



DEPARTMENT OF COMPUTER SCIENCE

TDT4259 - APPLIED DATA SCIENCE

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INDIVIDUAL ASSIGNMENT

**Movistar**

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## 1 Business Initiative.

Movistar is the main company that provides telephone lines, internet and television in Spain. It is also active in LATAM.<sup>1</sup>. Movistar is part of the multinational Telefónica, one of the most important telecommunication companies worldwide.

At the moment, it has the option to hire the services as a private user, freelancer, or enterprise. The telephone line provided can be a landline or mobile telephony. The same happens with the internet. It can be FTTH (fiber to the home) or mobile telephony with 4G or 5G. There is an specific platform called "Movistar+" that works as films and TV shows platform and works by monthly subscriptions.

Movistar was founded in 1995, called Moviline, they offered analogical telephone services. Later, they inserted digital services and in 2003 they decided to just keep going with the digital services and changed their name to Movistar.

In a global aspect, Telefónica started to expand to LATAM in 1990 and, when the multinational bought Movistar in 2010, it started to introduce its services there. They also operate in Germany and United Kingdom and have branches in some countries of Europe, the United States, and China.

We want to implant the platform "Movistar+" in half of the countries of LATAM, as they already count on our services, with the objective of increase our profits. This is accomplished by changing the device that lets you watch TV by a new one that allows you to directly use our platform on the TV.

In table 1 we can see the incomes and accesses from last year.

2020	Segment income (million euros)	Total access (thousands)
Spain	12.401	41.305
LATAM	7.922	108.509

Table 1: Incomes and accesses from Spain and LATAM from last year

We cannot forget about the places that already count on our services, so the plan is to keep the numbers of members growing as well as keep building a greener future while developing the project Movistar+ in LATAM, all of this before March 2023.

KPI	Objective 2023	Base year value	2020 Value	Progress
Energy consumption per traffic	-50%	408'7 MWh/PB	78'2 MWh/PB	-80'9%
GHG emissions	-40%	1,91 <i>MtCO<sub>2</sub></i>	0,74 <i>MtCO<sub>2</sub></i>	-61,1%
Scope 3 emission	-28%	2,61 <i>MtCO<sub>2</sub></i>	1,91 <i>MtCO<sub>2</sub></i>	-26,8%
% Renewable electricity consumption	45%	20,8%	87,5%	

Table 2: Environmental performance

At the end of March of 2023, we will have achieved the two initiatives. Implanting Movistar+ in half of the countries of LATAM and be greener.

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<sup>1</sup>Latin America

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## 2 Business Stakeholders.

Business stakeholders are those that can impact the business, as well as being impacted by it in either a positive or a negative manner. For achieving the target of the project "Movistar+ in LATAM" and to achieve the goal of -50% of energy consumption per traffic in addition to keep the number of subscribers growing, we have the following business stakeholders.

### 2.1 Customers.

The customers are important in the initiative of implanting the new platform in LATAM as in this way, they will have the opportunity of enjoying a new catalog of films and TV shows in addition to the ones they can already have (Netflix, Prime Video, HBO,...). They will also get a discount if they subscribe to the platform and use our telephone services.

In a global aspect, the customers will be happier knowing they are collaborating with an environmentally-helpful company.

### 2.2 Departments.

The departments in our company will also be affected in different ways.

- **Marketing department.**

The marketing department will have to work to make announcements of the new platform. As described before, we want to create a new discount in which the customer will get a better price if they hire our services and get subscribed to the platform.

This department will also be in charge of letting everyone know that we are a green company and that we collaborate with the environment.

- **Research department.**

The research department will have to make a study before we start to announce the platform. We will need to make sure in which countries of LATAM we will have to invest more money when advertising ourselves and to get to know the population we are announcing Movistar+.

They also have to make a market study and see the different competitors we have to highlight our differences.

- **Purchase department.**

The purchase department is also important as business stakeholders as they will have to look for green suppliers. They have to check that the quality of the product is good and not very expensive.

In addition, they have to take into account that we will need to export to LATAM the new devices to have Movistar+ implemented in the TV directly.

### 2.3 Partners.

The partners that we have at this moment are the streaming platforms Disney+ and Netflix. We will have to make sure that they want to keep collaborating with us in the Movistar+ project.

We also want to make sure that all of our future and actual partners are eco-friendly. A company that is not following our beliefs in changing the future to a greener one, will not collaborate with us.

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## **2.4 Government.**

Every government of each country has different laws about the way the advertisements can be done. We also have to take into account that there are some countries where the way the environmental laws are imposed are different.

## **3 Business Entities.**

The business entities are the ones around which we create and capture analytic insights. They can also be "things" like the Movistar+ application we have included.

### **3.1 Customers.**

Customers are one of the most important business entities. The company would be nothing without them. We are interested in knowing the age of the customer, gender, or if they have children or dependants. We also collect data as the zip code of their location and the type of services they have hired or how much time they have been subscribed to our services. In that way, we can make better offers to them.

We want to know at which hours of the day do they start using the platform, for having the databases prepared for more or less data exchange. This can be done by registering when the customers start to use Movistar+ and how much time do they use it. After 1 month we will start to make approximations about the time of the day they use the platform the most. At the end of the first 3 months, we will have the mean done. While these 3 months happen, we will use the means we have from the population of Spain.

### **3.2 Movistar+ Application.**

The Movistar application is closely linked to the customer business entity. This is because, with the web page and the application, we will be using artificial intelligence to recommend different catalogs to our customers. We need to know which TV shows are they interested in, the same as the films. We are also interested in details about their interests, preferences, passions,... So we can make a better profile of the customer. We can get all this information from the type of shows they watch.

### **3.3 Suppliers and exporters.**

As we want to create a green future, we want to make sure that all of our suppliers work ethically with the environment. This will end on having to spend more in this area, that is spending that we will assume. On the other hand, we do not want to expend a lot of money, we want suppliers that are green but with a good value for money.

We also need to have into account that we will need to export the devices required to connect from the TV directly to Movistar+. This is a expend, we will have to make and it will be noticed the first months because it will be when we will have to make the biggest export.

### **3.4 Demographics.**

The demographics are one of the most relevant things to take into account. Movistar is expanding itself to a new area that has never been. We need to extract information that later could be valuable for the company.

We need to know (from the data we already own, because of the other services we already have) in which areas our services are used the most. We also need this information to try to announce ourselves in a way where we put more advertisements in the places we do not have a lot of users, to get that area to hire us as a telephone and video platform company.

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### 3.5 Competitors.

Movistar will have to prospect the competitors that are currently in the market. We will need to know at which prices they are selling their platforms, the kind of offers they have provided to their customers, and the region of the population they are working on.

## 4 Use Cases.

### 4.1 Key decisions.

After a process of brainstorming to get the targeted business initiative of point 1, we have grouped the ideas on the following table:

Sales & Marketing	Research	Human Resources	Customers
Promotions	Carbon footprint of suppliers	Hiring stuff	Packages
Offers	Environmentally friendly routes	Suppliers	Interests
Advertisements	Government laws	Exporters	Satisfaction
		Customers	Pricing

Table 3: Key decisions

### 4.2 Grouping decisions.

The use cases must accomplish the goals in the time given for each one. They should lead to having Movistar+ in LATAM and reducing a 50% the energy consumption per traffic. For that to occur, we have differentiated 6 use cases.

- 1. Reduce the export cost of the devices required to implant Movistar+ by a 12%.**

As we already have the connections to LATAM, because we have Movistar there, we do not need to create new ones. The only thing we will need to do is to export all the new routers that include the device to connect to the platform Movistar+ directly from the TV. In the first week, we should have the devices in each branch of each country.

As we also have the goal of creating a greener future, we will need to research the routes that are more environmentally friendly.
- 2. Increase installments of the device required to use Movistar+ in the first 2 months by 20%.**

We want the people to hire our new platform as fast as possible. We will do this by offering discount packages of a telephone line, internet, television, and Movistar+. Movistar has to invest in our marketing department. In this way, we ensure a higher hiring of our products and a higher installment of Movistar+.
- 3. Increase the speed of the installation of the devices by 94%.**

This use case is closely linked to the last one. Once the client has hired our product, we want the device to be installed in all the houses as fast as possible so the clients can enjoy our product straightaway.
- 4. Increase the employment in our company by hiring people in LATAM by 17%.**

Movistar will have to hire people in LATAM as we are introducing a new product there. We will have to hire technicians, customer service, distributors, etc.
- 5. Reduce churn rate by 15%.**

Implementing the platform Movistar+ in LATAM is another strategy to reduce the churn rate. Offering new offers packages will encourage people to stay in our company. In addition, we will also require to use artificial intelligence to get what our customers' interests are.

6. **Improve our suppliers by 40%.**

The suppliers we will hire will need to use green technology like electric cars, not having a lot of GHG emissions,... To meet the target of reducing the GHG emissions a 40%. That is why we will have to make research about which one suits us better.

### 4.3 Prioritization of use cases on matrix.

Based on the group decisions we have made on point 4.2, we have concluded that the three priority cases are 1, 6, and 5. The following matrix represents the use cases described in the last part.

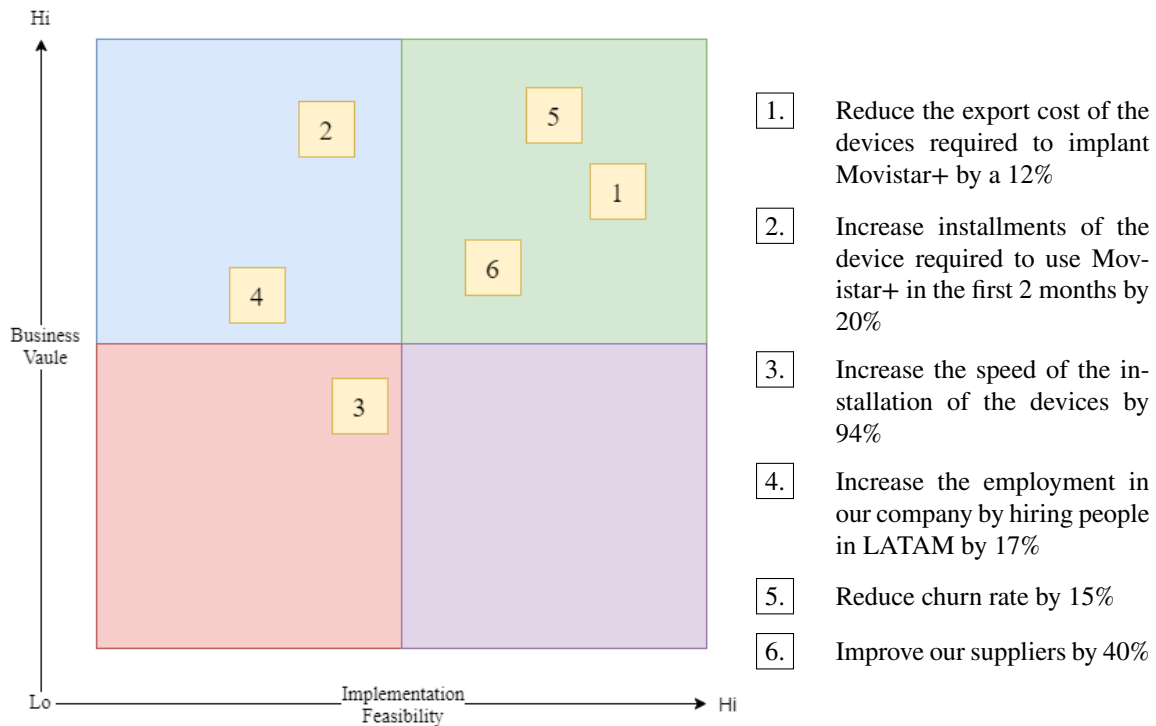


Figure 1: Use case matrix

## 5 Data Sources.

From the prioritization of use cases on a matrix of point 4.3, we concluded that the most important use cases were 5, 1, and 6. The reasons are explained in the next sections.

### 5.1 Reduce churn rate by 15%.

This one is also an important use case, as if we achieve the drop of the churn rate, it would mean that we have accomplished the successful introduction of Movistar+ in LATAM. As for reducing the churn rate, we will use artificial intelligence to get to know our customers in LATAM, it is a major project.

We will also need to do research about the competitors and see what their offers are.

- **Data source:**

- Customer data such as age, gender, dependants (If they have someone to be in charge of for example kids, elderlies,...) or if they are married or not.



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- The competitors' promotions, offers, or fixed monthly tariff,
  - The kind of plan they are subscribed to at this moment to find the best prices for the company and them.
  - Location of customers.
  - The interest of customers such as the genre of TV series and movies they like to watch.
  - Schedule of when the users use more the platform to reinforce our servers on the main hours of use.

## **5.2 Reduce the export cost of the devices required to implant Movistar+ by a 12%.**

The export cost of the devices is going to be one of the most important and urgent things to do. We will need to research which export companies will be faster, cheaper, environmentally friendly,...

- **Data source:**

- Type of transportation methods our exporters are using, if they are operating with electric vehicles, gasoline, diesel, among others.
- GHG emissions of the exporters.
- Energy consumption per traffic of the transportation companies.
- The time that the companies take to export from Spain to LATAM.

## **5.3 Improve our suppliers by 40%.**

Just as the previous case mentioned above, we will also have to research about which transportation company will benefit us more.

- **Data source:**

- Origin of the prime material our suppliers are using.
- GHG emissions of our suppliers.
- Energy consumption per traffic of the transportation companies.
- Annual reports of previous years to compare the previous suppliers to the range of opportunities we can choose from.

Based on the last points, we have created the following table, showing the data sources and the estimated value of each use case.

# **6 Develop Scores.**

## **6.1 Demographic Economics Score.**

This score is for knowing where Movistar must be announced. It will give an insight into where the population has more density and how it is distributed. It will also take information such as the churn rate of each location.

With this information, we can deduce where do we need to spend more money announcing ourselves of if we need higher or lower prices.

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○ = 0; ● = 4	1	2	3	4	5	6
Customer data	○	◐	◑	○	●	○
Competitors	◑	◐	◐	◑	●	◑
Subscribed plan	○	○	○	◑	●	○
Locations	◐	◐	◑	○	◑	◑
Interests	○	◑	○	◑	●	○
Schedules	○	○	◑	○	◐	○
Transportation methods	●	○	●	◑	○	◑
GHG emissions	●	◐	◐	○	◑	●
Energy consumption per traffic	●	◐	◐	○	◑	●
Travel time	●	◑	◑	○	◑	●
Origin of prime material	◑	○	○	◑	◑	●
Annual reports	●	◐	◑	◐	◑	●

Table 4: Data sources

## 6.2 Customer Satisfaction Score.

This score is closely related to the previous one. The difference is that in this one, is the client the one that tells us if they are satisfied or not with our product. Every two months we will randomly pick some clients to fill a survey and tell us their satisfaction score with our products.

That being so, we can develop new offers and discounts that we can be sure our customers would like.

## 6.3 Customers' Interests Score.

The customers' interests score includes the database that artificial intelligence has been creating since the customer has been using the platform. It let us know in which subjects, interests, preferences or their taste in TV series or films.

With this information, we will get a better profile of each customer and we will be able to create a better experience for them.

## 6.4 Transportation Market Score

Information about the transportation companies market. Movistar has to collect information about which company shares its ideals. It will also collect the economical part and the conditions as well as all the information about the way each company helps the environment.

## 6.5 Green Footprint Score

Gives information about how Movistar has been developing in an eco-friendly way. It takes monthly reports of what our expenditures have been. It will help us to keep the GHG emissions and the energy consumption per traffic under control.

## 7 Document recommendations and map scores.

Use Cases	Recommendations	Scores
Reduce churn rate by 15%	<p>Recommend to center the publicity campaign in locations we already have Movistar in LATAM, after we have started to get known, to the remaining locations</p> <p>Recommend to create new packages offers based on the data we are collecting</p> <p>Recommend to emphasize all the new green technology we are using</p> <p>Recommend to take a look at the features that have more complaints in the Spanish servers and fix them so these errors do not enter LATAM.</p>	<p>Demographic Economics</p> <p>Customer Satisfaction</p> <p>Customer Interested</p>
Reduce the export cost of the devices required to implant Movistar+ by 12%	<p>Recommend to look for the shortest route to get to LATAM as we want as fast as possible to start selling our platform.</p> <p>Recommend to take a deep look to each transportation company will make a better offer to us.</p> <p>Recommend to investigate which company is the one that is more environmentally friendly.</p>	<p>Demographic Economics</p> <p>Transportation Market</p> <p>Green Footprint</p>
Improve our suppliers by 40%	<p>Recommend to choose the ethically better supplier. The one that has its workers in better conditions.</p> <p>Recommend to investigate which company is the one that is more environmentally friendly.</p> <p>Recommend to choose the company that takes less time to get the supplies to our warehouses.</p> <p>Recommend to select the one that makes us the best value.</p>	<p>Demographic Economics</p> <p>Transportation Market</p> <p>Green Footprint</p>

Table 5: Recommendations and score mapping.

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