent of customer satisfaction will rely. Moreover, I believe that these companies can achieve customer satisfaction if they surpass customers' expectations with their products.

- **Century:** whether the student gets better results at studying or improves his or her learning and the teacher has a not that heavy amount of work.
- **Sephora:** whether the products that the client has tried on the visual artist and ends up buying look the same or very similar on the customer's face as they did on the Sephora's visual artist, and whether the recommendations received are in line with the taste of the customer.
- **Amazon Go:** whether the technologies of the store work well (the scanning of the barcode, the payment is done right, etc.) so that the buying experience of the customer is quick, easy and seamless.

If the companies fulfil these conditions, superior customer value and satisfaction will be delivered to customers.

- **The changing nature of customer relationships**

1. Relating with more carefully selected customers

As Kotler & Armstrong (2012) explain, nowadays companies want to target the fewer customers that are the most profitable.

Emarsys is a marketing AI company that employs Machine Learning in order to create personalized content and messages for customers. *Emarsys* was utilized by the retailer *Toys R Us* in order to send highly targeted emails, which contained more personalized messages, to concrete customer segments (Kaput, 2017).

From this example, I draw the conclusion that companies can use AI to send highly targeted and personalized emails to specific customer segments, which represent the fewer clients that are the most profitable.

2. Relating more deeply and interactively

In order to relate with selected customers in a deeper and more meaningful way, companies can use new technologies such as the e-mail, Web sites, etc. (Kotler & Armstrong, 2012). Other new technologies that have appeared and are powered by AI can also be very helpful at relating with customers in a deeper and more interactive way.

One example of this can be the AI-based chatbot of Sephora, which enables the company to relate with their clients in a more conversational environment (“Chatbots in retail...,” 2018). Through this chatbot and the use of visual search AI, the company created a function of the chatbot that matched the color existing in a image provided by the client to one product from Sephora. Moreover, Sephora’s chatbot can give product recommendations, feedback, the customer can buy a product and can even book a makeover (“The most inspiring...,” 2019).

Therefore, in my opinion, a company, like for instance Sephora, could use a marketing AI company like Emarsys to send targeted and personalized emails to concrete customer segments, being these the most profitable ones. In the case of Sephora, they could be females that work and therefore have a good buying power since Sephora’s products are not cheap. All in all, Sephora could carefully select these customers and then relate in a deep and interactive way with them by for example using the aforementioned Sephora chatbot or even the Sephora’s virtual artist, that has already been explained.

- **Partner Relationship Management**

Sales Cloud PRM or Partner Relationship Management is a tool of the Salesforce company that supports businesses at managing their partner relationships (“Get to know Sales Cloud PRM,” n.d.). This Salesforce PRM platform has been upgraded with Artificial Intelligence and self-reporting capabilities in July 2019. This upgrade makes it possible for channel managers to optimize the engagement of partners (Tsidulko, 2019). This example shows that AI can also be employed in the management of partner relationships and even be used for its optimization.

3.5. CAPTURE VALUE FROM CUSTOMERS TO CREATE PROFITS AND CUSTOMER EQUITY

Finally, through this final step can be noted that Artificial Intelligence applications can help the business in capturing value from clients in return in the form of loyal customers.

- **Creating customer loyalty and retention**

If the customer’s experience with the company is excellent, there is a high probability that that client will **return** in the future (Dod, 2019). Furthermore, if the experience is indeed excellent, the customer will be delighted and satisfied, which implies that he or she can become **loyal**. In addition, according to Kotler & Armstrong (2012), when a

customer is delighted, he or she begins to have an emotional relationship with the brand, which makes them to **return** to the brand.

In this scenario, I believe that Artificial Intelligence can make customer experiences to be excellent and therefore, delight customers so that they become loyal and return again and again to the brand. The way AI can achieve this, as Dod (2019) claims, is mainly through the following AI-applications, among others:

- **Chatbots:** they can be used to solve customers' problems or answer their questions; connect customers with the business easily and fast eliminating therefore the long waits for an email or having to call a service line; they can provide personalized suggestions; or even be used to send discounts or coupon codes.
- **Personalization:** personalization is very helpful at engaging with clients. Online companies can leverage AI technology in order to send personalized emails to users that visited the website or bought something from the firm based on the way that the customers interacted with the Website.
- **Recommendations.** Taking into account the information of customers, personalization can be taken further and generate recommendations. This leads to better consumer experience and client delight since, according to a study of the Retail Industry Leader Association, the majority of buyers enjoy or have interest in being given personalized recommendations.
- **Predict consumer behavior:** thanks to AI, companies can gain consumer insights and understand the wants and needs of their target market. This better understanding of customers enabled by AI improves the experience of customers and makes them to be more delighted since the company is better capable to market to them thanks to the aforementioned understanding (Dod, 2019).

Some examples of these AI-applications can be found throughout this chapter: AI-based chatbot of Sephora ("Chatbots in retail..." 2018), AI-based emails for personalization (George, n.d.), or the recommendation engines of Amazon, Netflix or Facebook ("Understanding basics," n.d.).

- **Growing share of customer**

The **share of customer** can be increased by creating programs in order to sell more to clients that already exist, as Kotler & Armstrong (2012) point out. The illustration that Kotler & Armstrong (2012) give is Amazon.com. Indeed, according to Hamilton (2019), Amazon has a recommendation engine powered by Artificial Intelligence, and this recommendation system has an influence on about 30% of the sales (Kotler & Armstrong, 2012).

The customers that the company has can be classified depending on their potential profitability. From this classification, different groups can emerge, and each of them requires a distinct relationship management strategy (Kotler & Armstrong, 2012). However, the main objective is to establish the "right relationships with the right customers" (Kotler & Armstrong, 2012, p. 22).

All in all, I would say that the incorporation and application of **Artificial Intelligence** in the **Marketing Process** can improve the **five steps** of this process.

In the first step, **understand the marketplace and customer needs and wants**, AI can better and more efficaciously fulfil customer *needs, wants* and *demands*. Regarding *marketing research* AI can be employed in *implementing the research plan* to collect primary data and to process and analyze primary or secondary data. Moreover, also considering marketing research, AI can be also used in the *interpreting and reporting the findings* step in order to help researchers interpret the information and even make predictions based on that information.

In the second step, **design a customer-driven marketing strategy**, AI can improve and make more efficient the processes of *segmentation* and *market targeting*. In terms of *differentiation and positioning*, AI can be used to differentiate the offering of the company and to position it in the mind of target customers thanks to, for example, the personalization that Sephora's visual artist uses.

In the third step, **construct an integrated marketing program that delivers superior value**, AI can be applied to and even enhance the four Ps: for the *product*, it can make, for example, the purchase of *consumer products* more innovative, seamless and faster; for the *price*, AI-based dynamic pricing can be utilized in order to automatize repricing or price adjustment; for the *place*, one illustration is that AI is used to improve the operations of marketing logistics; and for *promotion*, AI has also many applications as for example the optimization of ad campaigns.

In the fourth step, **build profitable relationships and create customer delight**, AI makes it possible for companies to generate *higher customer-perceived value* and to deliver *superior customer value and satisfaction*. AI can also be employed to relate with customers that are *selected more carefully* in a *deeper and more interactive* way. And AI is also useful in *partner relationship management* as it can optimize the engagement of partners.

In the fifth step, **capture value from customers to create profits and customer equity**, applications of Artificial Intelligence can delight customers so that they become *loyal* and *return* again and again to the brand, and AI can also be utilized to increase *the share of customer*.

CONCLUSIONS, PERSONAL EVALUATION AND FUTURE LINES OF RESEARCH

Marketing field is a dynamic field which changes throughout the time as new technologies appear. As a consequence, I believe that it should incorporate technologies like Artificial Intelligence and Digital Marketing, which, although not new, have resurged nowadays and are employed more and more. This incorporation requires to understand the relationship that exists among marketing, the marketing process, digital marketing and AI.

Therefore, the existing relationship among marketing as a philosophy (philosophy of marketing), the marketing process, digital marketing and AI is proved through the following conclusions.

MARKETING PROCESS AS AN APPLICATION OF THE PHILOSOPHY OF MARKETING

The Marketing Process is an application of the philosophy of marketing due to various reasons. Firstly, because the definition of the philosophy of marketing is applied in the Process of Marketing throughout its five steps. This is, the theory and therefore all the concepts, tools, instruments and strategies behind the philosophy of marketing are put into practice throughout the Process of Marketing. And secondly, based on the fact that marketing is a philosophy that deals with how the company should perceive the exchange relationship, which involves to begin by understanding the needs and wants of the customers and ensuring that these needs and wants are satisfied in the most beneficial way for both the clients and the company (Santesmases, 2012), the philosophy of marketing can be put into practice throughout the Marketing Process so that companies can create value for customers, build strong relationships with them and capture value from them.

CONNECTION OF THE MARKETING PROCESS WITH DIGITAL MARKETING

The Process of Marketing can be carried out not only by utilizing traditional means, tools and strategies, but also by using digital tools and strategies from Digital Marketing. In addition, the Process of Marketing should also incorporate Digital Marketing because in this way it can adapt to the current environment where people use technologies very much and, by doing so, it can create value for clients and capture value from them in this environment.

CONNECTION OF DIGITAL MARKETING WITH ARTIFICIAL INTELLIGENCE

The digital means, tools or strategies of Digital Marketing can make use of Artificial Intelligence as noticed in the examples of Google Ads or retargeting. Moreover, by using and applying AI to Digital Marketing, the productivity of marketing can be improved, and better results are attained.

In addition, the presence of Artificial Intelligence in all five steps of the Marketing Process as well as its application to this process to create value is demonstrated through the following conclusions that go through the five steps of the Process of Marketing.

FIRST STEP: UNDERSTAND THE MARKETPLACE AND CUSTOMER NEEDS AND WANTS

Regarding **needs**, AI can better fulfill *physical needs*, as the physical needs for food better fulfilled with Chefling; *social needs* can be better satisfied through the AI-enhanced user's experience on social networks; and *individual needs* such as the ones for knowledge can be covered by AI-based platforms which can even make the form of learning more efficient.

Wants can be effortlessly fulfilled by devices powered by AI such as Amazon Alexa. AI is also very efficient at satisfying and even increasing **demands**, for example through the recommendation engines that use AI to give individual fast and exact recommendations.

AI can also be employed in two steps of the **marketing research**. First, AI can be applied in the *implementation of the research plan* in order to collect primary data and to process and analyze primary or secondary data. To collect data, AI-based chatbots can be used, which can interact with people and collect data from them by even asking questions autonomously. And in order to analyze data apart from collecting it, the KAI conversational AI platform for the analysis of primary or secondary data can be put in practice. Second, Artificial Intelligence can also be employed in the *interpreting and reporting the findings step* to support researchers in the interpretation of the information and, thanks to Machine Learning, it can also make predictions based on that information.

SECOND STEP: DESIGN A CUSTOMER-DRIVEN MARKETING STRATEGY

Artificial Intelligence can be applied to **market segmentation** and even enhance segmentation since AI enables to eliminate human bias, AI auto-updates the segments when there is a change in the marketplace, etc. For example, AgilOne, which uses Machine Learning, is used to precisely segment customers in order to obtain more efficient marketing.

Market targeting can also benefit from AI, as AI can help to target customers more precisely as in the example of uDiscover, which it is an enhancement.

Companies like Sephora through its virtual artist, can also use the personalization that AI makes possible in order to **differentiate** their offerings and to **position** those offerings in the mind of target customers. In the Sephora's case, the personalization, that is enabled by AI, that the virtual artist uses can make this possible. Other examples are Asos or Amazon, which use personalization in the form of personalized recommendations powered by AI which can be employed to differentiate and position the offering of each company in the target customers' mind.

THIRD STEP: CONSTRUCT AN INTEGRATED MARKETING PROGRAM THAT DELIVERS SUPERIOR VALUE

The **product** tool can make use of AI and even be improved thanks to Artificial Intelligence:

- **Consumer products** can be purchased in a more innovative, seamless and quicker manner thanks to AI as observed in the example of the Amazon Go store.
- **Industrial products** such as the Peak AI system are enabled through AI to make enhancement through the whole firm.
- **Services** based on AI as Alpaca can make use of Artificial Intelligence to enhance predictions in financial markets and manage risk.
- **Experiences** can also be enriched through Artificial Intelligence by using applications of AI such as chatbots, personalization enabled by Sephora's virtual artist or high-quality recommendations as the ones provided by Amazon.

Price. Dynamic pricing, which uses AI, can be used by companies to automatize the repricing of products or the adjustment of the prices, which represents an enhancement in pricing compared to pricing that is done manually.

Regarding **place**, AI can also be used for this tool, as for example for the *channel 2* where Lidl uses the AI-based chatbot denominated Margot. In addition, AI can be applied to *marketing logistics* as well, where AI can improve operations and create the routes that are the most efficient for the company's fleet as UPS does with its GPS tool that functions with AI.

Artificial Intelligence is also utilized in the **promotion** tool, and more specifically in all the five promotion tools:

- **Advertising:** AI can be employed here to enhance the campaigns of the firm and their performance as for instance the Albert platform that can optimize companies' ad campaigns thanks to AI. In addition, AI can also optimize the results achieved through programmatic advertising.
- **Sales promotion:** in the example of Pace, its software that uses AI can offer *discounts* to customers in those situations when hotels want to attract more clients as in winter for a hotel based near the beach.
- **Personal selling:** Artificial Intelligence can be used for tradeshows as in the case of IBM's World-of-Watson (WOW), which incorporates AI and has successfully attracted visitors to a private tradeshow.
- **Public relations (PR):** PR companies can also benefit from AI in that AI can analyze consumer data and generate insights on consumer behavior, which PR firms can use in order to recommend to their customers to convey more targeted messages.
- **Direct marketing:** applications of AI such as chatbots or personalized emails can be useful to begin or establish direct connections with individual customers.

FOURTH STEP: BUILD PROFITABLE RELATIONSHIPS AND CREATE CUSTOMER DELIGHT

Artificial Intelligence can help to **build profitable customer relationships** since it can be used to deliver **superior customer value** and **satisfaction**, being these two the requirements for building profitable customer relationships. Superior customer value and satisfaction can be delivered by companies that use Artificial Intelligence as for example Century through its more personalized and efficient learning or Amazon Go through its brand-new way of buying which is quicker and easier, being both examples possible thanks to AI.

In addition, businesses also use AI to **relate** with customers that are **selected more carefully** as for instance Toys R Us did through the usage of Emarsys. And AI can allow companies to **relate** to clients in a **deeper and more interactive** way, for example through the AI-powered chatbot of Sephora or through Sephora's virtual artist.

AI is also beneficial in **partner relationship management** as it can optimize the engagement of partners. For instance, this could be done thanks to the upgrade with Artificial Intelligence of Sales Cloud.

FIFTH STEP: CAPTURE VALUE FROM CUSTOMERS TO CREATE PROFITS AND CUSTOMER EQUITY

Applications of Artificial Intelligence can improve customer experiences and make them excellent and, as a result, delight customers so that they become **loyal** and **return** again and again to the brand. These AI-applications include: chatbots, personalization, recommendations and prediction of consumer behavior, among others. What is more, AI can also be put into practice in order to increase the **share of customer**, and one illustration of this is the Amazon's AI-based recommendation engine that has an influence on about 30% of the sales.

Additionally, the conclusions from all these five steps demonstrate that the application of AI throughout the Marketing Process can improve, optimize or increase the efficiency of many or most, I would say, of the activities or actions from the Marketing Process, therefore, improving and optimizing the Process of Marketing itself. This is the evidence of the huge potential that Artificial Intelligence can have in the marketing field.

On the other hand, I would also like to give a **personal evaluation** of my work. Thanks to it, I could learn well and in detail what Artificial Intelligence is, that AI is a science that can be applied to a really big number of fields, and that AI can be utilized for so many applications (in fact, it is being used today in many aspects and we don't even are aware of it, as for instance, Siri, Alexa, Amazon's recommendation engine, etc.). I could also learn what Digital Marketing is and why this area is also important nowadays. Not to mention that I have observed how both AI and Digital Marketing can be applied to Marketing, and in the case of AI I could see step by step throughout the Marketing Process how AI can be utilized in order to create value and even enhance the process. However, it does not end here, since I believe thanks to the knowledge that I have gained about AI and Digital Marketing, I can better understand how they are used today and their

importance as well as be prepared for a future where these technologies will be employed more and more.

I also explained these technologies and the whole work in a simple way since AI and Digital Marketing may not be easy to comprehend, so they have to be described in a simple manner.

Finally, I would like to mention an area for **future lines of research** that I would have liked to investigate if I would have continued with my work: application of Artificial Intelligence in the Industry 4.0. Below, I will explain the reason for this choice.

First, the decision for selecting Industry 4.0 was due to the importance of the industry in the Basque economy, and because Industry 4.0 could propel this economy which is based on a strong and competitive industry.

And, secondly, the reason I have chosen AI for Industry 4.0 is clarified next.

The fourth industrial revolution, which is also designated as the Industry 4.0 (Bohan, 2017) consists of transforming the industrial production with the usage of digitalization and the new technologies that emerge. Furthermore, it is based on decentralization of production control and ecosystems of smart factories, where manufacturing machines are intelligent and act autonomously (Senvar & Akkartal, 2018). Moreover, among the main technologies of Industry 4.0 such as CPS, IoT, Big Data, etc., Artificial Intelligence is spotted as well.

In Industry 4.0, data from external and internal sources is collected, which makes decision-making easier. Therefore, it can be pointed out that this industry is a data-centric one. In this context, it is necessary to obtain value from vast volumes of information, for which tools and technologies such as Machine Learning are required, that can handle big amounts of data in real time and are able to learn autonomously from the information they are provided with (“Six technologies for Industry 4.0 – Gradiant”, 2016).

All in all, Artificial Intelligence is also encountered in Industry 4.0 since Machine Learning, a subfield of AI is present and can be used in Industry 4.0. That is why the future research that I would have liked to perform is AI applied in Industry 4.0 to create value, since the application of AI in Industry 4.0 is possible.

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