



## CASE STUDY

# Super Bock Group: the outsourced delivery challenge

### Has Super Bock Group delivered?

It was a summer Friday afternoon and Mr Silva was upset. The Super Bock beers were supposed to be delivered at 12 o'clock and, until that time, the business owner had no news. It was not the first time that the delivery was not on time.

Mr Silva has a cafe in Algarve which gets really crowded in high season, especially on weekends. Super Bock is a very appreciated beer in Portugal and he could not have his business going on without enough beers. The delivery window is set on Friday mornings, so Mr Silva is able to refill his stock with beer grids and bottles. Sometimes, the delivery does not happen at the expected time and it has a huge impact on Mr Silva business.

One day, he decided to contact the Super Bock salesman, who he has known for a long time. Mr Silva confessed that the transportation company was not being able to deliver on time and it was something that made him think about changing the beer brand commercialized in his cafe.

The salesman got in touch with the Logistics Department of Super Bock Group in order to provide this feedback from an old and trustful client.

The Logistics Director started to pay more attention to this issue and, in fact, there were several opportunities for improvement in the relationships between Super Bock Group and the logistic service providers, which were in charge of delivering the company's goods. He immediately got together a project team which had the goal of understanding the customers' needs and how could their relationship with their logistics service' providers be improved in order to meet those requirements.

## Company Background

### Introducing Super Bock Group

Super Bock Group (SBG), until 2017 known as Unicer Bebidas, SA, is a large beer producer in the Portuguese beverage industry<sup>1</sup>. Its business is mainly focused on bottled water and beer, but SBG also produces soft drinks and wines. Besides being a manufacturing company, it is also present in the tourism industry, with two different recreational and SPA parks in Vidago and Pedras Salgadas, both places in Trás-os-Montes, Portugal. According to the company's 2015 Annual Report, 25% and 30% of the Vidago Palace Hotel and the Pedras Salgadas SPA and Nature Park' customers are foreign customers.

This company's origins date from 1890, the beginning of industrialization in the beverage industry, and it was called CUFPP ("Companhia União Fabril Portuguesa das Fábricas de Cerveja e Bebidas Refrigerantes"). Its main products were beer and soft drinks, but they also sold other alcoholic drinks, such as liqueurs, cognac, brandy, wine and gin. Counting only with 13 employees, this family-sized company was managed by its shareholders, who were elected with that purpose. The initial beer production was around 360,000 litres and the facilities were in the centre of Porto, Portugal. In 1964, the company moved to Leça do Balio, Porto, Portugal. At that time, the production capacity was 25,000,000 litres and the company had three different bottling lines, with a unit capacity of filling 20,000 bottles/ hour, and a canning line with the capacity of filling 16,000 cans/ hour.

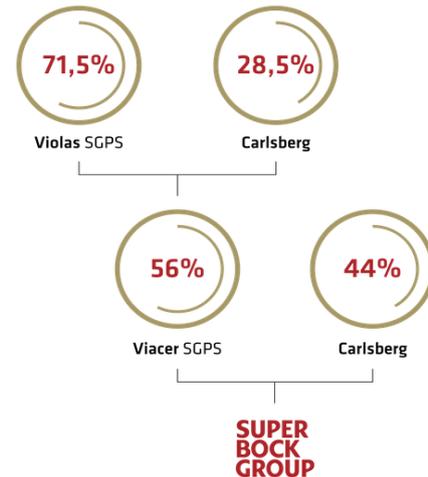
In 2017, the company had 13 activity centres located in Portugal, with headquarters located in Leça do Balio, and the current beer production reached 450,000,000 litres. Exportation plays an important role in the company's performance, since SBG exports a large volume of beer to 50 different countries: 200,000,000 out of 600,000,000 litres of beer sold in 2014 were



<sup>1</sup> <https://www.superbockgroup.com/>

exported to other countries. In 2015, the sales volume was 557,000,000 litres of beer, which was a consequence of the exportation decrease in Angola. Nevertheless, this decline could be significant if the company had not improved its performance in Portugal and in other countries.

Nowadays, this company is mainly owned by a Portuguese group named Viacer (56%), which is composed by two groups: Violas SGPS and Carlsberg. The remaining 44% are held by Carlsberg.



### Markets and Competition

In 2015, the company maintained its leadership in the beer Portuguese market, with a market share over 50%. The same happened in the sparkling water Portuguese market, where SBG had a 51.5% market share. In the African market, the company was able to reinforce its position, having a 92% of market share in Angola and 75% in the remaining African countries, where SBG operates, regarding the Portuguese beers in that international market.

The Portuguese beverage market is a duopoly between SBG and Sociedade Central de Cervejas (SCC). These two companies together hold around 90% of this market. SCC also sells beer, water and soft drinks. The remaining 10% are owned by smaller companies.

### Company's Structure

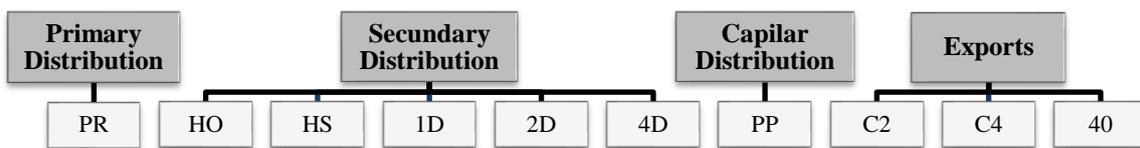
The Logistics Department of SBG is integrated in its Supply Chain area (see Exhibit 1). This department counts on over 120 people and it is divided in four main areas: Transportation and Distribution, Logistic Platforms, Back Office and Projects and Processes. The Direction is composed by the Logistics director and the secretary. The objective of this department is to manage and develop projects to the optimization of the supply chain. Each sub-department plays an essential role to achieve this goal.

The Transports and Distribution area has around 40 employees and its main activity is to assure the product's transportation and distribution to each customer of all distribution channels, as well as the movement of the goods between SBG platforms. In order to be

successful, they need to ensure that the distribution fleet and the respective equipment are being correctly and adequately managed. Besides that, it is also the Transports and Distribution area’s responsibility to invigorate and lead the negotiation of transportation, logistics operators, infrastructures and logistics equipment, together with the Purchasing Department.

### Logistics: Transportation and Distribution

SBG’s distribution is divided into 4 different types, as presented in the image below: Primary Distribution, Secondary Distribution, Capilar Distribution and Exports.



**Types of Distribution in SBG**

**PR:** Primary Distribution; **HO:** Horeca Channel; **HS:** Hyper and Supers; **1D:** 10 tons Direct Distribution; **2D:** 20 tons Direct Distribution; **4D:** 40 tons Direct Distribution; **PP:** door-to-door Distribution; **C2:** 20 tons containers; **C4:** 40 tons containers; **40:** 40 tons trucks

The Primary Distribution (PR) can be described as the freight distribution, in 40-tons vehicles, of full load (equivalent to 33 pallets) without picking. This type of distribution is usually performed to intercentres, which are transfers between factories, and to large distribution customers.

The Secondary Distribution has five different types of shipment. HO and HS stand for “Horeca” (hotels, restaurants and coffees) and “Hyper and Supers”, respectively. These vehicles supply small customers across the entire country, through a cross-docking operation and they are called cross-docking vehicles. They leave SBG to an intermediary warehouse of the logistics service’ providers (LSP) in charge of the distribution. Then, SBG products are mixed with other company’s products in another vehicle to be delivered in a common area (for example, Beja city). The remaining Secondary Distribution types (1D, 2D and 4D) are smaller size vehicles: 10-, 20- and 40-tons vehicles. The letter “D” means “direct”, since the distribution is performed directly to the customer, without an intermediary. The difference between the Primary Distribution and the 4D is the existence of picking in the Secondary Distribution type.

The Capilar Distribution is the freight distribution in Porto and Lisbon metropolitan areas. This distribution is performed through small vehicles, 10- to 12-tons, which leave SBG with high levels of picking. PP refers to “porta-a-porta” in Portuguese, which means door-to-door.

The Exports are performed in 20- and 40-tons containers (C2 and C4) and 40 tons trucks (40). This type of distribution is distinguished from the Primary Distribution due to the rates charged to foreign customers. These vehicles can include picking, but it is unusual.

These activities are outsourced to different LSPs so SBG can focus on beverages production. In fact, transportation outsourcing has been increasing among companies<sup>2</sup>. Due to its advantages of cost reduction and expertise of the LSPs, it is becoming an essential part of supply chains<sup>3</sup>. However, managers face more difficulties in the delivery control<sup>4</sup>, since there are legal restrictions which forbid the absolute control over the LSPs drivers. Many companies have been trying to overcome these obstacles in order to improve their deliveries as well as the customer service<sup>5</sup>.

## SBG Delivery Indicator

### Description

Before the delivery indicator creation, SBG Service Level (SL), in the Logistics department, measured the stock availability on the shipment day. In other words, it measured if the order was loaded into the vehicle. No one was able to know, inside the company, if that order was effectively delivered on the required day and within the customer’s delivery window.

In order to control its deliveries, SBG developed an indicator that enables the company to obtain information about the quality and time of deliveries. This project was put into practice in April 2016 and its main goal was to provide an additional dimension to the Service Level and SBG’s delivery quality. The service level would not only concern the stock availability but also the time and status of the delivery.

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<sup>2</sup> Ashenbaum, B., Maltz, A., & Rabinovich, E. (2005). Studies of trends in third-party logistics usage: what can we conclude?. *Transportation Journal*, 44(3), 39-50.

<sup>3</sup> ModusLink (2016), Value Chain Ecosystems of the future – The role of Outsourcing in Supply Chain Strategy. Available at <https://www.moduslink.com>.

<sup>4</sup> Zailani, S., Shahrudin, M. R., Razmi, K., & Iranmanesh, M. (2017). Influential factors and performance of logistics outsourcing practices: an evidence of Malaysian companies. *Review of Managerial Science*, 11(1), 53-93.

<sup>5</sup> Lambert, D. M., Emmelhainz, M. A., & Gardner, J. T. (1999). Building successful logistics partnerships. *Journal of Business Logistics*, 20(1), 165.

This indicator consists of a SMS (a telephone text message), sent by the drivers of the LSPs, in two different moments of time: the arrival to the customer and the delivery itself. The SMSs are standardized and the information is contained in the document carried by drivers. The SMS regarding the moment of the arrival is unique (S1: “Arrived and waits for unload”) and each driver needs to send that message every time they do a delivery in a different customer. Regarding the delivery moment, there are 3 different SMSs that can be sent: “delivery with no incidents” (S2), “delivery with incidents” (S3) or “No delivery” (S4). This SMS is sent to a 5 digits number and it is a free service. From the beginning, the company was expecting a large number of SMSs sent by the LSP’s drivers.

In 2016, when the new SLA contract was put in practice, this indicator was inserted in the requirements list. SBG provided a 3-month experimental period. So, starting in April, the lack of the SMSs should be charged to the LSPs in the following way:

- A small amount for each status SMS non-sent (status SMS are S2, S3 and S4);
- A large amount for each attempt to cheat the system and send the SMSs far away from the customers’ locations.

All LSP’s drivers have phones since they use them in other situations on their daily activities. In the company’s headquarters, in Leça do Balio, the drivers receive an SMS with information regarding the loading/unloading dock. They have the necessary technologies to perform this new activity.

This process involves both collaborators from SBG as well as from the LSPs, on data creation, collection and analysis. The drivers are responsible for the initial part of the process, which includes the load, the transportation, the unload and the SMSs’ sending. The analysis of the SMSs received is an activity performed by SBG staff.

This information allows the company to know at what time the LSP arrived at the customer and the state of the delivery. It is incorporated in SBG’s information system and is automatically associated with one of the deliveries contained in the shipment performed by that driver. This means that it is easy to find the information for each service.

## Implementation

The awareness of the delivery performance was considered by SBG an essential indicator. Not only to be aware of the percentage of shipments delayed, but also to use that information to improve its service level. This implementation was undertaken in a continuous improvement optic and it was meant to include all types of distribution. However, the company faced some difficulties which did not allow such implementation in the Exports Distribution. On other hand, that process did not make sense in the Capilar Distribution, since the company already has that information through the system implemented in PP.

In order to implement the process and the indicator in Exports, the company needed a nine-digit telephone number in order to receive the messages from drivers who were outside Portugal boundaries. The existing system was built to Portuguese phones and it was a five-digit telephone number. This modification was necessary in order to be able to obtain feedback from the Exports Distribution. Once that upgrade was done, the company faced some difficulties in implementing this indicator because the SMS were paid. SBG is still dealing with this situation in order to try to find a solution.

Regarding the Capilar Distribution, as it was mentioned before, the system implemented in this type of distribution already provided information regarding the quality and time of the delivery. Each driver has his/her own tablet, where he/she can report different information, including the delivery status.

The remaining distribution types are the Primary and Secondary Distributions. Concerning the Primary Distribution, the indicator was implemented with success. The Secondary Distribution belongs to one exclusive LSP, which is not totally engaged with the indicator, since it is not included in the Service Level Agreements (SLA). With this said, it is difficult for the company to impose the development of this indicator in the Secondary Distribution. Even so, SBG asked the LSP to commit to this project, since this LSP was already using this indicator in Primary Distribution.

The LSPs' willingness not only to incorporate this activity into their daily operations but also to be subjected to fees was the desire to get the business deal. SBG was clear, from the beginning, towards the fees collection when introducing that requirement in the SLAs.

## SLA definition

In order to decide the amount of shipments that each LSP will have, the company initiates the Shipments Allocation Process. Firstly, SBG sends an email to the eligible LSP, inviting them to be part of the contest and to know their availability and desire to join SBG's network. Once the initial stage is completed, the Service Level Agreements are structured, for the LSP to know what they are being asked to do. That document can contain information such as the number of shipments annually required from one activity centre to another: from Leça do Balio to Santarém, for example. Besides the quantitative part, it also describes the requirements to perform such activities. SBG has requirements for security (the forklift driver license and the use of a helmet in loading and unloading operations), service (SBG hires the shipments 48h in advance, expecting the LSP appear in the company's facilities to load 24h before the time for delivery), documentation (the LSP employees need to return the documents correctly signed) and, in the current year, the information requirement was added (the SMSs). From this moment forward, the LSP were required to send information regarding the time and quality of the delivery.

## Delivery Indicator Development

From April to September, this evaluation was done monthly, decreasing the chances for improvement. The Transportation and Distribution manager was in charge of collecting the data from the company's database, analysing and providing feedback to the LSPs traffic managers.

The need for more frequent feedback emerged from both sides: SBG and the LSPs. Due to the lack of regular and rich feedback, the LSP's traffic managers faced difficulties, towards this indicator development, in instructing their drivers and improving their performance. The fact that the information was being sent at the end of each month compromised the improvement opportunities, since it was something being performed daily and, therefore, required more feedback. Besides, the analysis was poor and the LSP's traffic managers did not have enough information to work on.

Since distribution is an essential process that affects customer service<sup>6</sup>, the need to understand and measure the LSP performance increased. This was a consequence of the logistics department's concern to improve its service and not a pressure made by the Sales department due to customers' complaints.

The process of data creation was already developed and implemented since April 2016. The main question resided in the analysis and utilization of such information. The manager joined a team in order to work on this project.

The group started a more frequent analysis of the data and, instead of providing feedback at the end of the month, SBG developed a new tool which started to be sent daily. This action allowed the LSPs to understand what type of information the company was receiving and, therefore, improving their performance by training their drivers.

This new tool brought a more detailed analysis and feedback provided to the LSP. The report contained information such as the number of SMSs sent (by type of customer and type of SMS), the number of SMSs missing, the percentage of SMSs sent, the evaluation of the time of the SMSs and the SMSs sent by each driver.

The project team included the IT at this time of the development since some inconsistencies were found. Several emails were sent, and tests were performed, in order to make sure that the system was processing the data according to the company's expectations. Additionally, after correcting each error the logistics manager had to approve the IT intervention in the company's systems. The same happened with improvement opportunities: the manager had to approve the new information, suggested by the project team, which would be sent to the LSPs.

Besides the IT intervention, the project team realized that the logistics department should evaluate the information they had on each customer and what was necessary to measure every detail of the delivery time. One of the improvement opportunities focused on the delivery windows. After analysing the SMS information, they found that there was a lot of delivery windows information missing from the Secondary Distribution customers. This required the analysis and update of all delivery windows in SBG systems. The observation was performed from December until the end of March. In Secondary Distribution, from a total of 1686

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<sup>6</sup> De Marco, A., & Mangano, G. (2011). Relationship between logistic service and maintenance costs of warehouses. *Facilities*, 29(9/10), 411-421.

Ploos van Amstel, R., & D'hert, G. (1996). Performance indicators in distribution. *The International Journal of Logistics Management*, 7(1), 73-82.

customers, 141 were found with no information regarding the delivery windows (8%). From those customers, 41 were solved (29%). The same happened in the Primary Distribution, but on a lower scale. From a total of 211 customers, 13 were found without the delivery window information (6%). Within this total, 11 got solved (84,6%). The remaining 2 were customers in which the delivery is scheduled individually, meaning that it was not possible to define a certain delivery window. For those situations, the suggestion was to insert a field in the SAP transaction with the hour scheduled. It would give flexibility for the company to adjust the information to the final delivery window expected.

After increasing the feedback, the LSPs started to improve their performances significantly (see Exhibit 2). With this said, SBG also became more exigent. In the beginning, the company's concern was to get, at least, the arrival time (information given by the first SMS). After obtaining almost every arrival time of each delivery, the brewery started to require information regarding the delivery status (delivered with no incidents, delivered with incidents, not delivered).

Super Bock Group implemented an indicator which enabled the company to have the delivery information on their systems. Not only the company could understand the time that the products were delivered to their customers, but also the conditions in which they were handed out.

## Questions

1. What are the advantages and disadvantages of outsourcing and why did SBG decide to subcontract transportation services? Discuss the reasons that took the company to choose more than one LSP.
2. Identify the characteristics of each transportation type of SBG. Which difficulties did the company face when trying to implement the indicator? Should SBG evaluate different means of transportation?
3. According to the SBG case, name other transportation KPIs that the company may have in their SLA with the LSPs.

4. Based on the delivery indicator developed by the company, draw the flowchart for the SMS process which is the driver's responsibility. Repeat the exercise including the IT department intervention and the logistics analysis. Use the templates given for this purpose.

<b>LSP Driver</b>	<b>SBG Information System</b>

<b>LSP Driver</b>	<b>SBG Information System</b>	<b>SBG Project Team</b>	<b>SBG Logistics Manager</b>	<b>SBG IT</b>	<b>LSP Traffic Managers</b>

5. Which information do you believe the company should provide to the LSPs in order to increase their cooperation during the experimental phase?
  
6. In the table below there is an example of the information sent by the drivers and integrated in the company's systems. Build an A4 daily report with the crucial data that should be sent to the LSPs.

Transportation	Transportation Type	Customer	Customer Delivery Window	Driver	SMS Type	SMS description	SMS Date	SMS Hour
1001	HO	HO001	09:00 - 12:00	DRIVER1	S4	"Not delivered"	1/feb	13:10
1001	HS	HS001	09:00 - 18:00	DRIVER1	S1	"Arrived and waits for unload"	1/feb	09:18
1002	PR	PR001	07:00 - 14:00	DRIVER2	S3	"Delivered with incidents"	1/feb	10:54
1002	PR	PR001	07:00 - 14:00	DRIVER2	S1	"Arrived and waits for unload"	1/feb	12:54
1003	PR	PR002	08:00 - 10:00	DRIVER3	S1	"Arrived and waits for unload"	1/feb	07:52
1003	PR	PR002	08:00 - 10:00	DRIVER3	S1	"Arrived and waits for unload"	1/feb	08:23
1003	PR	PR002	08:00 - 10:00	DRIVER3	S2	"Delivered with no incidents"	1/feb	09:33
1004	1D	1D001	10:00 - 16:00	DRIVER4	S1	"Arrived and waits for unload"	1/feb	12:30
1004	1D	1D001	10:00 - 16:00	DRIVER4	S2	"Delivered with no incidents"	1/feb	13:15

## ANNEXES

Exhibit 1 - Company's Structure

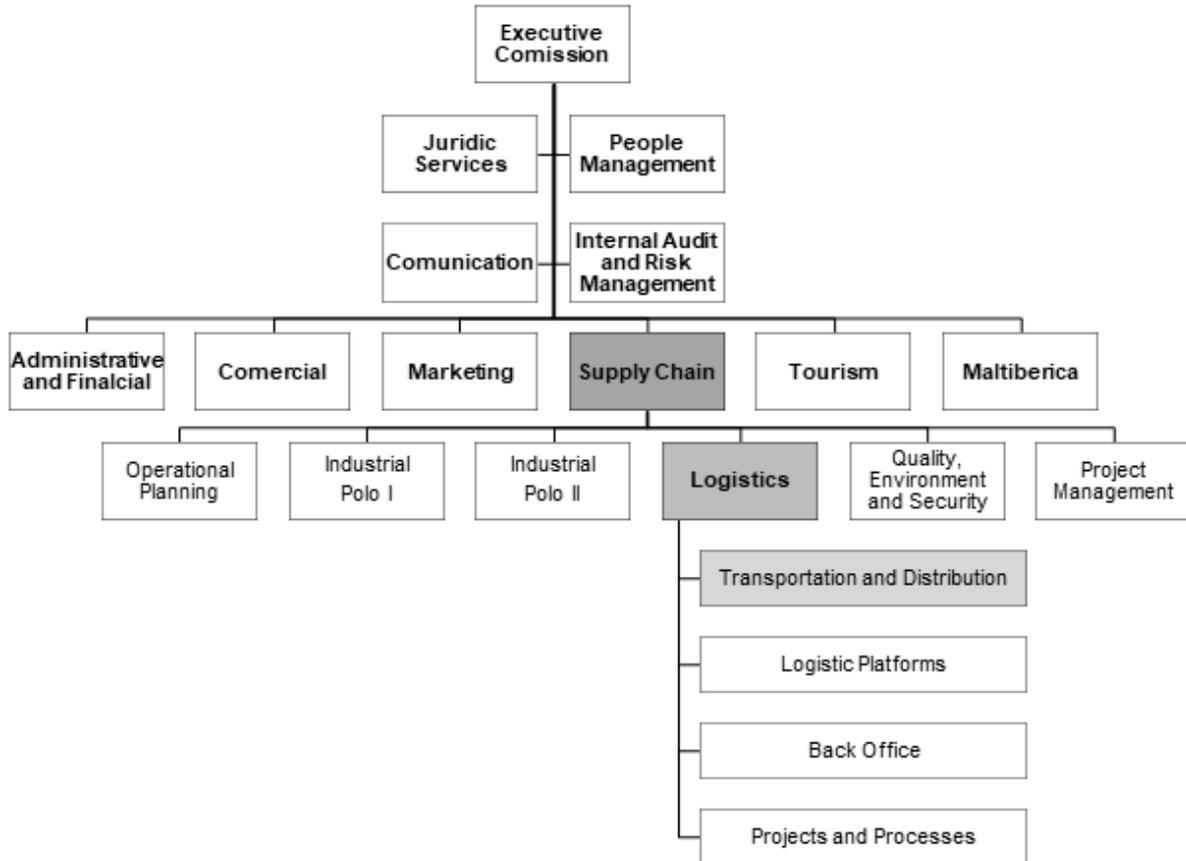
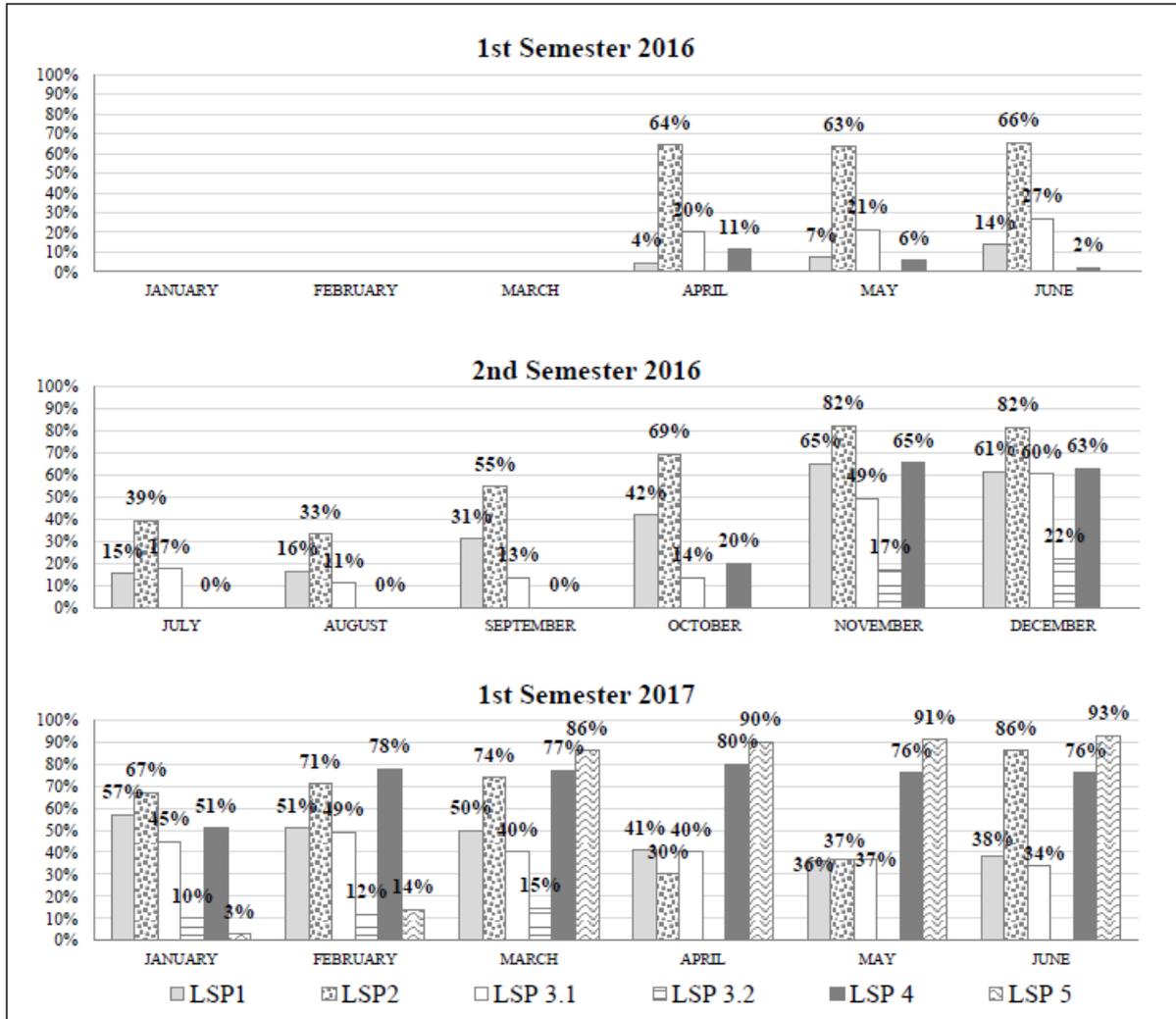


Exhibit 2 - Evolution of the SMS sent



Here follows the example of 5 different LSPs.

This evolution shows Primary Distribution LSPs: LSP1, LSP2, LSP3.1, LSP4 and LSP5.

LSP 3.2 is the same transportation company as LSP3.1, but it refers to its Secondary Distribution services.