



Vodafone

The importance of Dynamic Capabilities in an Innovative Market

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Abstract

Title: Vodafone – The Importance of Dynamic Capabilities in an Innovative Market

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The Global Telecommunications Market is probably the most competitive industry worldwide. In the market of the Telecommunications Operators (TelCo's) everything occurs at a vertiginous speed, making use of the most innovative technologies, implemented in a planetary scale.

I trusted that it could be the ideal scenario for my dissertation, whose aim is analysing Competitive Advantage Theories and learning how a market leader does to keep growing and be the most innovator player.

The challenges faced by the Global Market will be addressed, in the form of a case study, focusing specifically on Vodafone, one of the largest Telco's, worldwide, and analysing evidence of how it ensures its competitiveness in the present and projects the future.

It is intended that this case study can be used as a teaching tool, providing practical clues from a concrete example, to analyse the strategic structures, their general principles and applicable theories.

The case focuses on the analysis of resources and capabilities, taking into account external shocks and internal changes.

With the analysis of this case study, I intend to identify evidences that could help to answer to the research question: *“What are the unique resources and capabilities that Vodafone possesses that constitute its competitive advantage and in what way did they've been developed”*.

Keywords: Competitive Advantage; Resource-Based Theory; Dynamic Capabilities; Exogenous shock

Resumo

Título: Vodafone – The Importance of Dynamic Capabilities in an Innovative Market

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O Mercado Global das Telecomunicações é, porventura, o setor mais competitivo do Mundo. À volta das Operadoras de Telecomunicações (TelCo's) tudo ocorre a uma velocidade vertiginosa, tirando partido das tecnologias mais inovadoras e implementando-as à escala planetária.

Entendi, por essa razão, que este poderia ser o cenário ideal para a minha dissertação, cujo objetivo é analisar as Teorias das Vantagens Competitivas e aprender como um líder de mercado consegue fazer para continuar a crescer e a ser o *player* mais inovador.

Serão abordados, na forma de Caso de Estudo, os desafios enfrentados pelo mercado global, focando-nos, especificamente, na Vodafone, uma das maiores empresas de telecomunicações do Mundo, e identificando evidências que permitam assegurar a sua competitividade, no presente, e perspetivando o futuro.

Pretende-se que esta dissertação possa ser utilizada como ferramenta prática de trabalho, na aprendizagem, a partir de um exemplo concreto, da análise às estruturas estratégicas, seus princípios gerais e teorias aplicáveis.

O caso foca-se na análise de recursos e capacidades, tomando em conta impactos externos e mudanças internas.

Com a análise deste estudo de caso, sugerem-se evidências que possam ajudar a responder à pergunta de pesquisa: “Quais são os recursos e capacidades únicos que a Vodafone possui e que constituem a sua vantagem competitiva e de que forma têm vindo a ser desenvolvidos?”.

Palavras Chave:

Vantagem Competitiva; Teoria baseada nos Recursos; Capacidades Dinâmicas; Choques exógenos.

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List of Abbreviations

ANACON – Autoridade Nacional de Comunicações

RBV – Resource Based View

DC – Dynamic Capabilities

CA – Competitive Advantage

TelCo's – Telecommunication Companies

M&A – Merge & Acquisitions

VRIN – Valuable, Rare, Inimitable and Non-substitutable

VRIO - Valuable, Rare, Inimitable Organization

IO – Industrial Organizational

IPO – Initial Public offering

IoT – Internet of Things

OTT's – Over-the-top service companies

3G, 4G 5G – Different GSM (Global System for Mobile Communications) Generations

NGN – Next generation Network

FBB – Fixed Broad Band

FPS – Fixed Phone Service

TVS – Television Service

MVS – Mobile Voice Service

MBB – Mobile Broad Band

IT – Information Technology

ISP – Internet Service Provider

CEO – Chief Executive Officer

M2M – Machine to Machine

AI – Artificial Intelligence

ML – Machine Learning

SVR – Stolen Vehicle Recovery

V2V – Vehicle to Vehicle

SIM Card – Subscriber Identity Module Card

HP – Hewlett Packard

IBM – International Business Machine

ROI – Return on Investment

SOC – Security Operation Center

SCADA – Supervisory Control and Data Acquisition

MEC – Multi-Access edge Computing

SWOT – Strengths, Weaknesses, Opportunities, Threats

PEST – Political, Economical, Socio-cultural and Technological

NOC – Network Operating Centre

NPS – Net Promoter Score

GFK – Growth from Knowledge

GDSP - Global Data Service Platform

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Methodology

To demonstrate the applicability of the Dynamic Capabilities theory, I have developed a case study that analyzes an industry and, in particular, a player of this industry in Portugal, with presence in many other countries. This way, it was possible to highlight the company's ability to integrate, manage and adapt its resources and capabilities to respond in a better way to the dynamics caused by a highly competitive and constantly changing external environment.

To guide my analysis I have formulated the following research question: *“What are the unique resources and capabilities that Vodafone possesses that constitute its competitive advantage and in what way did they've been developed?”*.

To prepare the Case Study, I have collected public data from market sources, from ANACOM - the National regulator, from Vodafone website (local and global) and from its competitors as also from Vodafone's Annual Report and IoT Barometer.

In a second phase, I could count with the kind feedback from some Heads of Vodafone Business Areas, as well, from several responsible for Teams focused on the development of new business streams. Their feedback allowed me to confirm in more detail Vodafone's commitment to face the consolidation of those new business lines in order to prepare the future and assure the continuity of its leadership.

Business Unit	Company Departments	
Strategy	Strategy	Dr. Pedro Guerreiro
Corporate	Large Accounts & Public Sector	Dr. Mafalda Alves Dias
	Enterprise Solutions	Eng. Fernando Videira
	IoT Line of Business	Dr. Pedro Nunes
Consumer	Fixed/Mobile Services Marketing	Eng. Luís Cardoso

Table 1: Interviewees per Business Area

Due to confidentiality reasons, it was omitted the link between answers and interviewees, (answers excerpts were inserted along the dissertation, between quotation marks and in italics).

My questionnaires were focused on identifying valuable resources and their rareness as well as level of inimitability, following the VRIO framework provided by Barney (1997) and his Theory of Resource Based View to confirm existing Competitive Advantage.

As an extension of R.B.V. it has been given emphasis to the capacity that the Company must have to integrate, manage and modify its resources in order to adapt to the external environment, the bases of Dynamic Capabilities Theory (Teece, Pisano and Shuen, 1997; Barreto, 2010, Ambrosini and Bowman, 2009). As defended by Barreto, the ownership of critical resources is important, but the ability to achieve a competitive advantage is more dependent of the company's capacity to organize and use them rather than its ownership.

I. Case Study

1. Introduction

Vodafone is a global communications provider operating in 26 countries and having local partnerships in more 55 different countries. It offers communication services to almost 444 million customers, 19.5 million in the UK, from where it has initiated its activity in January 1985 as a local mobile communications operator.

An ambitious expansion plan has conducted to M&A program that completely reshape the Company which made Vodafone a multinational telecommunications conglomerate with the largest footprint and operations over five continents.

Telecommunications market like as in general, any technological market, suffers from strong dynamics of change what obliges to innovate permanently in order to maintain its competitiveness.

If from the technological side, new disruptive ideas are creating brand new business opportunities, from the financial and political point of view new challenges can compromise shareholder's investments.

New licences for spectrum to operate in 3G, 4G and more recently 5G bands have stimulated the appetite of Governments greed for more incomes (expected 4 – 5 billion euros for 5G auction in Germany; 4.4b euros in Italy). New policies to facilitate the circulation of citizens between EU territories have abolished roaming tariffs. Local markets competition has provoked strong pricing erosion, firstly in voice tariffs but more recently on data plans.

All together plus an exponential growth in traffic volumes, keep forcing operators to upgrade their networks in order to fulfil the new customers' needs.

Considering this scenario some questions can be raised: What should be the Vodafone's strategy in order to face its competition? What are the remaining Vodafone's competitive advantages? How can Vodafone keep growing and correspond to his stakeholder's expectations?

2. Market Overview

With the unprecedented growth of mobile communications since the mid-1980s, the effects on other sectors, on the wider economy and society as a whole, have been reaching further. Changes in communications have underpinned the development of the whole IT industry, helped economic growth, particularly in developing markets, and enabled families, friends and communities to communicate across countries and time zones.

Telecommunications market is a common border to many verticals, from Industry, Retail, Agriculture, Banking, Health, Logistics, Security, Public Sector and others.

Any telecommunications provider has a long expertise negotiating with a large number of suppliers, managing complex technologic infrastructures spread from many different locations, dealing with large amounts of data and mainly, strong skills in customer support services.

There may be an opportunity for using these “in house” experiences to strengthen their relationship with their customers and create durable and consistent win-win partnerships.

TelCo's tend to expand their businesses trying to capture more earnings from Value Chain. However, other companies that follow identical strategies, such as consultant companies or more recently players, big multinationals, like Google, Microsoft, Amazon, and Alibaba, or OTT's, like WhatsApp and many others, are disputing the same space or even penetrating in areas so far restricted to TelCo's.

2.1. Portugal Telecommunications scenario

Portugal is often referred to as a case study scenario to the telecommunications industry where different new technologies have been commercially launched and tested its receptiveness before full deployments in other countries. Some examples are the Voicemail Service, the Pre-Paid Tariff Plans and, more recently the adoption in large scale of Fibre Optics Home interconnections.

European Commission on its report from July 24th, 2018, about two year's implementation of Digital Agenda for Europe, recognizes that economic crises did not slowed down Portuguese rollout in the Telecommunications market.

It refers, for instance that almost 100% of the territory has already access to Broad Band Internet. Nevertheless, it is pointed out that compared with US market, our pricing is still higher and it is expected that 4G implementation can change it.

The same report refers that the penetration of Broad Band services has achieved 37.2%, very far from the European that is average 61.1%.

During the crises the income from telecommunications sector has dropped, from €5.95 thousand million, in 2011, to €5.36m in 2012. The same has happened in the other European countries. However, the weight of the investment over the income has increased from 14.4% in 2012, a bit higher of the European average that was 13%.

By making further comparisons, the report points out that the price of a telephone call per minute in Europe is around €0.07, while Americans pay little more than €0.02. It reflects directly to the usage profile: 200 minutes/month for a European comparing with 900 minutes/month for an American citizen.

The table below indicates Portuguese penetration rates to the several communications services comparing with the European average, in the 1st semester of 2018:

Service	Penetration rate	Average EU	Ranking
Mobile Voice	168%	136,9%	3st
Fixed Lines	48,5%	41,3%	7th
Mobile Broad Band	69,8%	90,2%	26th
Packs 3P/4P/5P	80,6 %	34,9%	1st

Table 2: Penetration rates of main Telecommunication services (1st Sem/2018 Report – ANACOM)

According ANACOM, 9.2 in 10 families subscribes one bundle of services totalizing 3.74 million subscribers.

From these, 5P bundle (FBB+FPS+TVS+MVS+MBB) is the most popular with 42%, ahead of 3P (FBB+FPS+TVS) bundle that has 40.9%.

2.2. Vodafone Overview

Vodafone as a global communications provider that operates in 26 countries and having partnerships with networks in over 55 more, across the world, is quite well positioned to support its customers on its growing efforts to extend its activities regardless of distances or geographies.

Taking advantage of his worldwide high-specialized group of employees, Vodafone can be the trustful partner that brings the peace of mind which enables each partner/customer to focus on his core businesses.

Performing this new role and in partnership with other technological companies specialized in niches of activities, Vodafone can start exploring from the most complex technologies to reach new business opportunities in diversified areas like Internet of Things (IoT), Cloud computing, Artificial Intelligence, Big data and Analytics.

2.3. Vodafone Portugal Overview

Vodafone has initiated his activities in Portugal on **18 October 1992** with the brand Telecel.

Telecel launched its public GSM cellular communications service, at that time, covering 57% of the territory and 83% of population.

The start-up of the cellular network was made exactly in one year what was considered the world record for the fastest installation of a GSM network.

Telecel and German operator D2 were the pioneers introducing GSM Service in Europe.

Since the very beginning, Vodafone/Telecel have been a benchmark in the telecommunications and leaders in innovation, brand image, orientation and customer satisfaction.

For instance, Telecel was the first Company in Portugal to offer a Customer Service available 24x7, 7 days a week.

On May 15, Telecel was constituted presenting as main shareholders the Amorim Group, Espírito Santo Group and Pacific Telesis (Air Touch).

On the second year of service, Telecel could achieve its Positive Operational Cash Flow and Leadership in market with a number of Customers of 88,568.

In **1995**, Vodafone/ Telecel footprint is almost 100% of population.

In **1996**, after a Successful IPO (39% of the capital), AirTouch holds 51% of the Company's capital. Brand Telecel achieves 98.5% of awareness.

In **1999**, Telecel becomes a provider of Internet services in Portugal, in the areas of access (ISP) and content (Portal) and Communications Institute of Portugal (ICP) assigns a license to Telecel for the provision of the fixed telephone service, as part of the total liberalization process of national telecommunications services.

In the same year, following the merger of AirTouch Communications Inc. with Vodafone Group Plc, Telecel changed its fiscal and reporting year for the period from 1 April to 31 March, in order to coincide with the financial calendar and the policies of its majority shareholder, Vodafone AirTouch.

In **2001**, Telecel begins the transition period for the Vodafone brand with the dual brand Telecel Vodafone, a process that has been concluded in October same year. In 2001, Vodafone launches GPRS service.

In February **2003**, Vodafone Group launches OPA on Vodafone Portugal at a price of 8.50 euros per Action and launches 3G service in Lisbon and Oporto. On March 2005, the number of users were 120 thousand and Vodafone got a market share of 60%.

Since then Vodafone, taking advantage of its global presence has continuous following a strategy of differentiation based on customer orientation and launching innovative solutions for both Consumer and Corporate market.

More recently and after launching its IoT Business Line for Corporate Customers Vodafone has launched the first IoT services for Consumer.

3. Situation

In the last 25 years, the panorama of Telecoms changed drastically. If in the 90's, the mobile phones were just used for calls and to send simple multimedia contents as low quality pictures, the appearance of smartphone enabled customers to give more usage to their mobiles phone such as to browse the internet or to use their favourite mobile applications among other things. Consequently, we assisted in the sector to an unprecedented race for mobile data services forcing telecom companies to do significant investments in their networks, such as the continuation of the large-scale 4G rollout.

According to Vodafone Strategic Report of 2017, *“the demand for mobile data services (...) has accelerated rapidly, and today 48% of global revenue comes from data, compared to only 22% five years ago”*. No less impressive is the evolution of the number of smartphones achieving 45% of the total mobile handsets compared to 11% five years ago on the Vodafone’s network. The growing demand for smartphones is also felt among the Vodafone’s European customers with 63% using these advanced devices.

This trend is even more impressive when we compare the stabilization of the number of outgoing minutes in the recent years, around 203 minutes per user monthly, with the evolution of mobile data traffic that increased by an average of 75% per year between 2011 and 2016 representing nowadays, 95% of total traffic on mobile network across the globe.

Another remarkable reality, in the TelCo’s world, during the beginning of the century and that lasted for more than one decade, was the need to realign strategies in order to respond to the Convergence phenomena to which seems, nobody was fully prepared.

Old traditional fixed operators, owners of copper cable infrastructures had to upgrade their conduits to install brand new fibre networks.

Mobile operators, typically born in the 90’s, like Vodafone, had a much challenging task which was, creating their fixed infrastructures from scratch, to survive to the muffled fixed operators that apparently were becoming asphyxiated by mobile operators till then.

“The Portuguese telecommunication market has shown to be very dynamic along the years, which has warned operators to be always alert about future opportunities and challenges. Vodafone has been able to defend its competitive position, as it was clear with the response to the beginning of Convergence, one of the biggest moments of competitive disruption in the recent years. As a pure-mobile operator, Vodafone was in risk of being squeezed-out by the two integrated competitors at the time (MEO and NOS), but was able to re-invent itself and in only a couple of years became a full-integrated player, with a relevant nationwide NGN fixed footprint.

The resilience and endurance of Vodafone, demonstrate how well it is prepared to face any future challenge, without jeopardizing its long-term market competitiveness.”

However, this new tendency did not represent just an urgency for telecom companies in order to upgrade their networks but it also turned possible the appearance of a new type of competition. It is coming from the largest consultants and also from big multinationals

like Google, Microsoft, Amazon, and Alibaba, or OTT's, like WhatsApp and Skype, and many others that are disputing the same space or even penetrating in areas so far restricted to TelCo's.

These new competitors are no more than “free of charge” services that allowed people to communicate, to share pictures, videos and emotions around the world using just the internet provided by the traditional telecoms. The impact in terms of revenue for telecoms was felt immediately since, their traditional sources of revenue, the minutes outgoing and the messaging services were now available for their customers by free. The impact it was even bigger, due to the high level of competition among the traditional telecoms that led for a continued downward pressure on the price of services, with the average cost per unit of mobile data falling 40% per annum over the last three years, according to Vodafone.

In terms, of mobile services is also important to mention another recent constrain in terms of revenue. In June 2017, European regulators abolished the telecoms to charge for roaming inside European Union, enabling customers use their phones abroad at the same price as they did in at home. The impact estimated by this measure was a cut on revenue between 2% to 6% for European telecom industry according to AT Kearney in 2013.

On the fixed telecommunications market, the scenario is slightly different. If it's true that the number of customers disconnecting their landlines has been increasing in the recent years, in favour of mobile phones, it is no less true that fixed broadband is appointed as been the fastest growing market for future, with revenues increasing at a compound annual rate of 3.1% from 2016 to 2020, ahead of pay TV at 2.5% and mobile at 1.9%, according to Ovum. Based on this, in terms of broadband, is the growing proportion of customers that are upgrading from copper-based ADSL with speed up to 24 Mbps to high-speed fibre and cable with speeds up to 1,000 Mbps.

Having this scenario in consideration some questions urge to be answered. How will the telecoms find financial resources to continue investing in new technologies such as the 5G network and real fibre? How will they respond to the destruction of traditional revenue streams? How will the telecoms market be in the next 5 years?

3.1. The New Strategic Range of Products

In order to respond to an increasing level of competition in the sector, brought by the new OTT's, as also as new consumer behaviours, Vodafone has reinforced its bet on a new line of products over the recent years. Under the motto "Gigabit Vodafone for the Gigabit Society", the company invested in new solutions such as IoT solutions, Cloud & Hosting Services, Cyber Security, Artificial Intelligence and Big Data and trusts that these will be the most relevant pillars for the future growth of Telco's.

"As a large scale, multi-national network operator, Vodafone can inject and manage services into the network that non-operators can only support with a terminal-client app. This is a clear plus for consumers as they can have access to services regardless of the terminal/device they are using."

"Vodafone is already positioning itself to reinforce the commitment as an enabler for digital transformation, working with the community to create more and better innovative services, which is supported by all the new areas mentioned above."

In fact, Vodafone has been taking a very proactive role to respond to these new market needs and opportunities. Nick Read, Vodafone Group CEO, has stated in Dec'2018 that the number of IoT connections has grown 27% during the year, achieving on Jan'19 more than 87 million devices connected to its global connectivity platform named GDSP (Global Data Service Platform).

In December 2018, Gartner has named Vodafone, for the fifth consecutive year, as a Leader in its Magic Quadrant for Managed M2M Services, worldwide.

Running away from being just "*the connectivity pipe*" Vodafone has been oriented in delivering turnkey solutions obtaining, this way, more value from the value chain.

"Along with Vodafone, all the stakeholders involved in the ecosystem (Telco's, customers, developers and vendors) are increasingly more focused on the development/usage of new solutions, and this is crucial to succeed in the long way to go",

At the same time Vodafone seems to be conscious of the long way it has to go before getting enough results that really reshape its business model.

"... these technologies are going to define the future. However, they are still far from achieving the dimension of legacy revenue streams in Portugal, a country recognized by being an early adopter of new technologies and constantly a step ahead regarding market

disruptive movements. As any new business stream, it is expected to ramp-up in the coming years, and Vodafone is working to accelerate its growth.”

3.1.1. Vodafone Analytics – Big Data

Vodafone Analytics is a new business’ area created with the purpose of helping organizations to make better decisions supported by the tremendous amount of data generated inside the Vodafone’s network. All of this is possible due to the investment made by Vodafone in Big Data technologies during the recent years. Nowadays, through the interpretations of movement and usage patterns among other data, it is possible to Vodafone offer to a local authority the best way to expand the public transport network or for example, to combine demographic summaries with movement patterns in order characterize the passing trade in certain part of the city if you are studying the best place to open a new store, for instance.

Businesses that use Artificial Intelligence (AI) and related technology to reveal new insights “will steal \$1.2 trillion per annum from their less informed peers by 2020.” predicts Forrester Research.

According to Vodafone’s specialists the AI has benefited from three major boosts that are the easiest access to Big Data generated from e-commerce, businesses, governments, science, wearables, and social media, the evolution of machine learning (ML) algorithms and the increasing of computing power linked to the rise of cloud-based services. The same sources identify that AI Applications can be grouped into five different categories as follows:

- **Reasoning:** The ability to solve problems through logical deduction, e.g., financial asset management, legal assessment, financial application processing, autonomous weapons systems, games;
- **Knowledge:** The ability to present knowledge about the world, e.g. financial market trading, purchase prediction, fraud prevention, drug creation, medical diagnosis, media recommendation;
- **Planning:** The ability to set and achieve goals, e.g. inventory management, demand forecasting, predictive maintenance, physical and digital network optimization, navigation, scheduling, logistics;

- **Communication:** The ability to understand spoken and written language, e.g. real-time translation of spoken and written languages, real-time transcription, intelligent assistants, voice control;
- **Perception:** The ability to infer things about the world via sounds, images and other sensory inputs, e.g., medical diagnosis, autonomous vehicles, surveillance.

Vodafone uses, nowadays, two different types of information: Anonymized aggregated location, important to understand people's flows in a certain determined zone, and Anonymized demographic data such as age range, gender and handset type.

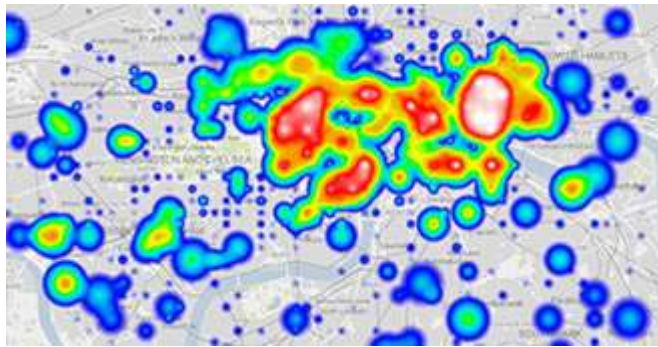


Figure 1: London – Commuter heat map

It is important to highlight, that Vodafone does not send individual information for third parties but, just patterns, in order to guarantee the safety and the confidentiality of their customers.

3.1.2. Internet of Things (IoT)

The Internet of Things is, eventually, the area where Vodafone has been more successful in the process of reinventing its strategy to achieve more from the value chain and differentiate itself from its competitors. In fact, Vodafone has improved the customer experience by developing conditions to ensure a premium worldwide service, but has also overcome the role of connectivity provider to start selling turnkey solutions or, even better, solutions as a service.

This new mind-set has created room for a huge amount of opportunities that have projected Vodafone to perform a major role in all areas of activity, from Payments, Insurance, Retail, Automotive, Health Services, Agriculture, to Industry or Cities.

“The future of IoT is very exciting. But it isn’t just a technology for uber-innovative start-ups. Most IoT projects are not about creating headlines; they are about delivering bottom-line results. We have already passed the tipping point and IoT has entered the mainstream. 74% of adopters believe that within five years companies that have not adopted IoT will have fallen behind. For many companies, it is no longer a case of whether or not to implement IoT, but how.”

Together with relevant Partners, Vodafone could contribute to the wellbeing of society, as well as to optimize processes and services making them costless and more efficient.

Aggregating others in house expertise, Vodafone could enrich its offers creating convergent propositions very hard to replicate. It includes, hosting, cyber security, big data, artificial intelligence and device management.

Another concept mandatory to the success of the business expansion was the capacity to create tools that could take advantage from Vodafone’s global footprint. For that, Vodafone has developed its global management connectivity platform named GDSP that enables a device to have the same performance/behaviour independently from its physical location. So, any device or solution that works in Asia could work the same way in Portugal or in the US or even in South Africa.

There are many examples of solutions developed internally or together with Partners. For instance, Vodafone has launched a portfolio for smart cities and, on top of that, an aggregator platform that allows the management of specific dashboards to fulfil the needs of correlate information from different sources: smart waste, smart lighting, smart parking, smart traffic, smart buildings, smart energy or citizen feedback platforms.

The same for industry where several Industry 4.0 solutions have been publically announced.

In the area of Automotive, Vodafone has acquired Cobra Automotive SpA and this way, is getting skills to start operating in a very competitive and technological industry. Its role goes from providing hardware but also “pay per use” insurance solutions (Usage Base Insurance – UBI), Stolen Vehicle Recovery (SVR) solutions to avoid carjacking or support drivers in case of accident. Vodafone has also announced its contribution to

support car manufacturers to test Vehicle-to-Vehicle (V2V) communications in order to launch autonomous vehicles in the near future.

In the Consumer Area, Vodafone has recently announced the launching of the Family V, bringing simple solutions to locate a bag or track a dog or some home solutions.

“Vodafone selects the best products to fit consumer demands for IoT regardless of the manufacturer brand. These products are addressing not only the smart home space but also the mobility context, as Vodafone has built a specific SIM Card and specific tariffs to be used with IoT devices. Both can also be used with IoT devices that are not sold by Vodafone, so that customers can also enjoy the benefits of a Vodafone IoT tariff with those devices. Both this SIM and tariffs that a customer owns, can be managed in a single app for all IoT devices.”

All these efforts have been capitalized by Vodafone to reinforce its brand awareness. In 2018, Vodafone was positioned as a Leader by Gartner in the Magic Quadrant for Managed M2M Services, Worldwide, for the fourth consecutive year.

3.1.3. Cloud & Hosting Solutions

As IoT, Big data interpretation’s technologies and high-speed data networks, cloud-computing service is seen by Vodafone as a crucial part of company’s vision of the future – “Gigabit Vodafone for the Gigabit Society”.

Vodafone also knows that old IT data centres on customer premises cannot provide this necessary flexibility of room and power at competitive cost. Besides that, never like today, companies are taking so seriously data and cyber security.

Cloud & Hosting Solutions is determinant to assure its customer business growing continuity strategy and Vodafone pretends to anticipate needs from modern companies and is willing to simplify customer lives proposing a business model based on pay as you grow.

“These services “red-oceans” services are often offered with other telecommunication services. The right strategy is to collaborate with whom have already invested in those services and have the right people to manage the services, like Claranet, IBM, or HP to follow the given example. Adding these adjacent value added business to the Operator portfolio requires mainly investment in systems integration and processes. This has been

the Vodafone Strategy. Some operators like MEO invested in large Data-centers but are having lots of difficulty in obtaining a positive ROI.”

With Flexible Computing for Government, customers only pay for what actually use, with the ability to scale services up and down as needed via a self-service portal. This provides full control over the virtual infrastructure, compute, storage, backup and load balancing services.

It could be asked: what’s the role of the Telco’s and how is it possible to be succeed in areas like Cyber security? Vodafone has a clear picture how does it fits with its services portfolio.

“Yes definitely. Vodafone is not the manufacturer but operates the manufactures equipment acquiring experience that can be valued for enterprise customers. Good Cyber Security often relies on specialized support teams (that in Vodafone have the same Customer Service values of any other service). Vodafone Portugal built-on its Security services (p. e. SOC – Security Operation Centre) based on the experience know-how and data obtained by the internal security team. Cyber Security services fit perfectly in the security services portfolio alongside with Firewall and Remote access control services.”

3.2. What is next?

Vodafone is preparing the launching of its 5G network for 2019.

“Yes. 5G will be the main enabler for the digital society. Thus, keeping the strategy of integrating services into the network will leverage even more Vodafone’s differentiation via a 5G state of the art network.”

It is expected that 5G will enable the creation of brand new business opportunities in areas like image, control of power energy networks (SCADA), m-Health where it will be possible, for instance, to obtain high-resolution images or control surgeries remotely.

Automotive and autonomous vehicles will be another area that requires 5G deployment.

As mentioned during the interviews, the next generation of cell phones will bring higher performances, but also, improved security to prevent the interception of traffic, more credentialing options to identify devices that will allow managing larger implementations, greater robustness on communication protocols, more specialised services, to make it

easier to tailor services to particular use cases, and near-zero latency (milliseconds) what is critical for delivering emerging IoT applications like connected cars, smart cities, eHealth and industrial automation.

“52% of adopters are considering using 5G. Since this technology will also play an important role in realizing multi-access edge computing (MEC), a cloud-based architecture that will enable computing at the edge of the network. Since processing is done close to users and devices, issues with network congestion and downtime should be reduced. This will enable extremely low-latency applications — such as collision avoidance in vehicles.”

Taking into account the reasons above, the acquisition of the 5G license is absolutely mandatory for Vodafone to proceed with its growth strategy but it also represents a cycle of enormous financial investments, one per country, where the company has already deployed its global infrastructure.

II. Theoretical Background

In order to analyse the case, it is important to observe some strategic theories and concepts that will be considered along the discussion part. Having this in mind, this chapter will start with a brief introduction about the purpose and the history of Corporate and Business Strategy, followed by the definition of Resources and Capabilities, Competitive Advantage and exogenous shock, as well as revision of some strategic theories and frameworks: Resource Based View, VRIO Framework, Dynamic Capabilities, Porter's Value Chain, and Porter's Five Forces.

1. Corporate Strategy and Business Strategy

It was just during the 60's, beginning of 70's, that corporate Strategy Management started being object of study, separated from the Financial Management (Cardeal, 2018). At that time, companies' strategic thinking was based on diversifying their portfolio to grow. The question, "*How to compete in a certain business area?*" only appeared at the end of this decade and, since then, a few currents brought new insights, sometimes not coincident at all, but complementing each other.

In 1979, Michael Porter introduced the concept of sustainable competitiveness position and published his Five Strengths Forces to define a strategy based on the Structure-Conduct-Performance (SCP) Model.

Until the beginnings of the 1990's, the work developed in this field tended to focus on environment conditions to explain company levels of performance – competitive market position. According with this line of thinking, companies need to adapt to their surrounded environment in order to obtain a dominant position and then proceed to its protection (Cardeal, 2018).

The Resource Based View (Barney, 1991) brought a new focus on the internal context of the company asserting that a company with better resources and ability to explore them is a more competitive firm. This theory was in line with Rumelt (1991), when he sustained that "*intra-industry differences in profits are greater than inter-industry differences in profit*".

Following Barney's theory, to transform potential resources into competitive advantage, those resources should be compliant with four main critical characteristics: value, rareness, inimitability and non-substitutability (VRIN) (Barney, 1991; Teece et al 1997).

Today, the most recent works underline the importance of both analysis, external and internal, in order to obtain a strategic suitability (Cardeal, 2018).

Finally, as an updated definition of Business Strategy, I would like to quote Cardeal (2018):

“Strategy is the selected path by the company in order to achieve its vision and its most important goals. Having in consideration its current resources and capabilities as also, paying attention to the external context and its mutations. Strategy also includes the decisions, the plans and actions of integration of resources and capabilities with the goal of creating more value to their clients than the value created by its competitors.”

2. External Environment

In order to prepare a Strategic Analysis of a company, all aspects related to the External Environment must be taken into account.

It is recommended that it should start with a macro analysis looking for the aspects that surround its environment, like economic, political, social-cultural, technologic, and legal, with the purpose of a better understanding and interacting for the benefit of the company's sustainability and to minimize eventual surprises that could compromise the future (Cardeal, 2018).

A second analysis should be made at a micro level looking for the Community, Customers, Competitors and Suppliers.

3. Sustainable Competitive Position and Porter's Five Forces

The year 1979 represents the beginning of the "Michael Porter" era and the sustainable competitive position. This is the year that Porter published his model of the five forces.

In this model of the five forces, the main determinant of the company's performance is the structure of industry, which determines the behaviour of companies. Porter identified five competitive forces that characterize every industry and every market. These forces

determine the intensity of competition and hence the profitability and attractiveness of the industry.

Based on the information that results from the evaluation of the five forces (potential for new entrants, pressure from substitute products, suppliers' negotiating power, customers' negotiating power and rivalry), it is possible to see how the company influences or exploits particular characteristics of industry.

3.1. Porter's Value Chain (1985)

Considering not all activities have the same relevance into the value chain, is important to identify the most strategically significant to the company and to the business. According Porter's value chain (1985) those activities can be divided into:

- Strategic (essential to the development of the company's strategy and is related to the industry's KSF);
- Tactical (Complementing and supportive activities to the company's strategy);
- Basic (Simple activities every company needs despite their strategy, does not have impact on the competitive performance).

4. Exogenous Shock

An exogenous shock occurs when an unforeseeable change occurs questioning everything that we believe in and take for granted. In opposition, an endogenous shock is often the result of something already expected such as some stock market crises, like subprime mortgages, or real estate bubbles in Spain or in Portugal.

An exogenous shock can result from many different contexts such as economic, technical, political, public health, legal or social. Anyhow, it originates disruptive triggers that force the companies to review strategies to assure its alignment to the new market conditions.

Disruptive changes can be classified as being convergent or requiring reorientation (Romanelli, Tushman, 1985). The first requires that the firm needs to adapt to the reality as the second, results in the need for a deeper restructuring in order to guarantee its competitiveness.

Unexpected exogenous shock might be related to external factors, such as an abrupt deterioration of the country's terms of trade or a revelation about the real magnitude of a country's balance of trade deficit. Alternatively, an exogenous shock could be internally generated, for instance, it could arise from the worsening in a leading indicator of recession.

5. The Firm: Resources and Capabilities

The concepts of resources and capabilities, together with the definition of competitive advantage, are the most discussed subjects in Business Strategy. Barney (1991) defined "*firm attributes*" as being "...all assets, capabilities, organizational processes, firm attributes, information, knowledge etc. controlled by a firm that enable the firm to conceive of an implement strategies that improve is efficiency and effectiveness". Other definition suggested by Wernerfely (1984), define resource has being "... anything which could be thought as a strength or a weakness".

According to Barney (1991) valuable resources are those (assets, capabilities, organizational processes, firm attributes, information, knowledge), that allow the company to design and implement strategies that improve its performance by enhancing the company's efficiency and effectiveness.

Teece et al. (1997) define resources as "... firm specific assets that are difficult if not impossible to imitate. (...) such assets are difficult to transfers among firms because of transactions costs and transfer costs, and because the assets may contain tacit knowledge."

In terms, of types of resources, Grant (2013) defined three different nature:

- **Tangible Resources:** presented in the firm's balance sheet, as for example, financial or physical assets;
- **Intangible Resources:** as the firm's reputation, types of intellectual property;
- **Human Resources:** related to the skills, expertise and effort of the employees.

The capabilities are perceived as the way as company organizes and takes advantage of the existent resources (Cardeal, 2015). In addition, (Teece et al.,1997) added that just the capabilities and resources that cannot be bought, should be seen as a source of Competitive Advantage since they need to be built or created.

5.1. Competitive Advantage

A competitive advantage is what makes an entity's goods or services superior to all of a customer's other choices. The strategies work for any organization, country, or individual in a competitive environment. (Amadeo, 2019).

To create a competitive advantage, there determinants factors must be taken into account:

1. **Benefit.** To be certain of the real benefit the product provides “... *something customers truly need...*” and “...*must also offer real value*” (product's features, advantages) and understand how they benefit the customer. It must stay updated on the new trends that affect the product, including new technologies.
2. **Target market.** Create demand knowing who customers are and their needs. Who buys from the company and how can it make their life better?
3. **Competition.** Identify company's real competitors that can be similar companies or products but can also include anything else that customer could do to meet the needs the company pretends to fulfil, especially if they are instant and free.

To be successful, a company needs to be able to articulate the **benefit** that it provides to its **target market** that must be better than the **competition**. That is the Company's competitive advantage. (Amadeo, 2019)

Competitive Advantage when related with performance and financial profits can be associated to endogenous factors to the firm, as described by (Barney, 1991).

“...a company ... that achieves superior financial returns compared with those from its industry or strategic group, over a long period of time, holds a competitive advantage over its rivals.” (Ghemawat and Rivkin, 1999)

However, there could be other factors, beyond of a better management of rare and valuable internal resources. In a wider vision, a company can obtain a competitive advantage if be able to create economic value in the context product/market, where the firm belongs, being this economic value understood as the difference between the perception that customers have of the benefit of the product and its economic cost to the firm, compared with offer from marginal competitor. (Peteraf and Barney, 2003).

5.2. Resource-Based View

In contrast to the current of the sustainable position, focused on external environment, Resource Based View focuses on the internal company's context and its conjectures that origins the company that has the best resources and that knows how to exploit them in the best way will be the most competitive company (Cardeal 2018).

According Barney (1991) a firm can get a competitive advantage when is able to implement a valuable strategy based on rare and non-substitutable resources, obtained by the firm, that can bring returns above its competitors, for large periods of time.

Through his theory, Barney (1991) aimed to explain why some firms keep outperforming others. He stated that each firm is heterogeneous in what respects to resources and capabilities compared with competitors and when these differences can be sustainable for long terms, it configures a competitive advantage.

Although there is some variance of industry for industry, in most cases it can be demonstrated that the aspects / attributes of firms seem to have more relevance in their performance than external factors related to industry (Cardeal 2018).

5.3. VRIO Framework – Barney's (1997)

As stated above, the Resource Based View (Barney, 1991; Teece et al., 1997) tried to explain the process by attributing the emphasis to the ownership of resources which, according to Barney (1991), should present four main critical characteristics – value, rareness, inimitability, and non-substitutability (VRIN), in order to be able to be considered a potential source of competitive advantage.

There were several critics to the RBV model, namely by invoking its static nature, its inability to explain how resources (valuable, rare, difficult to imitate, and unsubstituted) become competitive advantage (Priem and Butler, 2011) and that, in many cases, firms do not gain competitive advantage by having better resources, but by having distinctive competencies capable to make better use of resources (Mahoney and Pandian, 1992; Liu and Wei, 2010).

VRIN Framework seeks to complement the RBV theory in order to differentiate a competitive advantage from a sustained competitive advantage.

If the firm could take advantage of these VRIN resources and capabilities then it could obtain a competitive advantage, which means to get a bigger economic value when compared with competitors.

The VRIO model (Valuable, Rare, Inimitable e Organization) assumes that in addition to possessing valuable, rare and inimitable resources, the company must also be organized to take advantage of those resources. Only this way, critical resources can be turned into competitive advantages (Barney, 1997).

Later he explained that the basic concept underlying the RBV theory is that the source of Sustainable Competitive Advantage, of a given company, relies on its resources, which are VRIO and how they are applied to the organization (O).

This means that when considering the Dynamic Capabilities approach, what is in the base of the competitive advantage is the “O” on the VRIO resources of the RBV, the “O” here, is considered the capability itself that promotes the competitive advantage. (Cardeal and António, 2012).

6. Dynamic Capabilities

However, the finding that not all companies possessing VRIN resources were able to achieve a competitive advantage position led to some doubts and uncertainties. In consequence, the Dynamic Capabilities theory appeared as an evolution of Resource Base View (Cardeal, 2005; Teece et al., 1997). The main difference in comparison with its precedent, it is the introduction of the importance external context in the company’s success.

Teece et al. (1997) defined dynamic capabilities as:

“the way that strategic management is able to respond to external changes towards a changing environment, by reconfiguring its internal firms’ capabilities, resources and skills to achieve competitive advantage.”

In addition, Menguc and Auh (2006) enhanced the necessity of a firm to be proactive by exploring new opportunities rather than exploiting current strengths.

6.1. The Concept of Strategy: A Perspective to RBV and IO Theory

A firm operates and serves the surrounding environment (Emery and Trist, 1965) which is highly dynamic and complex. Therefore, a firm should scan and understand the consequence of the changing business environment not only to make better utilization of resources and capabilities but also to gain/sustain competitive advantage through strategic plan and actions. This indicates that internal and external environments are crucial in shaping a firm's strategy (Timilsina, 2018).



Figure 2: The concept of Strategy: A perspective to RBV and IO theories (Timilsina, 2018).

No matter the business sector and size, a company requires a clear strategy to perform and grow in a business environment in permanent mutation. Strategy includes every aspect of business, from day-to-day activities to the strategic plan of a firm.

RBV and IO theories have been accepted from a conceptual perspective to differentiate the performance between competitors as pillars of a firm's strategy. In fact, they are complementary, IO theory (Porter, 1985) deals with the opportunities and threats from the environment and assures that industry forces in which a firm operates (threats of new entrant, threats of substitute product, bargaining power of buyer, bargaining power of supplier, and rivalry among the existing firms) have been considered for a firm's growth and survival. Thus, by identifying competitive intensity, profitability, and industry attractiveness the Porter's five forces model helps to confirm existing strategy as well supports the definition of future strategies. In parallel, the development of RBV conducts to a shift from industry to firm and identifying competitive advantages from firm's existing resources and capabilities (Spanos and Lioukas, 2001). Likewise, the authors of RBV theory (Peteraf, 1993; Barney 1991) argues that a firm's competitiveness is the result of the firm's capabilities in mobilizing organizational resources. As defended by Peteraf and Bergen (2003) a firm competes in the marketplace based on its resources and capabilities.

Organizational resources and capabilities are the pillars of the firm's strategy and are highly influenced by the firm's operating environment (Grant, 1991).

IV - Teaching Notes

The case study is meant to be used to establish a link between strategic management theoretical concepts and a practical example that shows how Telco's are reacting to new paradigms and market challenges, maintaining the focus specifically, on Vodafone's trajectory.

Questions could be presented to students in classroom where teaching notes should orient the teacher to present the case study.

It is assumed and desirable that, during the case debate, different views could conduct to new answers to the raised questions conducting to other perspectives.

1. Synopsis

Vodafone started its operations in the UK, as a telecommunications mobile operator, in 1993.

After several M&A (Pacific Telesys) Vodafone became a Global Telco with the largest footprint and operations in the five continents.

Telecommunications market as, in general, any technological market, suffers from strong dynamics of change what to innovate permanently in order to maintain its competitiveness.

These dynamics, however, are creating new commercial challenges that started by heavy spectrum licence fees, launched by Governments, and, more recently, by the spiral effect of price reductions over voice and data traffic that compromise the financial outcome of the entire telecommunications industry.

OpCo's tend to expand their businesses by trying to capture more earnings from Value Chain. However, other companies that follow identical strategies, such as consultant companies or more recent players, from multinationals like Google and Facebook, to OTT's, like WhatsApp and many others, are disputing the same space or even penetrating in areas so far restricted to TelCo's.

Following this strategy and taking advantage of emerging technologies, Vodafone has been focused on IoT, Cloud, Artificial Intelligence, Big Data and Analytics. Pursuing these new revenue streams Vodafone has to transform risks into opportunities that can reshape the Company.

2. Teaching objectives

The purpose of this case study is to elaborate on how these new strategies followed by Vodafone can support new consistent strategies capable to guarantee its sustainability through the future.

It is expected that this real scenario may facilitate the assimilation of theoretical concepts of strategic management such as:

- Meaning of exogenous shocks and how competitive environment can compromise the future of organizations.
- Correlation between RBV, I/O model and DC concepts once applied to this specific case
- Bases for a competitive advantage and how can it be maintained.
- Importance of Direct Capabilities in the performance of an organization.

3. Suggested assignment questions

The following assignment questions are meant to guide students, in classroom environment, to apprehend and apply theoretical concepts to practical situations, via a real case scenario.

It is assumed that, taught the theoretical concepts and once the case study is read, students will be able to respond in a structured way to the problem.

Suggested questions:

1. *Based on the identified capabilities of the company indicate which ones contributed to create a competitive advantage?*
2. *Enumerate which external factors can be considered as exogenous shocks. How did they influence the pursued strategy?*

3. Taking into consideration the IO and RBV theories what are the sustainable advantages of Vodafone to face new competitors that arriving to the market?

4. Analysis and Discussion

To understand the Strategy being followed by the Company in analysis, it must be taken into account both lines of thought: the Theory based on Resources (Resource-Based View) focalized in the internal context and, the Theory that looks for the surrounding, (Sustainable Competitive Position).



Figure 3: Strategy framework. (Cardeal, 2018)

“The bi-directional orientation of the arrows is related to the increasingly dynamic character of the envelope and the impact it has on the company itself, particularly in terms of its resources and capabilities, thus forcing constant alignment of objectives and strategy itself.”

(Cardeal, 2018)

Identifying the Sustainable Competitive Position, (Porter, 1979) means to analyse his five forces model, based on the theoretical model of structure-conduit-performance that, in turn followed the traditional theory of industrial organization (Joe Bain, 1959).

In the model of five forces, the most important one, responsible to the performance of the company, is the structure of the industry.

Complementing the five forces with Competitive Advantages Theory, also from (Porter, 1985) that defends three strategical alternatives for firms create value to their customers

and this way, achieve dominant position: leadership by costs, by differentiation and by focus. Achieving the dominant position is equivalent to obtaining a Sustainable Competitive Position.

The Resource Based View Theory, (Barney, 1991), supported by the sustainable competitive position, looks to the interior of the company and foresees that having better resources and a better knowledge on how to use them (leadership), will be the most competitive.

A new perspective that could combine the Theory based on the Resources and the Sustainable Competitive Position defends that firms should adapt themselves to the sectorial reality and its surrounding (António, 2006).

It has been recognized that, although it depends from industry to industry, the resources and capabilities seems to be more relevant in what regards to their performance, than the exogenous factors, related with the industry as, according (Freire, A. 1997) there are many examples of firms in a non-attractive industries that have better performance in the long run. They just *“have to do well, what that must be well done”* or have the competences adequate to the most critical needs of that sector.

In a company like Vodafone, which operates in a so dynamic environment, a sustainable strategic in a first phase is determinant but, in a second phase, its capacity to reshape, readapt and to anticipate the mutations of the environment is crucial.

There must be a continuous feedback to feed the strategy which, in consequence, obliges to a permanent realignment of the company objectives.

“In this context of the framework in which the strategy is positioned between the internal issues of the company and the surrounding and its mutation, the concept of strategic acquisition is fundamental”

(Cardeal, 2018)

This way, we will start doing an external analysis followed by an internal one.

4.1. External analysis

For a better understanding of which are the endogenous factors that could affect the Company a brief review of the telecommunications industry will be described.

In the last 25 years, same life time of Vodafone, telecommunication operators had to overcome several exogenous shocks that were responsible for the major and minor success of different competitors.

Vodafone was born from the opportunity created by a technological evolution that was the launching of Mobile Services (GSM service in UK, the same as in Portugal with Telecel, acquired by Vodafone). In that period, some existing fixed operators have launched their own mobile service, others did not run for a spectrum license and remained as fixed operations and others, like Vodafone, just provide mobile services.

For a certain amount of years, fixed operators have started losing customers which could enable to foresee a declining of the business. In that time, mobile operators rented fixed connectivity to fixed competitors, to interconnect their antennas (base stations).

However, with the need for Internet services, which requires larger bandwidths, and mainly with the deployment of fibre optic networks, not being owner of its own fixed network became a critical disadvantage.

Those operators that owned both infrastructures, fixed and mobile, have start offering cross selling services, both for consumer, and corporate segments: fixed data and voice service together with mobile connectivity. It was the time of triple play.

With the development of content services and television, rapidly the paying TV service started being included – quad play.

If for fixed operators replacing existing copper infrastructure to fibre cables was a significant investment, for mobile operators the challenge was even bigger as they had to build conducts (the most expensive) to pass the fibre optic cables.

This technological revolution reshaped the market in many countries through several merge and acquisitions between existing operators.

The same phenomena happened in Portugal but not with Vodafone that decided to launch its own fixed infrastructure, building their own conducts or renting infrastructure and fibre, already installed belonging to other operators and utilities.

Apart from content's business and paid television distribution service, other important market opportunities are forcing mobile operators to new investments in order to sustain their competitive advantages. This time threats are not restrained to mobile operator's playground but involve giants like Google, Microsoft, Apple, Cisco, Amazon, or

consultants that developed their own management platforms or yet, other OTT's (Over The Top companies) like WhatsApp that offers free services that compete with existing messaging services from operators.

For the very first time operators are competing for new slices of the value chain but, at same time, have to defend themselves against hardware manufacturers, consultants and global internet platforms. This is an interesting scenario which, for now, is neither black nor white, and in which different players, from other markets, compete for data ownership and its management, looking for new related business opportunities: Big Data, Analytics, Cyber Security, IoT, Cloud and Hosting.

It could be the case that these new business areas were to be very challenging, but those core business activities were stable and those new degrees of uncertainty were not expected. However, this does not exactly correspond to the truth because new external factors have affected operators' revenues, in addition to the price erosion caused by market movements. These are related to new EU legislation, which eliminated roaming charges within the European market, in order to make it easier for workers to move within the European space. As a result, tourist-roaming revenues almost disappeared affecting Telco's income.

It was already expectable topic but the tender for 5G spectrum licenses assignment is generating more uncertainty. News from the Italian and German markets make foresee large revenues for governments and therefore heavy costs for Vodafone.

Vodafone seems to be well prepared to defend its market position, especially now, with the launching of new services that requires 5G network. However, the Top Management must be prepared for rapidly reorient their resources to accommodate exogenous challenges originated by new technological disruptions as well as to react to the speed and aggressiveness of new players coming, launching new business models like everything for free where it is hard to understand how not to jeopardize values and assets that belong to the Company.

4.2. Competitive Advantage of Vodafone.

What are the resources and capabilities of the company and how can they be responsible for the competitive advantage?

4.2.1. Human Resources

Considering Human Resources as valuable and rare could seem an exaggeration as any global company focused on their employees and their personal development, as well as on attracting high profile managers, could do the same.

However, the fact is that since its genesis, Vodafone has created the culture of providing intensive training, technical and behavioural, what created a culture that became contagious to the new employees.

In particular, in Portugal, this culture has given his fruits making the Engineering and Marketing departments one of the most creative and innovative in the Vodafone group. Vodafone Portugal, despite its size in the overall organization (around 3% to 4% of total income) has local teams dedicated on developing new technologies and services that export internally to the Group such as, TV Hub Services and One Net, a fixed-mobile integration platform.

Vodafone Portugal is also responsible for the Atlantic NOC (Network Operation Centre) that supervises the mobile networks from Spain and UK and Portugal, as well.

In Portugal, Vodafone has also developed two Excellence Centres dedicated for IoT and Cyber Security with the purpose of developing products and services in these specialities.

Considering Customer Service, Vodafone was the first company in Portugal to provide a 24x7 attending centre and its quality is highlighted by its customers and a motive of pride to their employees.

“We're committed to providing the best customer service, 24/7”

“One of the Vodafone key differentiation factors is the Customer Service. Since its beginning as a mobile company, Vodafone invested a lot in Equipment, IT Development, Processes, People and Training in order to provide a Top-level Customer Service. The current NPS indicators where Vodafone presents a clear lead over the competitor operators are a result of the work done all over the years.

This recognized value and asset is the main reason why the enterprise customers often propose Vodafone as the Prime Contractor for complex projects where other companies like Manufacturers, Integrators or Consultants are active players.”

Regarding IoT,

“Vodafone offers a total end-to-end solution, leveraging its complete business experience, including: device management software, cloud services, analytics and application enablement assets and we have a Strong market engagement, with competitive prices across product offering.”

Vodafone Portugal NPS (Net Promoter Score), both in Consumer and Corporate Markets is the highest in the market with a difference of about 35 pts from his competitors.

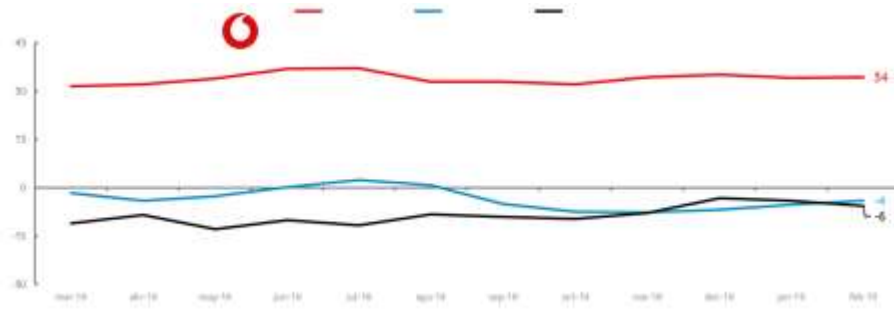


Figure 4: GfK 2018 | Vodafone NPS Business | February 2019

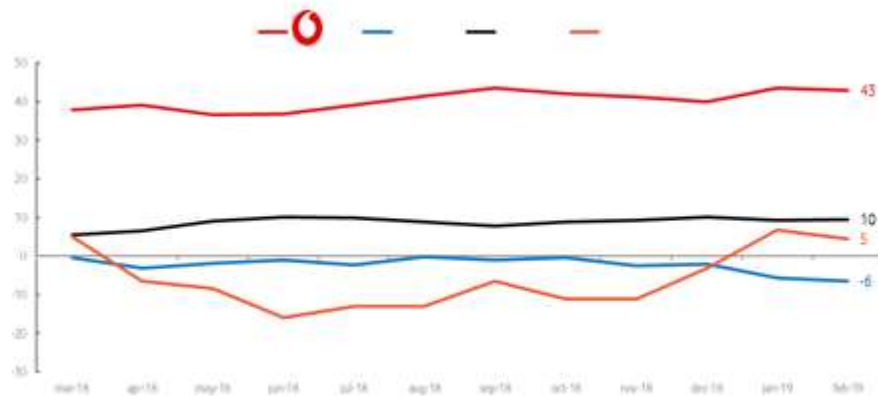


Figure 5: GfK 2018 | Vodafone NPS Consumer | February 2019

Considering those arguments, Vodafone’s Human Resources must be understood as valuable, rare and inimitable, being a used by Top Management as a nuclear Sustainable Competitive Advantage and a pillar to the Organization.

4.2.2. Brand

Being an intangible resource, Brand is all about firm’s reputation.

This very important asset is managed in a global way, and its guidelines followed and executed locally, in a very restrictive way, which allows fortify the concept of a Global

Company, where user experience is the same, no matter the country, nor the continent where the Customer is.

The Brand brings the oneness that consolidates the user experience and provides the customer trust.

Vodafone Brand, Mission and values

The leadership of Vodafone Group in the global telecommunication market and the position of co-leadership of Vodafone Portugal, obtained in the Portuguese market, are supported through a strategy of differentiation and quality in which Business Sustainability plays a fundamental role.



Figure 6: Vodafone Positioning

Vodafone's activities are based on Company Business Principles that regulates the daily activities of every employee. These Principles rules the Environmental Policy, the Code of Ethic of Purchasing's, and the Policy for Quality as well as the responsible Deployment of the Network.

Vodafone Portugal Foundation. Mission and objectives.

Founded in 2001, Vodafone Foundation acts with total autonomy but is fundamental in the operationalization of Vodafone's Social Responsibility strategy.

Mission: "Promote, support and carry out projects that contribute to the development of the Information Society."

Objectives:

4. The promotion of scientific and technological research;
5. The promotion of training and professional qualification in the telecommunications and information technology sector;
6. Support for special social integration projects;
7. Support for projects of general utility;

8. Patronage in the areas of content promotion and the development of initiatives that promote the Portuguese language and culture, namely on the Internet;
9. The support for the creation and development of Portuguese companies in the computer or telecommunications sector.”

Vodafone Brand uniqueness

Vodafone presents itself to the market as a global, solid and trustful Company ready to voluntarily, assume commitments with Portuguese people:

- **Society:** Moved by innovation; Speed, Simplicity and Trust
- **Environment:** Looking after our communities and environment
- **Network:** Mobile phones, antennas and health

At same time, Vodafone plays a daring role by placing itself as an innovator and challenging Customers to discover the future together maybe like an older brother but definitively like a member of the family.

“Why Vodafone? The future is exciting, ready?”

This game of seduction raises the brand in a way, all on its own, which makes it unique and special. That is inevitably a valuable, rare and inimitable Sustainable Competitive Advantage.

4.2.3. Financial resources

As a listed company, Vodafone is able to raise capital through the sale of its own securities, thus securing the company easy access to funds if a need arises. Furthermore, the firm can borrow money at comparably good rates, as all three big rating agencies attest the firm investment grade in short and long-term credit ratings (Vodafone, 2014B). However, the firm has had substantial capital in recent years. Since 2011, Vodafone has had cash & cash equivalents higher than GBP 6bn every year. In its financial year 2013/2014, after its disposal of its 45% stake in Verizon Wireless, the company was able to increase this amount to more than GBP 10bn while repaying debt of GBP 9.8bn and repurchasing shares.

4.2.4. Physical Resources

Vodafone's network, with a global footprint across 26 Operating Companies, 53 Partner Markets and 602 Roaming partners creates one of the largest mobile operators in the world. At the end of March 2014, Vodafone owned more than 263,400 mobile base stations (Vodafone, 2014).

All in all, Vodafone's physical resources are valuable, and rare in the sense that no competitor is able to offer such a network quality, on a comparable geographic reach. In addition, due to the current heavy investments, this "level of rareness" is expected to increase in the near future. The company's network, constituted by its physical assets, can thus be named a Sustainable Competitive Advantage.

4.2.5. Global Footprint

A global presence in different countries and continents brings to Vodafone several major advantages. Firstly, a large number of competitors who only operate in Europe have been facing significant revenue declines in recent years due to unfavourable macroeconomic conditions. Vodafone, however, has been able to partly offset these declines with its increased revenues in emerging countries, mainly India and South Africa. Secondly, the group is able to offer new products and services across a larger market, after they have proven successful in one or two initial countries. This capacity to replicate reduces risks and costs significantly.

Taking into account the above, we may also consider that the Global Footprint is a Sustainable Competitive Advantage.

4.2.6. Data ownership

Consultants and scholars consider that data is the new oil.

"The world is more technological every day, the future of machines and humans is to work together and the new oil is the data. These are some of the certainties of the experts who went through the Business Transformation Summit to discuss the impact of technological change in our lives" In Jornal Económico, October 17th, 2019

To run its own activity and be compliant with regulatory procedures, Vodafone has to manage huge amount of data from mobile devices. It means that Vodafone can have access to relevant customers information such as localization devices (and its owners), to know if they are moving, for how long do they stay, where they are coming from, where they go...

It is also possible to infer habits, tastes, interests, in one word, profiling its customer base and be able to anticipate behaviours, foresee next purchases, for instance, and use this information in an anonymous way in its own benefit in full respect of Global Data Protection Regulation (GDPR). Vodafone has been awarded for introducing a mechanism of “opt out” in which despite the anonymization of data, any customer can requested to be excluded from this data analysis.

Combined with Data Analytics and Big Data technology, Vodafone can help on designing contingency plans to prevent catastrophe’s disasters or simply contribute with information to complement municipal master plans or simply support its customers bringing insights to their own activity.

The more these technologies are being used, the more Data owned by Vodafone can be considered a Sustainable Competitive Advantage.

4.3. VRIO Framework – Competitive Advantages

The table below resumes the VRIO framework providing a quick view on which are the Valuable Resources and Capabilities identified that bring a Sustainable Competitive Advantage to Vodafone.

Test to VRIO Framework

Resources & Capabilities	Valuable	Rare	Inimitable	Explored by Organization	Competitive Constraints
Employees: Skills & Expertise	Yes	Yes	Yes	Yes	Sustainable C.A.
Brand: Trust	Yes	Yes	Yes	Yes	Sustainable C.A.
Financial resources	Yes	Yes	No	Yes	Temporary C. A.
Physical resources	Yes	Yes	Yes	Yes	Sustainable C. A.
Global footprint	Yes	Yes	Yes	Yes	Sustainable C.A.
Data ownership	Yes	Yes	Yes	Yes	Sustainable C.A.

Table 3: Test to VRIO Framework on Vodafone R&C

A comparison of Resources & Capabilities between Vodafone and its competitors, in Portugal, allows us to recognize some expected similarities, considering that both dispute the same market, but also some important singularities, mainly on the management of its intangible resources.

In fact, both have identical tangible resources, such as physical resources (their proprietary infrastructures), significant financial resources and access to their own customer data with statistical relevance for being used on big data analysis.

According to (Tomer, 1987), the major differences come from intangible resources, such as the brand reputation, the know-how that exists in each team and respective cultures, and from the organizational resources that include the hierarchical structure and planning, formal and informal.

In regards to the tangible resources, Vodafone's global footprint seems to be the competitive advantage that competitors cannot replicate. To mitigate it, competitors establish alliances with other operators, but without getting the same efficiency. As an example it was mentioned the GDSP, the proprietary IoT management communications platform with the largest number of devices connected, worldwide.

"We are the global leader in IoT Connectivity, with a global footprint, 1400 dedicated staff, across 26 Operating Companies, 53 Partner Markets, and with 602 Roaming Partners.

Vodafone offers a total end-to-end solution, leveraging its complete business experience, including: device management software, cloud services, analytics and application enablement assets and we have a Strong market engagement, with competitive prices across product offering."

4.4. Competitive Advantages in high dynamic environments

In very dynamic markets where the industry structure is unclear, as well as its frontiers and opportunities, the uncertainty cannot be evaluated by the study of probabilities as it is not possible to anticipate alternative future scenarios.

In presence of such industries (Cardeal, 2018) defends that dynamic capabilities do not rely that much on the existing knowledge but on the capacity to quickly acquire new skills on specific areas, on treating information in real time or testing prototypes for

experimenting new alternatives requiring the adoption of simple, experimental and interactive processes and initiatives based on a tentative error approach.

In the telecommunications market where customer needs, competitor's strategies and technical opportunities are in permanent evolution, the company's income is always at risk.

It is mandatory that each company has the organizational skills to obtain competitive advantage from the proper use of its VRIO resources and get sustainable competitive advantages.

Nevertheless, the same organizational skills should take advantage of other valuable resources that, not being VRIO, can provide temporary competitive parity or even temporary advantages.

“The resources based strategy tries to respond to two main questions: How to improve existing valuable resources and their internal organization to take benefit from it? Which other resources are necessary to be created, developed or acquired, in order to create new sources of competitive advantage?” (Cardeal, 2018)

A competitive advantage occurs when a company can get an economic positive value. The bigger the difference between the perceived value and its cost, the bigger that advantage.

The diversification as a way to increase the economic value seems to be a strategy for Vodafone to increase its competitive advantage even if its innovative products or solutions can be imitated by its competitors after a certain period of time.

“As a large scale, multi-national network operator, Vodafone can inject and manage services into the network that non-operators can only support with a terminal-client app. This is a clear plus for consumers as they can have access to services regardless of the terminal/device they are using.”

Another opportunity for a company to increase its economic value is taking benefit from initiatives that reduce costs by the efficient use of resources, like economies of scale, or access to lower production costs, resultant from the transference of activities between markets / operations. Interviewers are confident that these are temporary competitive advantages despite they could not be considered in the VRIO table framework.

Richard D’Aveni (1994) composed a generic principles proposal for companies that face hypercompetitive markets reinforcing the relevance of planning and organizational teams to obtain competitive advantages. He trusted that planning long term competitive advantage can destroy the existing competitive advantage by reducing the time to respond to the changes in the surroundings.

This strategy guidelines can be resumed in the table below:

Guideline	Racional
Destroy the bases of competitive advantage	Innovate
To attach competitor’s weaknesses can be counter-productive	Alert competitors
Series of small initiatives can be more effective than few integrated initiatives	Confuses competition
Disruption of the status quo	Innovate
Be unpredictable and irrational	Confuses competitors

Table 4: Strategic guidelines for hyper-competitive markets

5. Conclusion

Looking at the telecommunications market and, in particular, at a company in Portugal that is a world leader in the sector, allows us to observe the dynamism of the technological industries, plus the resulting impact of the surroundings that are not confined to the National market, instead it, is influenced at a global level.

We can conclude that over the last 25 years this sector has experienced numerous exogenous shocks that forced companies in the sector to react quickly in order to transform risks into opportunities and, in particular looking to the case of Vodafone, and how it has been able to surf the waves over this turbulent seas.

The case study analyzed in this dissertation proposes to review some challenging situations, experienced by Vodafone, and to explain how the company reacted to the dynamics of the market, building and managing its resources and capacities, throughout its time of existence.

It is certainly impossible to delve into some of the aspects mentioned here given the complexity of the company's dynamics as Vodafone Portugal and Vodafone Group.

It would be interesting, in a future research, to understand the extent to which the profile of the company and its competitors will change, in result of their entry into new business areas, and the entry of new players bringing different dynamics that try to bring to the sector. Will the data and voice communications be free of charge soon? If so, what are the sources of revenue that will ensure the sustainability of the business? Is Vodafone following Richard D'Aveni guidelines creating new sources of competitive advantages to replace existing ones while the existing are still adequate instead waiting for its deterioration? Will OTT's and hardware manufacturers become telecommunications operators? How long will they be able to run over the networks of operators without having to support network maintenance costs? Will operators be able to help its customers to be effectively more efficient by analyzing their data and anticipating preventive measures and optimizing their own business? The more we dig...

It is a privilege to study this sector, as it is not necessary to wait a long time for having answers for all these questions because the dynamics of the different players are very intense, indeed.

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VII. Exhibits

1. Vodafone Milestones:

Vodafone Milestones	
1983	The Racal Electronics Group wins its bid for the private sector UK Cellular licence .
1984	The Vodafone name is announced to the media on 22 March.
1985	The Vodafone analogue network is the first cellular network to be launched in the UK.
1987	<p>Vodafone is recognised as the largest mobile network in the world.</p> <p>Vodata is created as the ‘voice and data’ business to develop and market Vodafone Recall, the voicemail service</p> <p>Vodapage is launched – providing a paging network that covers 80% of the UK population</p>
1988	Racal Telecomms Plc floats on the London and New York stock exchanges
1989	Paknet is formed as a joint venture between Racal Telecom and Cable & Wireless
1991	<p>Racal and Vodafone de-merge, and the Vodafone Group is listed as an independent company on the London and New York stock exchanges</p> <p>Vodafone launches its digital (GSM) mobile phone service – the first in the UK</p>
1992	<p>Vodafone and Telecom Finland sign the world's first international GSM roaming agreement</p> <p>18 Oct: Telecel launch its GSM cellular network in Portugal</p>
1993	Vodafone Group International is formed to acquire licences and supervise overseas interests

1994	<p>Vodata is the first network operator in the UK to launch data, fax and text messaging services over the digital network</p> <p>Vodafone joins the Globalstar consortium to develop and launch a Low Earth Orbiting Satellite mobile phone service</p>
1999	<p>Vodafone AirTouch Plc is created as a result of a successful merger between Vodafone Group Plc and AirTouch Communications Inc</p>
2000	<p>The acquisition of Mannesmann AG almost doubles the size of the Vodafone Group – making it the world’s largest mobile telecommunications company</p> <p>The Vodafone Mobile Connect USB modem is launched</p> <p>WAP gateway is opened, offering customers access to internet-style information</p>
2001	<p>The first 3G voice call is made over Vodafone’s initial 3G network</p> <p>Vodafone introduces instant messaging to its network</p> <p>GPRS is launched nationwide, providing an ‘always on’ connectivity</p> <p>Find and Seek with Vizzavi UK allows customers to find their way via WAP</p>
2002	<p>Vodafone trials a global mobile payment system in the UK, Italy and Germany</p> <p>Vodafone launches the first European GPRS roaming service</p> <p>The Vodafone Group Foundation is launched</p> <p>Vodafone launches Vodafone live! and Mobile Office</p>
2003	<p>Vodafone UK launches Speaking Phone for blind and visually impaired customers</p> <p>Vodafone live! attracts one million customers in its first six months</p> <p>Orange, Telefonica Moviles, T-Mobile and Vodafone form a new association to drive inter-operable mobile payments</p>
2004	<p>Vodafone launches its first 3G service in Europe with the Vodafone Mobile Connect 3G/GPRS data card for corporate customers.</p>

	Vodafone live! with 3G is launched in 13 markets – giving customers access to a range of services including video calling and video streaming
2005	Vodafone UK and Microsoft announce a joint project to bring Microsoft Outlook functionality to wireless mobile devices
2006	The Vodafone Mobile Connect 3G broadband (HSDPA) data card is launched, offering faster data speeds on laptops The number of Vodafone live! customers with 3G reaches 10 million
2007	Vodafone launches Secure Remote Access , providing data security for remote and flexible workers
2008	The first ever touchscreen BlackBerry® smartphone – The BlackBerry Storm 9500 – is announced. It's built exclusively for Vodafone.
2009	Vodafone signs an exclusive agreement with Twitter , allowing customers to send updates and receive notifications by text
2010	Vodafone UK ranges the Apple iPhone Vodafone One Net - the business solution that merges mobile and landline numbers – reaches one million customers
2011	Vodafone Guardian goes live – a free app that helps parents keep youngsters safe on their mobile.
2012	Vodafone acquire Cable and Wireless Worldwide plc – allowing them to provide both fixed and mobile services.
2013	Network investment gets a boost to bring our fixed and mobile infrastructure together Vodafone launch 4G network in London
2014	Successfully test Voice over LTE , a technology allowing voice calls to be carried across our 4G data network

	<p>Vodafone has been named as a leader in Gartner’s first ever Magic Quadrant for managed Machine-to-Machine (M2M) services.</p> <p>Vodafone extends period of acceptance for Cobra Automotive Technologies S.p.A.</p>
2015	<p>Launch of Vodafone Broadband for UK customers.</p> <p>More than 22 million premises sign up for our high-speed broadband and home phone service, supported by our innovative Connect mobile app.</p>
2016	<p>18th Jul -Vodafone has been named by Gartner, Inc, as the only company in the “Visionaries” quadrant of the Magic Quadrant for Management services</p> <p>19th Jul - Vodafone announced that the world’s first live commercial NB-IoT networks will be in Germany, Ireland, the Netherlands and Spain in the first three months of 2017.</p> <p>10th Oct - Vodafone signs roaming agreement with Inmarsat for Internet of Things communications</p>
2017	<p>Vodafone’s first commercially available Narrowband Internet of Things (NB-IoT) is now operational in Spain</p> <p>Launch TOBi, an artificial intelligence chatbot that acts as a virtual agent – offering customers a quicker web chat service</p> <p>Vodafone is the first UK operator to abolish roaming charges across 50 European destinations, with the launch of Vodafone Global Roaming</p> <p>27th Feb – Vodafone is first global IoT provider to pass 50 million connections milestone</p> <p>27th Sep - Vodafone positioned as a Leader by Gartner in the Magic Quadrant for Managed M2M Services, Worldwide, for the fourth consecutive year.</p>
2018	<p>20th March – Two of the biggest global players in the Internet of Things (IoT) Vodafone and China have joined forces to resell each other’s services for the first time.</p>

	<p>12th September, Vodafone will double the number of European cell sites in its 5G Narrowband internet of Things (NB-IoT) network footprint by the end of 2019</p> <p>In November, we launched our new “V by Vodafone” Consumer Internet of Things (IoT) business; initial products include the V-Auto, V-Camera, V-Pet, V-Bag and V-Home connected devices.</p> <p>15th October – Vodafone NB-IoT network arrives to every Spaniard city with more than 25.000 inhabitants.</p>
2019	Vodafone is first global IoT provider to pass 81 million connections milestone

2. Questionnaire

The present questionnaire includes the questions that have been answered individually by different interviewers. Each interviewer have replied to those related to his/her role and responsibility.

1. Context

Telecommunications market as, in general, any technological environment, suffers from strong dynamics of change what oblige to permanently innovating to maintain its competitiveness.

These dynamics originated by Governments, that demand heavy fees for licencing radio spectrum, or the abolition of roaming tariffs inside the EU market, as well as the spiral effect of price reductions over voice and data traffic, are creating challenges that compromise the financial outcome of the entire telecommunications industry and making TelCos to redefine their strategies to the future.

My understanding, based on market evidences, is that Vodafone sustained by its global presence and internal knowledge skills, has established several strategic pillars to support its growth ambitions like Cloud & Hosting, Cyber Security, IoT, AI, Big Data and Analytics.

Questions:

1. How well positioned is Vodafone is to be chosen by customers instead of other players like integrator Companies, Manufacturers or even Consultants, to perform the role of provider in these new areas?
2. Why should it to invest in “red oceans” like Cloud & Hosting when big sharks like Microsoft, AWS and Alibaba have already got an outstanding global leadership?
3. Is it possible to be successful in Cyber security not being a manufacturer? How does it fit with the remaining Vodafone's services portfolio?
4. Is it being considered a scenario where main Vodafone’s income would come from these new groups of technologies?
5. What are the main advantages of Vodafone Consumer IoT compared with other player propositions like Apple Home or AMS IoT?
6. What are the main reasons for companies to invest in IoT solutions? What are they looking for?
7. Is it expected that the launching of 5G will benefit Vodafone to differentiate herself from other players competing in these strategic pillars?

8. What kind of services can be delivered by the use of Artificial Intelligence?
9. What are Vodafone's expectations regarding yearly growth for these new revenue streams?
10. If it the case, when is it expected that the income from these new services can be significant if compared with traditional income from mobile voice or fixed data revenues?

3. Market ANACOM - Figures (Factos e Números, 1º Semestre 2018)

Taxas de Penetração

Serviços		Taxa Penetração		variação	Média UE	Desvio em relação à média UE	Ranking mais recente (ranking anterior)
		18S1	17S1	18S1 / 17S1			
STF	p/ 100 hab.	48,5	46,4	2,1	41,3	7,2	7.º (7.º)
STM	p/ 100 hab.	168,0	166,2	1,7	136,9	31,1	3.º (4.º)
STM utiliz. efetiva	p/ 100 hab.	119,1	118,3	0,9	n.d.	n.d.	n.d.
STM utiliz. efetiva excluindo PC/tablet/pen/router e M2M	p/ 100 hab.	113,7	112,8	0,8	n.d.	n.d.	n.d.
BLF	p/ 100 hab.	35,7	33,6	2,1	33,7	2,0	12.º (11.º)
BLM	p/ 100 hab.	69,8	65,2	4,7	90,2	-20,4	26.º (25.º)
BLM PC/tablet/pen/router	p/ 100 hab.	5,5	5,4	0,0	n.d.	n.d.	n.d.
STVS	p/100 fam	93,9	91,2	2,7	67,3	26,6	9.º (9.º)
SDC	p/100 fam	32,7	33,2	-0,4			
DTH	p/100 fam	12,8	13,9	-1,1	27,3	-14,5	15.º (14.º)
IPTV	p/100 fam	48,4	44,2	4,2	15,9	32,5	1.º (1.º)
Pacotes	p/100 fam	92,7	88,6	4,1	64,8	27,9	3.º (3.º)
Pacotes 3P/4P/5P	p/100 fam	80,6	75,9	4,7	34,9	45,7	1.º (2.º)

Quotas de Receitas no 1S18

	Total	Serviços fixos	Serviços móveis	Total Multiple play	Double play	Triple play	Quadruple/ quintuple play
MEO	39,5	43,0	33,5	42,0	44,2	36,2	44,9
Grupo NOS	32,8	40,4	19,9	41,8	31,2	36,3	46,1
NOS	31,5	38,2	19,9	39,3	30,0	33,5	43,8
NOS Açores	0,5	0,8		0,9	0,6	1,0	0,8
NOS Madeira	0,8	1,3		1,8	0,6	1,8	1,7
Vodafone	24,7	12,8	45,1	12,6	14,5	22,0	7,2
Grupo APAX	2,1	2,9	0,7	3,6	9,5	5,6	1,8
Nowo	2,0	2,8	0,7	3,8	9,4	5,6	1,8
Onitelecom	0,1	0,2	0,0	0,0	0,0	0,0	0,0
Outros	0,9	0,9	0,8	0,0	0,7	0,0	0,0

Nota: Receitas de Serviços Fixos inclui receitas individualizadas do STF, TV e SAI e Receitas de serviços integrados em pacote.

Número de subscritores de pacotes de serviços

	17S1	18S1	Variação 18S1 / 17S1
Total de subscritores de pacotes de serviços	3.613	3.803	5,2%
Pacotes <i>double play</i>	516	495	-4,1%
Pacotes <i>triple play</i>	1.492	1.585	6,3%
Pacotes <i>quadruple / quintuple play</i>	1.605	1.722	7,3%

Nota: A partir de 2018 a contabilização dos serviços que integram os pacotes foi alterada. A designada "Internet no telemóvel" que, até então, era classificada como banda larga móvel (BLM), passou a integrar os "serviços móveis - ofertas suportadas em telemóvel". A título de exemplo, uma oferta com os três serviços fixos e com o serviço móvel através de telemóvel incluindo voz e dados, era considerada uma oferta 5P antes de 2018 e, com a entrada em vigor do novo regulamento, passa a constituir uma oferta 4P (Ver regulamento n.º 255/2017 de 16 de maio de 2017 disponível em Regulamento n.º 255/2017, de 16 de maio).

Receitas Totais

	1S2018
Receitas retalhistas dos serviços móveis (diretamente atribuíveis)	617 327
Receitas de serviços fixos individualizados	273 032
STF individualizado + VoIP nómada (diretamente atribuíveis)	111 649
BLF individualizado	55 048
TVS individualizado	105 435
Receitas de serviços oferecidos em pacote	786 102
Double play	56 098
Triple play	258 838
Quadruple/ quintuple play	471 167
Outras Receitas	51 049
Total	1 727 510

Unidade: Milhares de euros

4. Vodafone Global Footprint

Vodafone Operations and Partners

