

HOW TO IMPROVE SONAE'S PROCESSES OF SUPPLIERS OF SERVICES'  
MANAGEMENT?

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## Abstract:

Sonae is one of the greatest retailers in Portugal. As the business got bigger, it centralized operations. Direcção de Serviços Administrativos processes all invoices sent by suppliers. However, there are many which deliver errors and are not processed automatically. As a result, there are lost invoices and suppliers who are not paid, while the company's accountability becomes less transparent. Such is due to a lack of proactive attitude towards suppliers as well as to a lack of incentives for employees to perform well. Great savings may be achieved with little effort, if the right things are measured so that the right tools may be applied.

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## Introduction

SONAE is one of the biggest Portuguese retailers operating in more than 66 countries and with more than 45 thousand collaborators spread through each one of its sub-brands. It is organized as shown in Appendix 4.

Its core business is in retailing with its SONAE MC holding managing brands such as Continente MC, Well's or Book.it and the SONAE SR holding managing brands on the specialized retail such as SportZone, Zippy or Worten, to mention a few. It has two strategic partnerships: one on telecommunications (SONAE COM) and the other on shopping's (SONAE SIERRA). Moreover, it has set two more partnerships in two different areas: Retail real estate (SONAE ERP) and active investment management.

It has crossed countries and developed businesses driven by the mission of creating economic and social value, to an ever increasing number of people. The company's values are trust, people in their success, ambition and efficiency. (Sonae, 2014)

Last financial year, it reached €4,8 billion of gross sales and €1,9 billion of equity and €5,5 billion worth of assets, according to Sonae's financial reports. As the business got bigger and bigger, two things happened: firstly, support operations started to become overwhelmingly big and secondly it was able to centralize operations benefitting from synergies and in some cases gaining bargaining power. It is because these two factors that Direcção de Serviços Administrativos (DSA) (freely translated to Administration Services' Office) was created, on which this study will focus.

Nowadays, DSA main responsibility is to provide business support to stores in an increasing effort to lower their administrative load. It is organized as shown in Appendix 6 and the study will focus on *Contas a Pagar e Suporte ao Negócio* (Payables and Business Support). It is to this office that all invoices sent by Sonae's suppliers

must come. Then, the office would process and let them available for payment. This office can be divided into two major groups: the first dealing with invoices having to do with retail goods and the second dealing with non-supply purchases, often called purchases of maintenance, repair and operating (MRO) goods<sup>1</sup>.

The first group, being strongly related to Sonae's core business, is very much efficient and studied. As for the second there is plenty of room for improvement.

“Compared to the direct purchasing spend, the product variety and hence logistics complexity related to managing indirect purchasing spend is enormous” (Weele, 2010, p. 85). In a try to make the process, both to stores and to the office, even more efficient, Sonae implemented a new way of issuing purchase orders (PO's) of MRO goods. That would influence how invoices would be processed, as well. Since 2010, SAP SRM is one other way stores have to ask for services. Hopefully, until the end of 2014 it will be the only one. From its implementation to our days, there have been inefficiencies on the process having important consequences on the business, specifically on the accountability. There are two different events that influence accountability: 1) invoice's registration and 2) its payment. The former registers a cost on the account and the latter represents a cash outflow. It is important that for each cash outflow and for each cost acknowledged there is an invoice that compensates it. When one of these things does not happen, there is an open item. Also, there could be a case when an invoice arrives but there is no PO on the system or the invoice's data do not match its data, generating another type of open item. When there are open items, it means not all accountable events are registered, which turns the company's data outdated and the company itself less transparent. On the other hand, for each open item, it is generated a process of

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<sup>1</sup> “These products, sometimes referred to as indirect materials or consumable items, represent materials, which are necessary for keeping the organization running in general, and for the support activities in particular” (Weele, 2010, p. 53).

correction. There are whole teams responsible for such processes. It is an inefficiency that makes the company incur in more costs than would be optimal.

On 31<sup>st</sup> of March 2014, the number of services' invoices that needed manual treatment was 66.788, corresponding to 18,2% of the total number of service's invoices received last year<sup>2</sup>, although it has been decreasing. This number corresponded to almost 3M€, or 8,5% of the total value charged in the same period. Despite being sufficiently high to be studied, this number must be analysed carefully as for each invoice without PO there can be a different one without its invoice counterbalancing and biasing the final value.

Although it would be interesting to compare these numbers with retail goods' numbers, such is not possible since for MRO goods there are teams organized just to correct the inefficiencies, while for the former the same does not happen.

Moreover, whenever a supplier is not paid for a long time, it naturally gets upset and tries to communicate the situation. Officially, they would use the proper platform to do it. However, be it because the problem takes long to get solved or because they do not know the official way, more often than hoped they use other means such as email or phone. Due to that, many complaints are not registered and do not count or appear in complaints' analysis. Yet, last year on average there were 804 complaints per month that were registered in the system's database.

Assessing process performance provides the opportunity of recognizing problems and taking corrective action before these problems escalate (Kueng, 2000, p. 67). Accordingly, it will be studied ways of improving Sonae's processes regarding suppliers of services. SRM involves much more than reducing prices. It is about lowering the total cost of ownership (TOC) of the end-to-end value-chain. (...) Some of

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<sup>2</sup> from April 1<sup>st</sup> 2013 to March 31<sup>st</sup> 2014

the non-price costs associated to the buying transaction can be significant, in some cases even exceeding the nominal price (Chenoweth, Moore, Cox, Mele, & Sollinger, 2012, p. 8), which emphasizes the project's importance and potential. It will be studied the process of accounting invoices regarding suppliers of MRO goods. The goal is for the number of automatically processed invoices to increase, decreasing the number of open items. Ultimately, that will lead to the decrease of total cost of ownership since the work related to the manual processing of invoices would lower, as well. In the end, the company will benefit from the accrued value.

Firstly, it will be given a literature review in which all terms used will be explained. Also in that chapter, it will be explained the methods utilized throughout the study, as well as it will be provided an overview of various authors' opinion regarding the theme. Then, it will be presented the results and will be done a discussion on the data collected. The chapter is divided into four: map of the process and its explanation, cause and effect analysis, interview analysis and data on *stagings*.

In the recommendations chapter, before conclusion, it will be suggested some measures to implement. It is divided into three sub chapters as follows: Supplier Relationship Management, which will deal with recommendations that have to do with external players; Internal Player Relationship Management that will present measures to positively influence internal player's behaviours and outputs; and finally, in order for this study to make sense, it must add value for which an analysis on the potential gains will be provided.

The work ends in a small chapter in which it is pinpointed this work's major conclusions.

## Literature Review

Much has been said about processes, although (at least comparatively) little about business process reengineering. In the next lines, it will be summarized what of most important has been read from many authors about this theme. It will also be explained the main terms and methods applied and how they should be analysed.

First of all, since it has been studied Sonae's processes, it is necessary to define what a process is. Oakland defines it as "the transformation of a set of inputs (...) into outputs that satisfy customer needs and expectations, in the form of products information services or results" (Oakland, 1994, p. 14). Aytulun and Guneri describe "business process simply by a flow of business activities" (Aytulun & Guneri, 2008, p. 2744), and Davenport and Short just as "a set of logically related tasks performed to achieve a defined business outcome" (Davenport & Short, 1990). Processes can be classified as management processes, key (or operational processes) or support processes. Processes are also defined given the nature of their client: external or internal (Sharp & McDermott, 2009). Process's client is not necessarily a company's client. It even may be in the company, in the case for example of materials' purchases (Hammer & Champy, Reengineering the corporation, 1993, p. 50). "In a general way, processes that serve external clients are key processes, while the ones that serve internal clients are support processes" (Costa, 2013). Despite not adding value, support processes are essential for key processes to work. Lastly, processes can also be inter-organizational if they take place between two or more business organizations (Davenport & Short, 1990). Many of our job designs, work flows, control mechanisms, and organizational structures came of age in a different competitive environment and before the advent of the computer. (Hammer, Reengineering Work: Don't Automate, Obliterate, 1990, p. 1).

Processes must be redesign and reengineered taking that into account and bringing them into the future. Reengineering is the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance (Hammer & Champy, Reengineering the corporation, 1993, p. 44). It requires more than just using computers to speed up processes while leaving their designs the same. At the heart of reengineering is the notion of discontinuous thinking; of recognizing and breaking away from the outdated. We must challenge old assumptions and shed the old rules that made the business underperform in the first place. (Hammer, Reengineering Work: Don't Automate, Obliterate, 1990, p. 4).

In order to know the process from end to end, and to assess chances of reengineering, the process was mapped. There are several possible choices when a process is to be mapped. It was used a *swimlane* diagram, to make clear that different teams were involved in different responsibilities. “Such diagrams have become very popular because they highlight the relevant variables—who, what, and when—in a simple notation” (Sharp & McDermott, 2009, p. 93). Its rules are presented in the Appendix 11. Then, a cause effect diagram was drawn. The diagram chosen is often called “fish bone” diagram for its appearance. It is drawn starting from an effect to be studied. From the horizontal line (main bone) come out different lines representing different causes. From those, sub causes may appear, ending up with a design close to a fishbone. Such diagrams may also be drawn with a positive effect (to be achieved) instead of a problem. In our case, different thicknesses for the bones were used: the thicker a bone is the more important that cause is, as well.

Finally, “the main barriers to a performance improvement are not technical but behavioural” (Norton & Kaplan, 2004). “Because processes cut across various parts of

the organization a process redesign effort driven by a single business function or unit will probably encounter resistance from other parts of the organization” (Davenport & Short, 1990). No one in an organization wants reengineering. It is confusing and disruptive and affects everything people have grown accustomed to. Only if top-level managers back the effort and outlast the company cynics will people take reengineering seriously. (Hammer, Reengineering Work: Don't Automate, Obliterate, 1990, p. 9). Also, employee engagement is essential for such an effort. Employee engagement is the emotional commitment the employee has to the organization and its goals (Kruse, 2012). All this will be taken into account at the time of recommendations.

### Methodology

Next, it will be presented the methodology followed: the rationale for the approach chosen, its scope and a small comment on the trustworthiness of the results (Bloomberg, 2012). Briefly, although with a high focus on quantitative data, it was not always possible to be completely separate from the issue, which has led to a hybrid approach to the problem, using both positivist and interpretative methodologies.

Evidence for case studies may come from six sources: documents, archival records, interviews, direct observation, participant-observation and physical artefacts (Yin, 1994, p. 78). Only the last one has not been used. Since the ultimate goal of any project in a company is to add value, a positivist methodology would have to be applied to measure the results. For that and to be able to find cause effect relationships it was needed to rely more on hard data than on soft, using documents and archival records. Yet, this was not always possible. Since observation works the researcher toward greater understanding of the case (Stake, 1995, p. 60), such method was chosen. In order not to rely too much on my own interpretation, interviews to the players on the process were performed.

Firstly, by observation, it was studied which teams do what work and the path each invoice can follow. As a result, the process was mapped and it was understood that stores and suppliers might greatly influence how the processes flows. As a result, the next phase consisted in interviewing players in earlier steps of the process whose attitudes could be most influenced by Sonae, i.e. stores' responsible for PO's. A semi structured interview was performed. The plan was to use the exhaustion method, by which interviews would be conducted until no new information was delivered. However, due to some bureaucracy existent, it was only possible to perform one, which jeopardizes the conclusions. One of interview's major goals was to be able to compare users' satisfaction with the importance they attribute to some features. The other was to assess users' difficulties. The interviews would have as much heterogeneity as possible, considering: Sonae's enterprises, locations, store's turnovers, people's ages, their genders, years working at Sonae, education, and experience.

Simultaneously, historical data on the invoices arrival was studied. Invoice's flows between *stagings* were analysed to check if and where there were bottlenecks. Process times had to be measured for there was no such data recorded. It is recognized people may be influenced if they know their productivity is being measured, for which such fact was tried to be kept unknown.

Regarding study's scope, the project's results would affect service's suppliers' management team's operations; hence it was an immediate choice to study it. Also, almost the whole office's work should be included in the study since from the arrival of an invoice until it is unblocked for payment, it passes through many teams and many things can influence the final outcome (for more detailed information on the office's teams included in the study see Appendix 10). Then, since the process in the office was

totally dependent on other people's actions - stores and suppliers - those were also included.

Finally, for this kind of studies, usually an 80–20 philosophy is appropriate (Davenport & Short, 1990); and thus Pareto analyses were done.

This hybrid approach may lead to a biased conclusion since part of it was taken from researcher's point of view. Still, in the end, "all research depends on interpretation, but with standard quantitative designs there is an effort to limit the role of personal interpretation" (Stake, 1995, p. 41). Ultimately, it does not matter what specific analytic strategy is chosen, if one does everything to make sure that his analysis is of high quality (Yin, 1994).

## Results and discussion

*"But the knowledge of causes also has wide-ranging practical implications, for in many instances to know causes is to be able to control them, and to control causes is to control effects."* (McInerny, 2004, p. 32)

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Because this process's clients are internal and it involves DSA's office, stores and suppliers, this is a support, internal and inter-organizational process.

In order to have an idea of how the office works and how teams are organized for an easier understanding of the process, a view of the office's plant and a small explanation are provided in the Appendix 10.

### Process's map and its explanation

The process was mapped as it is shown in Appendix 3. Whenever there is a need for a MRO good (which would be the trigger event) a PO must be filled on the system (SAP SRM). Sonae has a "hybrid purchasing structure where purchases are either centralized or decentralized" (Weele, 2010). Depending if it is a centralized purchase or not, it is

either processed by a Sonae's central service or by the store's responsible himself/herself, respectively. It must be approved by the person hierarchically above the requestor and only then is the PO sent to the supplier. After providing the service two things happen: 1) the requestor must officialise the reception on the system; 2) the supplier sends the invoice to DSA's office. If it is an electronic one, it goes immediately to the Document Handler (DH) to be automatically processed. If it is on paper, its data must be introduced on the system<sup>3</sup>. There, the process goes as follows: a team separates the invoices by enterprise (for example, Modelo Continente or Sportzone), other team, puts a label with a code on the invoice (which will identify it on the system) and screens it to become electronic. The physical invoice is archived. The now digital invoice goes through the registration team who validates the data the system has read. After all this, the once physical invoices meet the electronic ones at the DH to follow, from then on, the same path.

The process is divided by *stagings* (as they are called), to where bills go depending on their status. There are five (plus one) *stagings* that matter for the purposes of this study:

- **SIP:** it is the first *staging* and performs an automatic job that tries to account each invoice. When they do not comply with the specifications required, they deliver an error and are not accounted. They are, then, sent to the corresponding *staging*, manually, depending on the error;
- **SP and IP:** depending on the error (which are mentioned in the map), invoices go to these *stagings* to be processed. SP is for invoices that have to do with services and IP for goods and costs;
- **SDP:** it receives every invoices with wrong or missing PO code;

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<sup>3</sup> The team responsible won the Kofax Tranform Awards 2013, a worldwide prize which awards efficiency. This was the second prize in a row (Sonae inova na gestão documental, 2014)

- SSN: it receives invoices coming from SDP that have problems related to PO code and have information about the store that requested it.
- S: this is a *staging* that belongs to the old process and should be out of this study's scope. However, when invoices do not have a PO code mentioned, it is assumed that they are processed as they were before. After analysis, the person responsible discovers it should be processed through the new system and sends them to SDP to follow the normal procedure.

Moreover, it is worthy to note the process for which DSA is responsible depends on stores and suppliers. Even if it is highly efficient and with nothing to improve, if stores or suppliers do not perform their jobs well, there will be implications on DSA and its work. Specifically, if stores call directly to a supplier instead of processing the PO on the system, besides the fact that no PO will be generated and sent to the supplier, no item will be open so that the invoice matches it, hence not being processed automatically. Also, if they do not process PO's correctly, certainly there will be an error when the invoice is to be processed (for example, wrong store's code). As for the supplier, all he/she has to do is send the invoice with the (correct) PO code mentioned and charge the values agreed, or there will be a price divergence. Still, there are way too many who do not perform such simple tasks correctly.

Invoices "stay" in each *staging* until they are corrected and may be sent to SIP. As a result of this way of thinking the process - by *staging* - the data collected was incomplete. What has been considered as one stage (the processing of an invoice in one *staging*) is, actually, composed by more than one activity. Because what now matters is the time an invoice "is kept" in a *staging*, there is only available data for the time it gets to the *staging* to the time it leaves it, and not for each activity.

### Cause and effect analysis

“Only if the causes of problems are known can they be removed or controlled or can the process or product be made robust to disturbances” (Schippers, 1999, p. 1). Thus, after drawing the map, it was drawn a cause-effect diagram. The goal was to understand which causes stores, suppliers and others not to perform their tasks correctly and to be aware of what may influence the main problem being studied

For ill balances to happen there may be various causes. Sometimes, a relationship with a supplier gets deteriorated and eventually his/her account is blocked. Hence, each open item that corresponds to that supplier is not unblocked for payment. The same happens with invoices that – for many other reasons that are out of this study’s scope – are processed but not unblocked for payment. These are justified causes, which nevertheless causes open items not to be closed. One other cause there may be, although in this case completely out of Sonae’s control, is when invoices get lost during dispatch and never get into the process. The two most influential causes to this problem are “manual payments” and when invoices take long to be processed. Regarding the former, some suppliers, especially services’, require pre-payments which are made immediately and manually by employees asking for it. Then, two things might happen: as the service is immediately paid, immediately is the invoice delivered as well. Consequently, it is essential that the employee sends the invoice to the DSA, which often does not happen. Secondly, if the supplier does send the invoice to the office, a temporary unbalanced situation (one with a payment but without the corresponding invoice and PO) has already been caused, and it will stay so until the invoice is accounted. Regarding the second most influential cause, much more is there to say. Actually, the process being studied exists specifically to correct the errors that may appear. So, the question arises:

what, after all, is there that do not allow invoices to be processed automatically? Appendix 2 shows the answer(s).

Essentially, this tries to find what are the causes of the mistakes being corrected on the process, for which may be interesting to follow the rationale with the process map on the back of the mind (Appendix 3). The vast majority of them are self-explanatory. Yet, it will be explained some that either are harder to understand or are noteworthy.

It is easily noticeable that one cause that appears many times is “supplier’s mistake”. Out of the nine main causes, “supplier’s mistake” appears five. This poses an extra difficulty since it is an actor on whose actions Sonae has little power.

Then, there are a few which are controllable by Sonae. In the end, they all have to do with Sonae’s employees’ behaviours. Causes such as “reception missing”, “PO not processed” or “purchasing department delay” are a few of the most critical.

### Interviews analysis

To understand what prevents these people from complying with the process and subsequently try to apply corrective measures, interviews were done. Amongst many, it was found three important things. On the one hand, stores’ priority is to run the business, and not especially its bureaucracy. Thus, if their directors have to choose between helping the sales on a busy day, or to register a reception, there will be little doubt on what to do. Probably more serious than that, is the fact that stores’ directors know that the cost of a purchase will only be represented in the accounts of the month in which the purchase’s reception is registered. As a result, there may be months in which not only do directors not have any special incentives to register the receptions, but also have incentives to not register it! As Levitt & Dubner put it “Incentives are the cornerstone of modern life. And understanding them (...) is the key to solving just about

any riddle” (Levitt & Dubner, 2005, p. 23). Such behaviour happens for two other reasons (which are basically the lack of incentives). 1) Stores are not penalised for a missing reception 2) they do not feel the consequences of such behaviour for is the DSA office that deals with them. Furthermore, the system is not user-friendly and the workflow of approval is sometimes long. Purchases out of catalogue pose yet another difficulty.

Since this is a rather new process, and because “no one likes reengineering”, it has also been considered the chance of there being some resistance to change, which “is a characteristic of humans and may waste the best projects or intentions” (Norton & Kaplan, 2004, p. 397).

On the other hand, in general, a MRO good has the purpose of supporting the business. So, although they are not part of the core business, they are essential to it and cannot fail on its purpose. If a repair is needed, generally it is also urgent. Since to issue a PO requires a request and an approval (which usually takes three to four days to accept) before it is sent to the suppliers, requestors often call directly to them, so that, for instance, the gas does not keep leaking into the store. As seen on the fish bone diagram, this leads the invoice to not have any open item to match, by its arrival date, not being processed automatically. Another common cause that leads to major increases in the number of invoices that need manually processing is the delay (or any other mistake) by the purchase department. Let us give an example: bills related to basic, essential and frequent services such as energy or water supply have special PO’s. They are requested by central services, called, in this paper, purchase department, and are done for the whole year, as an agreement. Such PO generates one PO code for the whole year, which suppliers must send each month. Given that the water supply is automatic and does not

need a request of any sort, the service will be provided and charged regardless of whether there is a PO. Therefore, it is essential whoever is responsible for these PO's does them correctly and on time. It was realized that delays on this requests occur many, many times, forcing suppliers to send invoices without codes or with the last year's. It is important to recall that, although only these causes were worthy of note in here, there are many other that deserve thought and analysis to achieve excellence.

Stagings' data analysis

The last step of the analysis consisted in the study of the data available in each *staging*, and of the number of invoices that entered the process (i.e. that were sent to DSA and registered). Due to resources constraints, it was analysed only the data for the eight companies that generate most invoices which corresponds to more than 80% of the total invoices processed (Appendix 15- Companies which send most invoices). Appendix 16- Example on the data available on *stagings* shows the available data in the staging (in this case) SDP. As it may be seen, there is only data on the creation date and on the last modification. Consequently, there is no historical data on the time and numbers of processing each activity. Some measurements were done to mitigate such flaw. Nevertheless, it is advisable to take some more. While there are invoices that take thirty seconds to process, there are others that take more than ten minutes! Plus, with more measurements the data would be more robust. And, because it was not possible to measure, it is assumed invoices in *staging* SSN take as long to process as invoices in SDP. It is so, since SSN's tasks are similar to SDP's. Hereafter are presented the times related to performing each activity.

TABLE 1- PROCESSING TIMES IN *STAGINGS*

<i>Staging</i>	Average Time(status I/status P)
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IP	2'13''
SP	1'12''
SDP	1'50''/3'49''
SSN	1'50''/3'49''

Also, it does exist detailed data on the invoice. Using it, it is possible to know which suppliers (or stores) send most invoices that do not meet the specifications, using a Pareto analysis. On Table 2- Percentage of invoices in SDP by supplier is provided an example. It provides numbers on the count of invoices in *staging* SDP, in the first three months of 2014. The numbers are presented as a percentage of the total count. Here are just presented the first ten suppliers.

TABLE 2- PERCENTAGE OF INVOICES IN SDP BY SUPPLIER

Supplier code	Number of invoices (in percentage of total)	Cumulative number	Cumulative percentage of suppliers
2004228	8,57%	8,57%	0,09%
2016723	4,60%	13,17%	0,19%
2001163	4,28%	17,44%	0,28%
2000957	3,10%	20,54%	0,38%
2003902	2,34%	22,89%	0,47%
2001171	2,15%	25,04%	0,56%
2022240	1,79%	26,83%	0,66%
2021660	1,73%	28,56%	0,75%
2028368	1,42%	29,97%	0,85%
2005013	1,35%	31,32%	0,94%

The sum of the first twenty suppliers (1,88% of the total) already represents 41,91% of the total number of invoices processed. The same analysis may be done for each of the other *stagings*. Also, it may be analysed the sum of value in the invoice instead of the number of the invoices. The major decision factor must depend on the objective to be achieved. If Sonae decides to save money on the process, than the analysis on the number of invoices must prevail. On the other hand, if the most important objective is to

correct the balances, the value must be the decision variable to analyse. It is available on the appendixes (28 to 35) the lists resulting from the Pareto analysis of each *staging*.

Plus, to check if the reasons for the invoices being sent without PO's code were stores' mistake, SDP was analysed and two things were concluded: 1) yes, there was a difference (in percentage terms) amongst different companies; 2) that difference corresponded very much to the difference of the number of invoices sent by each company. Appendix 20 shows the results.

It was also analysed the type of invoice got during the year of 2013: electronic or physical. It was found that in the last month the number of invoices sent by paper still represented 61% of the total number of invoices – Appendix 18- in contrast with the 15% in the retail goods in the first eight months of 2012. As an electronic invoice only costs 0,036€ to process, against the 0,33€ for physical ones (Cardoso, 2012)<sup>4</sup>, this represents a major potential for cost cutting. On Appendix 19- Pareto analysis on the paper invoices by supplier is presented another Pareto analysis, this time on the number of physical invoices by supplier.

Next chapter will focus on the recommendations of measures to implement so that the problems discussed until now can be tackled.

## Recommendations

*“Knowing what to measure and how to measure it, makes a complicated world much less so”* (Levitt & Dubner, 2005, p. 11)

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The first and simplest recommendation it may be offered is to know what to measure so that it is possible to tackle the right problems with the right tools. As H. Davenport and E. Short put it, accurate measurement can serve as a baseline for future improvements

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<sup>4</sup> Costs are presented until invoices are available to the Document Handler (see map's process for more information on DH)

(Davenport & Short, 1990). Also, as explained by Hammer giving the example of Ford's reengineering of purchases' process, one way to improve things might have been to help the accounts payable clerk investigate more efficiently, but a better choice was to prevent the mismatches in the first place (Hammer, Reengineering Work: Don't Automate, Obliterate, 1990, p. 2). In the next lines, it will be written about how to work with suppliers and control their performance. Then, a note on how to relate with internal players – stores and purchasing department – will be provided. The main goal is to tackle mismatches happening in the first place. Lastly, for these recommendations to make sense, they must add value, for which a scenario analysis will be offered.

### Supplier Relationship Management

The next step towards procurement excellence is to adopt a value-driven orientation with external/supplier collaboration as a key cornerstone. Companies are now aware that they must integrate and collaborate with suppliers to remain competitive and achieve procurement excellence (PriceWaterCooper's House, 2013). Aligned with PWC's view, the first measure to be proposed is to present suppliers with an “on boarding” toolkit (Appendix 21). For the top auditing firm, to a SRM issue like “Lack of formal business process resulting in inefficiencies”, corresponds the best practice: “develop accompanying toolkit and templates to make SRM explicit”. Its main goal is to provide suppliers with a quick tool to know what they must comply with, regarding Sonae's processes. The plan is to provide the toolkit at the first contact between the two parties. However, since current suppliers have never been presented with such a tool, it is recommended they all should be, at this point. The norm to implement it is in the Appendix 23. Summed up, on the day after they sign the contract, suppliers are sent an email followed by a phone call to welcome them and explain the processes. On the 45<sup>th</sup>

day, key indicators<sup>5</sup> regarding supplier's performance are analysed and 15 days later, a second call is made. That is meant to assess supplier's satisfaction, list his/her difficulties and listen to his suggestions. These days were thought to give suppliers time to have sufficient contacts with Sonae to enable a robust analysis. Since this is the first time the toolkit is implemented, these marks must be revised after six months.

Also, in order to tackle inefficiencies, it is suggested one more proactive attitude: an (Pareto) analysis on the type of error in each *staging*, by supplier. Such list has yet to be created since it currently does not exist. Also, it would be interesting to understand if there are suppliers who repeatedly charge above the agreed – the so called over billings.

“The lack of appropriate financial controls can contribute to substantial leakage of savings because services purchases are historically known for over-billing (...).

Stradford and Tiura suggest in some service categories, over-billings are found on as many as 60 percent of invoices” (Institute for supply management, 2004, p. 3).

Therefore, there may be opportunity for cost savings.

The measure, afterwards, is to contact the suppliers who send most invoices with errors and speak with them to prevent it from happening again. For example, in *staging* SDP into which go around 780<sup>6</sup> invoices per month, convincing the first 1 % of suppliers could represent a decrease of 33% of invoices going to that *staging*. So, for these suppliers, the first and the second call of the “on boarding” toolkit would be made at the same time. The same *modus operandi* is suggested to convince suppliers who send physical invoices to start sending electronic ones. Such measure would also fit Sonae's

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<sup>5</sup> Indicators would be presented in percentage of the number of invoices sent by the supplier and would be the following: a) number of complaints, b) number of debits, c) number of log ins (absolute number) and d) number of invoices in the *stagings* and its reasons.

<sup>6</sup> Exactly 779,92, which is the average of the number of invoices that went into that *staging* during the year of 2013.

Corporate Social Responsibility (CSR) strategy for it wants to be a reference in environmental terms (Azevedo, 2011).

Finally, it is suggested that at the time of the Master Services Agreement (*Contracto Geral de Fornecimento*), Service-Level Agreements (SLA's<sup>7</sup>) are signed. For each mistake attributable to the supplier, an "administrative cost" would be charged. It would serve as a sufficient incentive for him/her to comply with the process requirements. It has the additional advantage of having been agreed by him/her. One other possible measure would be to assess the costs related to each error and check if for each supplier there was another who despite having higher nominal prices, would have a lower TOC. The reason why Sonae discourages this is for it deals with many internal suppliers.

In the end, it is as Hammer says: attitudes toward vendors have to change. They can no longer be seen as adversaries. Instead, they have to become partners in a shared business process (Hammer, *Reengineering Work: Don't Automate, Obliterate*, 1990, p. 9).

### Internal Player Relationship Management

Customer:

As this process exists to lift administrative load off of stores it is important that stores' responsible are satisfied and the process does not fail. "Managers cannot know how good their services are until they ask the customers" (Kueng, 2000, p. 74). Thus, and assuming that this process serves internal customers, it is suggested to regularly perform surveys to assess their satisfaction, difficulties and suggestions. It is important to keep feedback and communication open. A simple measure to implement, for instance, would be to identify the most common urgent purchases and turn their approval automatic or unnecessary. Basically, if a requestor calls directly to a supplier, he/she has

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<sup>7</sup> A service level agreement describes the performance which needs to be delivered by the supplier. Key performance indicators (in terms of cost, service and quality levels) are agreed by both parties. Payment to suppliers is based upon actual performance versus targeted performance (Weele, 2010, p. 410)

an implicit approval of his/her superior. Also, there are some services that by their nature will always deliver a price divergence (for example, water or energy supply). For them, an automatic acceptance of the price divergence would lower store's work and fasten the process. Many other small measures may be implemented if the fish bone diagram is deeply analysed and Kaizen philosophy followed. Appendix 24- Kaizen table has some simple measures that could be undertaken.

From the interviews, it was found that people do not understand the importance of some tasks and the consequences of not processing them. Also, people in the office sometimes do not get how hard it is to manage a store, its bureaucracy and its tightened schedules. Therefore it is suggested to offer employees swapped visits. Office personnel would visit a store, while stores' workforce would get in touch with DSA's work. Such measure might also add novelty and help to engage the workforce, hopefully increasing motivation and productivity.

Garcia and Barroso say "little doubt is left about the necessity of creating engagement in organizations<sup>8</sup> and the increase in productivity depends on that commitment" (Garcia & Barroso, 2014). To have the project's importance emphasized by the board of directors, to share success stories and to poll employees are three of the top ten ways to keep employees engaged according to Kristin Caplice from Corporate Responsibility Magazine (Caplice, 2011). The latter was already suggested. The former two must follow it. It is argued that by sharing how Sonae has been able to save x money by decreasing missing receptions, people will feel their work is valuable and important, consequently performing it better. Actually, as put by José Corte-Real, Sonae's HR manager, "Sonae tries and continuously reinforces the engagement of their people,

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<sup>8</sup> Felipa Oliveira Serrão, Hay Group's director says "engagement involves more than a mere contractual relation; it involves more and goes beyond what is expected, and in that sense it works as the basis of the increase in productivity" (Garcia & Barroso, 2014)

celebrating, communicating and sharing their success and results” (Garcia & Barroso, 2014). They must apply the same principle to this process’s main successes. Another technique that may be applied is positive competition or ‘gaming’, which has been having greater and greater acceptance<sup>9</sup>. “Companies are more and more using it as a technique to increase the engagement amongst employees and their work. Even Deloitte uses it in its Leadership Academy” (Neves de Almeida | HR Consulting, 2014, p. 2). The suggestion is then, to create lists of the stores which comply best with the process and turn them public (to Sonae’s collaborators). In the end, the best store would be awarded a symbolic (or not so much) prize. Moreover, it could be agreed with stores a penalty for each mistake (like missing reception) which would work as an incentive not to fail, much like SLA’s. Such revenues could be applied into Sonae’s CSR strategy.

Purchasing departments:

Although it is not this office’s responsibility and it is rather out of its sphere of power, there must be control measures towards purchasing departments. Since they have so much responsibility, they cannot fail. A measure at DSA’s reach is to get the right data on the invoices that deliver errors and that are purchasing departments’ responsibility. As a result, it would be able to communicate how important it is that those departments perform well with supporting data and ask for better delivered work.

### Potential Gains

On page 23 is presented a table with three scenarios presenting the potential savings which could be achieved with the aforementioned measures. The effectiveness is measured in terms of the number of invoices with errors reduced. So, a 20% effectiveness would mean that *stagings* would receive less 20% of invoices. The

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<sup>9</sup> “According to Freebase, gaming is the implementation of a game design thinking, in non-game contexts, in order to make them funnier and more captivating. It has been gradually more used to motivate teams, encourage friendly competition and decrease turnover rate” (Garcia & Barroso, 2014)

number on each grey row represents the percentage of the total number of suppliers whose invoices represent the effectiveness. So, for the *staging* IP the top 20% of suppliers who send most invoices represent just 0,43% of the total number of suppliers.

TABLE 3- POTENTIAL GAINS

From April '13 to March '14	Pessimistic	Nor pessimistic nor optimistic	Optimistic
Effectiveness	<b>20%</b>	<b>50%</b>	<b>80%</b>
<b>IP</b>	0,43%	3,33%	12,30%
daily FTE's saved	14,55	36,38	58,20
<b>SP</b>	0,17%	1,51%	12,47%
daily FTE's saved	52,93	132,32	211,72
<b>SDP</b>	0,38%	3,10%	19,45%
daily FTE's saved	37,28	93,21	149,13
<b>SSN</b>	0,56%	2,60%	15,96%
daily FTE's saved	14,06	35,15	56,25
<b>Total</b>			
daily FTE's saved	118,82	297,06	475,30
Yearly FTE's saved	0,45	1,13	1,80
<b>Paper</b>	0,14%	1,33%	9,09%
Money saved (in Euros)	21.625 €	54.063 €	86.501 €

It is important to note that each measure must be implemented independently and at different times so that its efficacy may be measured with as less things as possible interfering in it. It may be argued because not all solutions are implemented at the same time there will be an opportunity cost. Yet, while it may be true, such approach delivers robustness to each measure and allows assessing whether there are ineffective ones.

The cause effect diagram should be followed and drawn frequently so that new or more causes are known and can be tackled. Also, it must be drawn one that assesses a positive (desirable) effect to know which measures may lead to what we want to achieve.

Finally, two more notes are in order. There is always room to make small improvements, tune processes and practice on an everyday basis; hence improving

systems processes and so on, through more subtle, ongoing changes and continuous improvements (MEP Profitability in Manufacturing). That is what kaizen<sup>10</sup> represents. Sonae has been awarded with the Kaizen Lean 2013 prize which is attributed to companies who are able to implement continuous improvement systems (2014). Nevertheless, it is reinforced Kaizen's importance and how Sonae's teams must continue to apply such philosophy, since many small changes are not worthy of a research project but can actually add much value. Also, often in companies are processes not clearly designed such as organizational lines are. Processes are invisible and nameless because people think in individual departments and not in the process as a whole. Processes also tend not to be managed since people respond to departments but no one is accountable for the whole process (Hammer & Champy, Reengineering the corporation, 1993). As a result, there is margin for global goals to be set so that an absolute maximum may be achieved. Otherwise, each team will optimize its processes and achieve local maximum which may lead to sub-optimization. "In one manufacturing company studied, for example, no one had ever analysed the elapsed time from a customer's order to delivery. Each department felt that it had optimized its own performance, but in fact the overall process was quite lengthy and unwieldy" (Davenport & Short, 1990). "A business process needs to have a manager who has end-to-end responsibility of the process" (Kohlbacher, 2010). Therefore, it is recommended that DSA delegates such responsibility to a specific one.

## Conclusion

The main findings were that this process's results, not only depended on other people, but also existed to correct inefficiencies that might appear. The most influential causes

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<sup>10</sup> Kaizen is a Japanese term that means continuous improvement. It has been implemented by many companies and it is a system that involves every employee. Everyone is encouraged to come up with small improvement suggestions on a regular basis; always improving productivity, safety and effectiveness while reducing waste (Khan, 2011).

for ill balances to happen, are payments that are done manually - and so out of the normal process - and invoices that take long to be processed, since they do not follow automatically for payment. “Reception missing”, “PO not processed” or “purchasing department delay” are a few of the most critical causes. All of which are related to some extent to people’s behaviour. Supplier’s mistake is also a relevant cause. Plus, it was found that the data on the *stagings* had been ill assessed. Yet, by tackling problems upstream, the workload in the process would lower significantly. Hence, it is suggested Sonae provides suppliers with a toolkit and contact the ones most responsible for invoices with errors in the *stagings*, assuming a more proactive attitude. SLA’s should also be agreed with them, so that for each supplier’s mistake an administrative cost is charged. In a more internal perspective, Sonae should foster positive competition and engage its co-workers. It should communicate successes related to this process and turn public a list of the stores which comply best with the process. Also, the control over the purchasing departments should be tightened. Finally, there “is always room to make small improvements, (...) through more subtle, ongoing changes and continuous improvements” (MEP Profitability in Manufacturing, p. 1). Teams should meet regularly to assess inefficiencies and its causes and to brainstorm possible subtle yet impactful solutions. For this, and to set goals for the whole process instead of setting them locally, an end-to-end responsible for the process should be assigned.

If executed effectively, Sonae could benefit well from these measures. In a pessimistic scenario, where only 20% of effectiveness is reached, it could save 0,45 yearly FTE’s plus 21.600€. On the other hand, if 80% of effectiveness is achieved, 1,8 yearly FTE’s plus more than 85.000€ are saved. In any case, savings could be reoriented towards an ever more proactive supplier relationship management.

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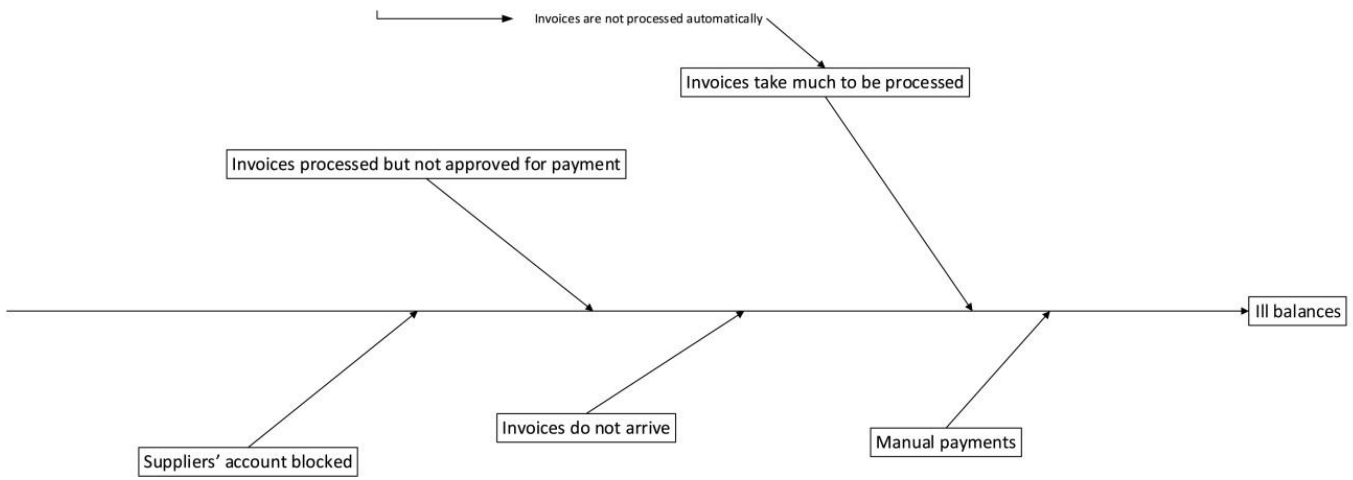
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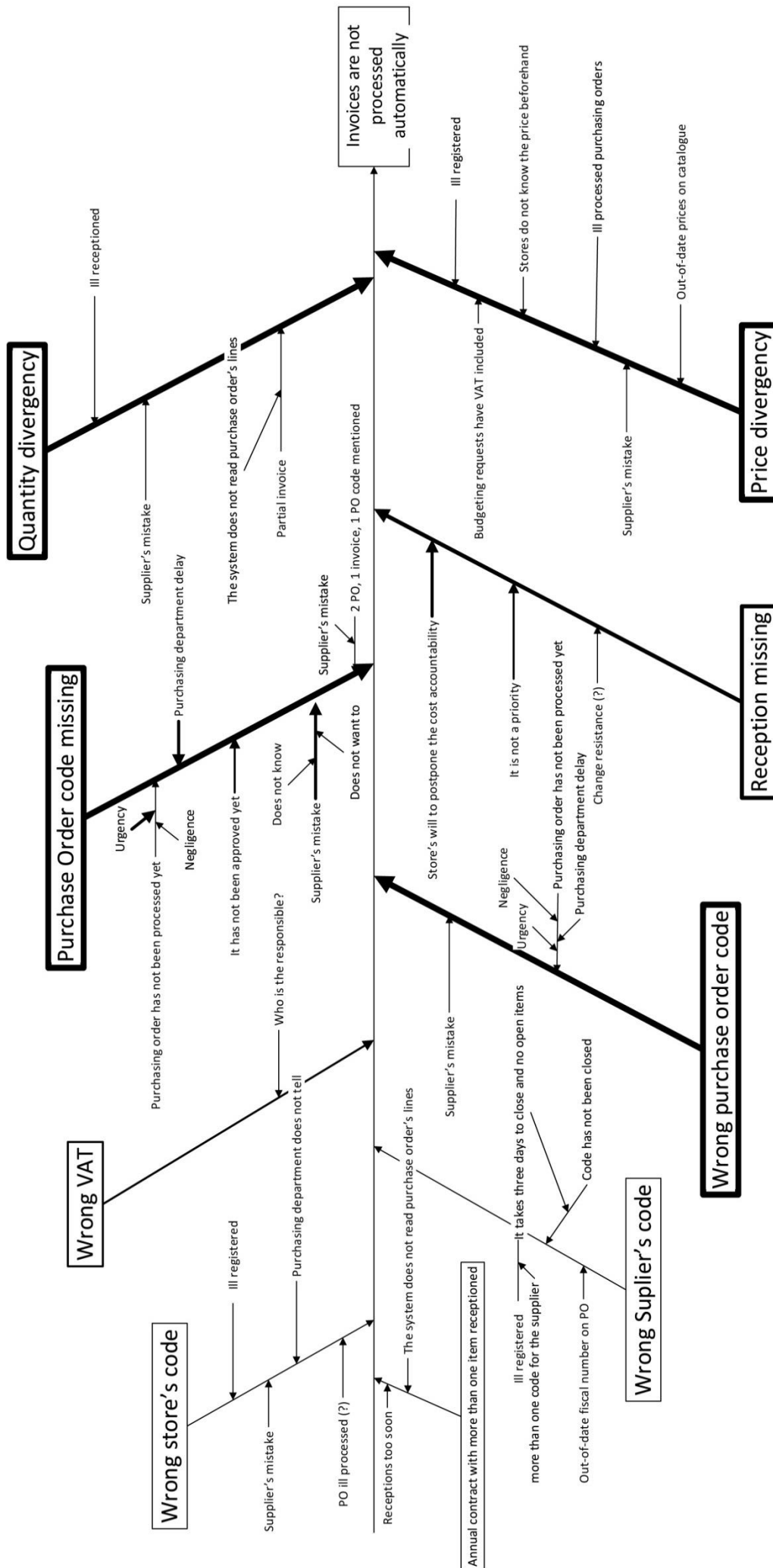
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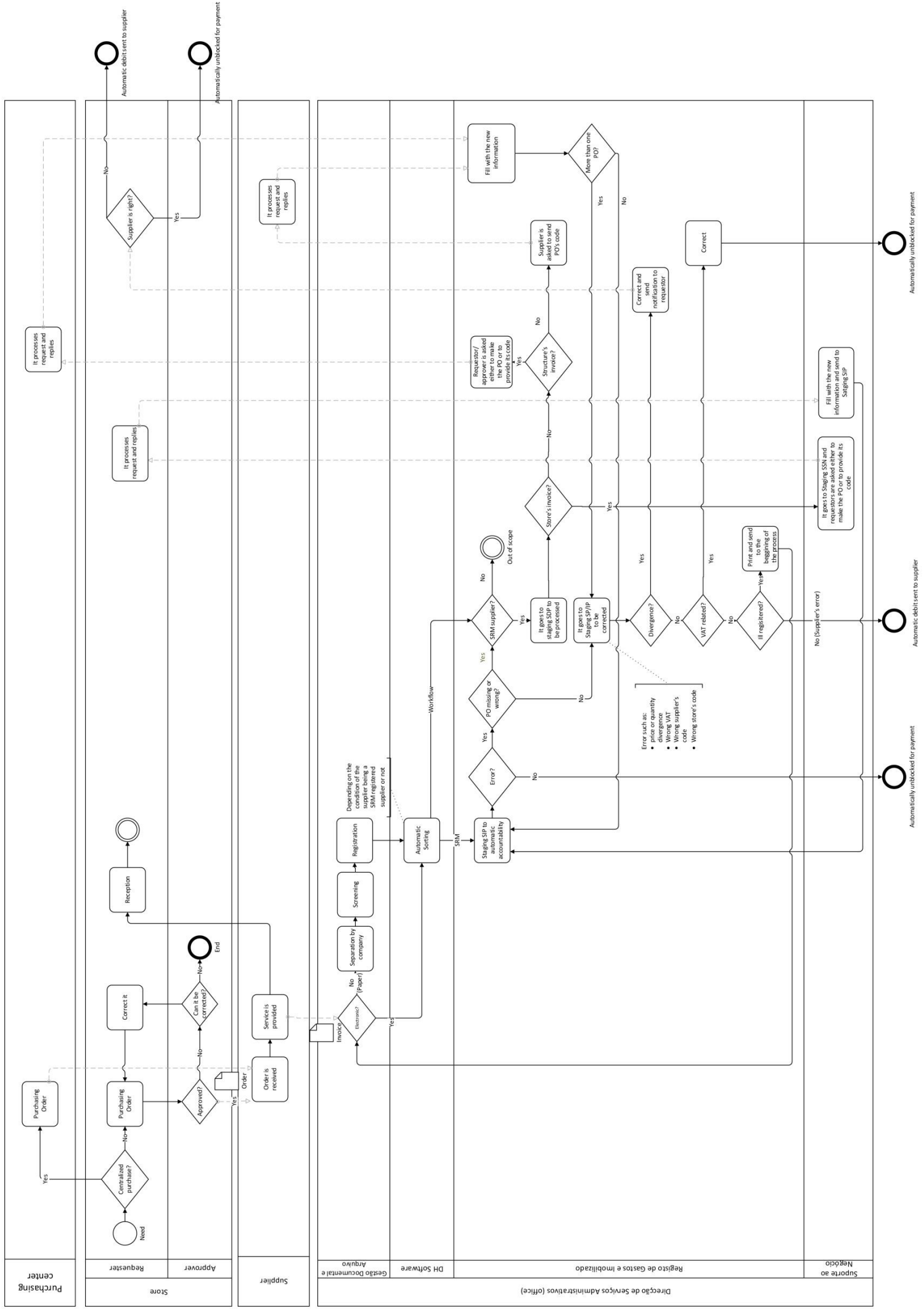
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# Appendix I



APPENDIX 1- TOTAL CAUSE EFFECT DIAGRAM





Automatically unlocked for payment

Automatic debit sent to supplier

Automatically unlocked for payment

## Appendixes II

### Introduction

#### APPENDIX 4- SONAE'S HOLDINGS



#### APPENDIX 5-SONAE'S HISTORY

Some important dates in Sonae's history:

1959: Sonae's year of birth

1978: Sonae's employees went on a strike in favour of the patronage against the Government will to nationalize it

1983: IPO in an operation worth of 2.493M €.

1985: Opening of the first of its kind hyper market in Portugal – the Continente in Matosinhos. As said by Sonae, this moment marks the beginning of Sonae *distribuição* (distribution), the result of a joint-venture between Sonae and Promodès. So that on understands better the reach of this moment, people would take pictures in front of this store and would even pick-nick on its parking lot. This clearly shows the relevance this opening has in Sonae and Portugal's history as well as on how disruptive it was in relation with how things had been done, until then.

1995:

- Investment on the specialized retail (MaxMat, Max Office, Inventory, Sportzone, etc)
- Opening of Health Clubs Solinca

1997:

- Opening Colombo Shopping, the biggest in Iberian Peninsula
- Entry in specialized retail in Spain

1998: Launch of its telecommunication brand Optimus – third mobile operator in Portugal. Although a small market, Optimus reaches a 15% market share in its first year.<sup>11</sup>

2005: Sonae Distribuição Brasil sold to Wall-Mart.

2010: Launch of the new corporative image.



Figure 1- Sonae's new corporative image<sup>12</sup>

2014: Partnership with ZON in the telecommunication sector

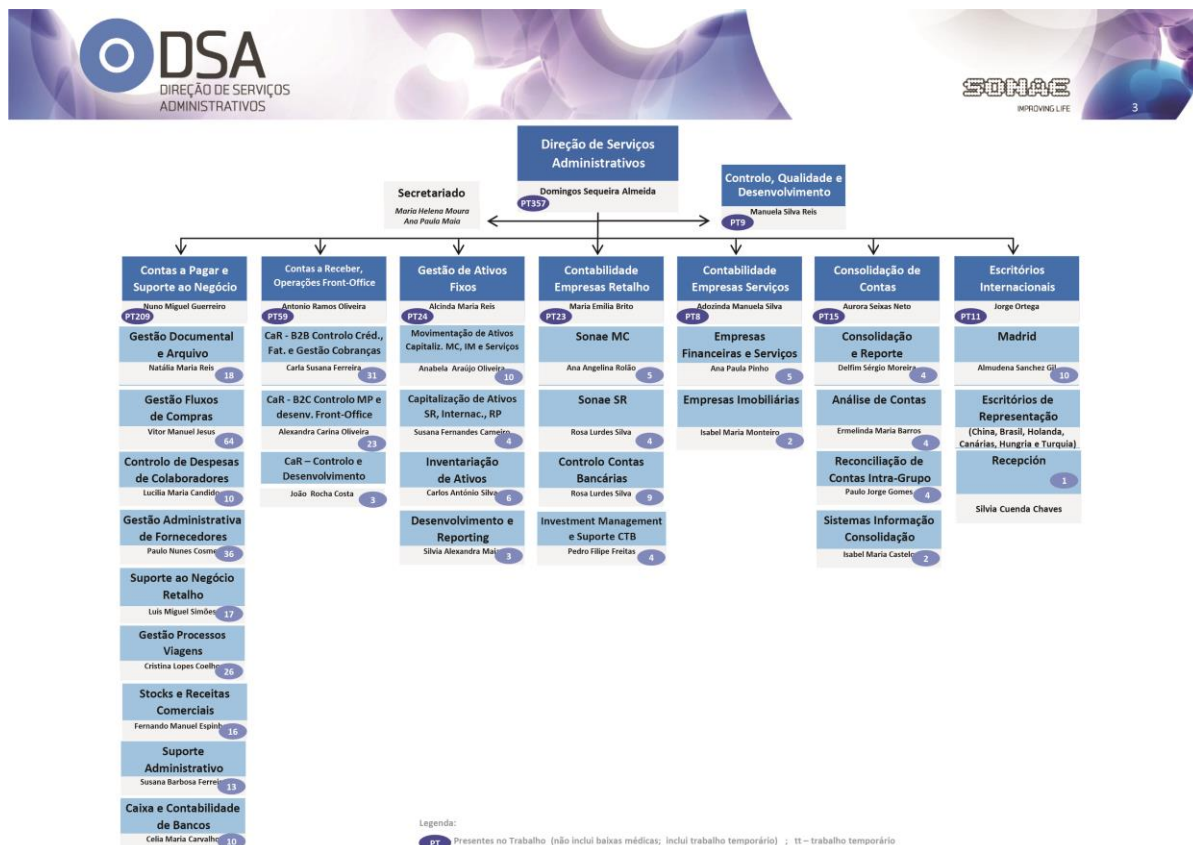
<sup>11</sup> Sonaecircle

<sup>12</sup> <http://rebrand.blogs.sapo.pt/15062.html>

## Problem definition

## Organogram

### APPENDIX 6- ORGANOGRAM



## Open items

### APPENDIX 7- NUMBER OF OPEN ITEMS

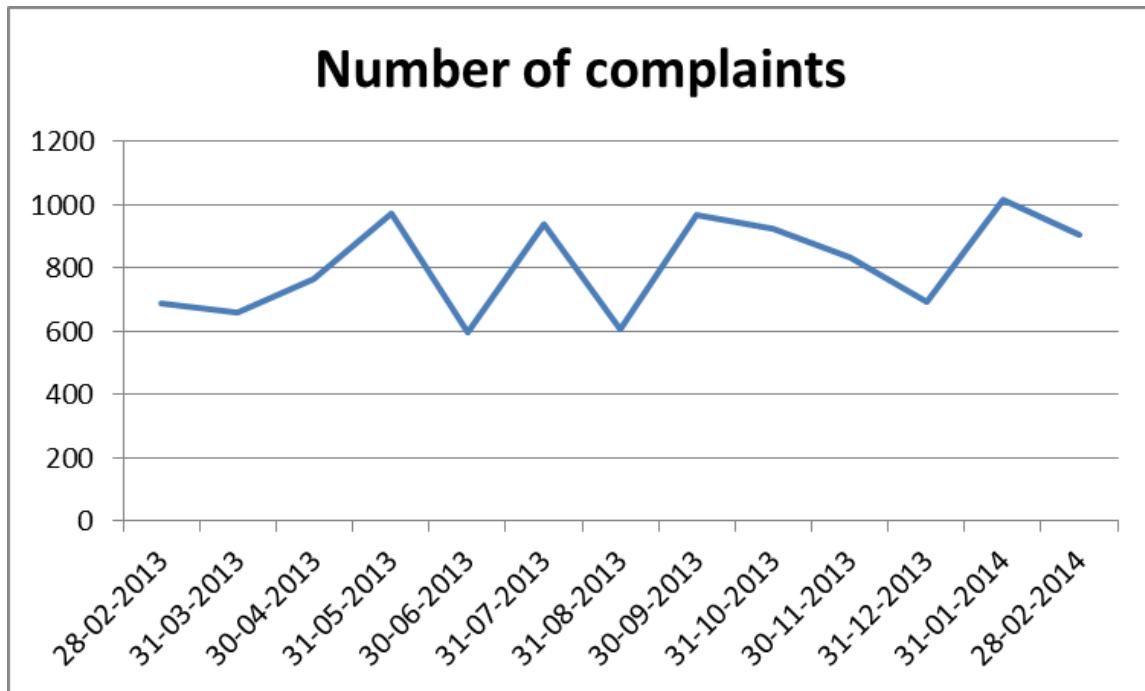
Date	Count of open items	% in relation to the total of invoices processed in 2013
31-03-2013	89762	24,4%
30-04-2013	91452	24,9%
31-05-2013	92161	25,1%
30-06-2013	82360	22,4%
31-07-2013	82188	22,3%
31-08-2013	80949	22,0%
30-09-2013	82649	22,5%
31-10-2013	71662	19,5%
30-11-2013	61067	16,6%
31-12-2013	73816	20,1%

31-01-2014	67667	18,4%
28-02-2014	64197	17,5%
31-03-2014	66788	18,16%

APPENDIX 8- VALUE OF OPEN ITEMS

Date	Sum of open items	% in relation to the total of invoices processed in 2013
31-03-2013	-124.069.964,24 €	4,40%
30-04-2013	-133.336.104,22 €	4,73%
31-05-2013	-139.399.083,60 €	4,94%
30-06-2013	-251.009.661,54 €	8,90%
31-07-2013	-266.673.480,41 €	9,46%
31-08-2013	-264.659.176,09 €	9,39%
30-09-2013	-261.237.797,19 €	9,26%
31-10-2013	-236.440.819,25 €	8,38%
30-11-2013	-230.265.890,00 €	8,17%
31-12-2013	-306.320.393,51 €	10,86%
31-01-2014	-253.729.949,61 €	9,00%
28-02-2014	-236.316.965,11 €	8,38%
31-03-2014	-240.582.924,52 €	8,53%

APPENDIX 9- NUMBER AND EVOLUTION OF COMPLAINTS



## Results and discussion

### APPENDIX 10- MAP OF THE OFFICE



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Painted are the teams who have to do with the process of invoices of service's suppliers. In pink is the team who separates the invoices by company. Next to it, in green, are the people who digitalize all the invoices. The process of inserting the data on the system is completed on the team in yellow validates the data it has read. These three teams are shared with retail goods' suppliers. In purple are all the 12 people who correct the errors that invoices may deliver, and in blue is the team that analyses the open items so that there are not too many of them, or there are not suppliers who owe money. There is one

more team whose office is not this that deals with the invoices in *staging* SSN. In grey are all the team who either deal with retail goods' suppliers or are out of this study's scope.

#### APPENDIX 11- MAP'S RULES

Pools are designed to make clear which processes depend on whom. So, for each pool, there is a person or a team responsible for the activities. Moreover, it was used the Business Process Modelling Notation (BMPN) to design the process. Based on such notation, it may be defined three groups of elements: flow objects, connecting objects and artefacts, which are all presented hereafter.

Flow objects:

Event: it is symbolized by a circumference and it is meant to describe something that either triggers the process or finishes it. Below are explained the three different types of events and the figures that correspond to each other.

Activity: It is symbolized by a rectangle and describes what task or work the company performs at that stage. A set of activities is what makes a process.

Gateway: when a decision needs to be made, or there is either a divergence or convergence of paths, a diamond shape is drawn, as shown below.



FIGURE 2 - FROM LEFT TO RIGHT: "START EVENT", "INTERMEDIAT EVENT" AND "END EVENT" AND ACTIVITY AND GATEWAY

Connecting Objects:

Sequence flow: it is probably the most used connecting object as it is used to represent the flow that objects follow as well as the order which each activity in the process will be performed

Message flow: it is represented as a dashed arrow and as the name explains, represents a message flow.



FIGURE 3 - SEQUENCE FLOW AND MESSAGE FLOW OBJECTS

Artefacts:

Data objects: Data may be produced, sent or received within an activity. This object is meant to represent such occasions.

Group: Sometimes it is useful to group activities to make an annotation or simply for analysis purposes.

Annotation: This object is used to provide additional information on any activity



FIGURE 4- FROM LEFT TO RIGHT: DATA OBJECT, GROUP AND ANNOTATION

Then, as this is a swimlane diagram there are two other objects. “BPMN supports swimlanes with two main constructs: pools and lanes” (White, 2004, p. 4). Each one is used to represent participants (whether they are individuals or not) in the process and their portions, respectively. “Two separate pools in the diagram will represent the two participants” (White, 2004, p. 5). A graphical explanation is provided below



FIGURE 5- A POOL WITH TWO LANES

Finally, the horizontal scale is time. However, a note must be made: although if two activities are placed on top of each other means that they are performed at the same time, the scale is not constant, consequently the length of a flow object does not represent time, i.e. a greater arrow does not mean a bigger wait until an activity is to be performed; nor can it be concluded that if a square's activity is bigger (or smaller) than other square, its activity takes longer (or less time) to perform.

APPENDIX 12- PROCESS CHARACTERIZATION (SHARP & MCDERMOTT, 2009)

<b>General process characteristics</b>	<b>Sonae's process characteristics</b>
Process name in verb-noun format	Process invoices
Event that triggers the business process	Need for a MRO good
Result achieved by the process	Invoice accountability
Customer that receives the result	Store's responsible
Other stakeholders and the result(s) they expect	Suppliers who expect the invoice to be accounted quickly so that they are paid efficiently
About five to seven major activities or milestones within the process	Processes on each <i>staging</i> , registration, PO
Actors with a role in the process	Requestors, Approvers, Suppliers, DSA.
Mechanisms (systems, forms, equipment, etc.) that support the process	SAP SRM, computers, Portal, Kofax
Process timing and frequency	...
Related (but out-of-scope) processes depicted on an overall process map	Payment process

## APPENDIX 13- INTERVIEW'S STRUCTURE

### **Objectivos:**

Medir a diferença entre importância e satisfação.

Melhorar a experiência de SRM para que lojas e DSA se sintam mais satisfeitos

Perceber dificuldades

E ouvir sugestões

### **Apresentação**

Idade

Género

Nº de anos na empresa e função

Identificação da loja: Código da loja

### **Caracterização do perfil de utilizador do SRM:**

Qual é a sua responsabilidade no uso do SRM: [requisitante, aprovador, comprador, outra].  
Qual?

Há quanto tempo está responsável por usar o SRM?

Quantas vezes usa o SRM por semana?

Quanto tempo costuma passar no SRM por semana?

Como é que aprendeu a usar o SRM? Formações específicas, auto-aprendizagem, o antigo responsável ensinou-me; ainda não sinto que saiba usar; outro

Já teve formações de SRM? Quantas?

Seria útil ter tido mais?

Já alguma vez se enganou a preencher o PO?

Qual foi a razão?

### **Satisfação e importância:**

Classifique de um a dez em termos de importância as seguintes características: Diminuição de carga administrativa; tempo no SRM; nº de vezes que tem que aceder ao SRM; nº de operações

no SRM; Facilidade com que faz um Pedido de compra; rapidez com que é aprovado; Poder comprar dentro de catálogo; seleccionar a categoria do artigo em compras fora do catálogo.

Há alguma característica à qual atribuisse uma importância maior que 5 e que não esteja mencionada? Se sim, Qual?

Quão fácil ou difícil é a navegação no SRM?

Com que frequência é que o SRM pára de funcionar ou fica indisponível?

Sente que os serviços administrativos percebem as suas necessidades quanto ao processo de PO?

O SRM veio ajudar nos processos de Pedido de Compra?

De forma geral quão satisfeito ou insatisfeito está com o SRM?

No geral, prefiro a maneira como se processa um Pedido de Compra agora em vez de como se processava antes do SRM?

Classifique agora em termos de satisfação as seguintes características: Diminuição de carga administrativa; tempo no SRM; nº de vezes que tem que aceder ao SRM; nº de operações no SRM; Facilidade com que faz um PC; rapidez com que é aprovado; Poder comprar dentro de catálogo; seleccionar a categoria do artigo em compras fora do catálogo;

Classifique agora em termos de satisfação a característica que mencionou acima como tendo importância maior que 5 mas que não estava mencionada na lista (por favor ignore esta pergunta se não considerou nenhuma característica)

### **Dificuldades:**

Classificar de pouca dificuldade a muita dificuldade, cada um dos itens: Pouco intuitivo; lento; falta de tempo; pouco prioritário; dificuldade em saber o que fazer; não vejo interesse em usar SRM; Fazer compras fora do catálogo; seleccionar a categoria do artigo em compras fora do catálogo

Sente outras dificuldades que não estavam listadas acima? Quais?

Qual a percentagem de Pedidos de compra que tem que fazer fora do catálogo?

Sabe para que serve o texto descritivo quando faço um PO?

O texto descritivo é-lhe útil quando faz um PO?

### **Comentários finais:**

Gostaria de acrescentar alguma coisa que ache importante e que ainda não tenha sido mencionado?

Gostaria de partilhar alguma sugestão que tenha em relação ao SAP SRM?

**Agradecimento:**

Muito obrigado pelo seu tempo.

Note: For the interview’s structure, it was used resources from: a) Iarossi, 2006; b) Hill, 2006; c) Qualtrics, 2013; d) Constant Contact, 1996 and e) survemonkey’s website.

APPENDIX 14 - SUMMARY OF INTERVIEWS

Variables	Formal interview	Informal feedback
	Employee 1	Employee (s) 2
<b>Importance</b>		
Decrease of administrative tasks	◐	◑
Time spent on SRM	◑	◑
Number of accesses to SRM	◑	◑
Number of operations	◑	◑
Ease to issue a purchase order	◑	◑
Quickness of approval	◑	●
Option to buy from catalogue	●	●
Select the correct category in the catalogue	◐	◐
<b>Satisfaction</b>		
Decrease of administrative tasks	◑	◑
Time spent on SRM	◑	◑
Number of accesses to SRM	◑	●
Number of operations	◑	◐
Ease to issue a purchase order	◑	●
Quickness of approval	◑	◑
Option to buy from catalogue	◐	◑
Select the correct category in the catalogue	◐	◑
<b>Difficulties</b>		
SRM is little intuitive	◑	◑
SRM is slow	◐	◐
lack of available time	◑	◑
SRM's tasks are less priority	●	◑
issue a purchase order outside the catalogue	●	◑
Select the correct category in purchases outside the catalogue	●	●
Issuing urgent requests	●	◑

Legenda: ◐ - Muito baixo; ◑ - Baixo; ◒ - Alto; ● - Muito alto

APPENDIX 15- COMPANIES WHICH SEND MOST INVOICES

Company's code	Number of invoices (in percentage of total)	Cumulative number	Cumulative percentage companies
D143	40,0%	40,0%	1,2%
C500	13,1%	53,2%	2,5%
S744	6,0%	59,1%	3,7%
C397	5,6%	64,8%	4,9%
C330	4,7%	69,4%	6,2%
D383	4,0%	73,5%	7,4%
C380	3,8%	77,3%	8,6%
C324	3,4%	80,7%	9,9%

APPENDIX 16- EXAMPLE ON THE DATA AVAILABLE ON STAGINGS

Dt criação	Nome usuário	Ult. actua	Estado msg	Estado msg	Rejeitada	Usuário	Referê ncia
02-01-2013	LMAMARAL	23-05-2013	A	E	X	CSILVA	303231790
Data da Factura	Cod.For nec	Nome do Fornecedor	NºContrib	Contr Cli	Empresa	Dt Entrega Merc	Tot Linhas
2012-10-14T00:00	2008451	PÚBLICO - COMUNIC AÇÃO SOCIAL, SA	PT502265094	PT503246468	C324	2012-12-24T00:00	120
MOnt Trib	Tot Impost	Ret. Fonte	Imp.Sele	Tot Fact	Notas	Barcode	Centr o est
120	27.60	0.00	0.00	147.60	CC324E00097	2012013240030240	-

Comparison between electronic and paper invoices

APPENDIX 17- NUMBER OF INVOICES

Number	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
<b>Paper</b>	23514	26232	30243	27979	30154	27380	29014	25376	27602	32659	27614	27723	335490
<b>Electronic</b>	10914	10526	11292	11072	11514	12077	12963	11529	15056	14577	13164	17382	152066
<b>Total</b>	34428	36758	41535	39051	41668	39457	41977	36905	42658	47236	40778	45105	487556

APPENDIX 18- PERCENTAGE OF TOTAL INVOICES

Number	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
<b>Paper</b>	4,8%	5,4%	6,2%	5,7%	6,2%	5,6%	6,0%	5,2%	5,7%	6,7%	5,7%	5,7%	68,8%
<b>Electronic</b>	2,2%	2,2%	2,3%	2,3%	2,4%	2,5%	2,7%	2,4%	3,1%	3,0%	2,7%	3,6%	31,2%
<b>Total</b>	7,1%	7,5%	8,5%	8,0%	8,5%	8,1%	8,6%	7,6%	8,7%	9,7%	8,4%	9,3%	100,0%

APPENDIX 19- PARETO ANALYSIS ON THE PAPER INVOICES BY SUPPLIER

Supplier's name	Number of invoices (in percentage of total)	Cumulative number	Cumulative percentage companies
MODELO CONTINENTE HIPERMERCADOS, S.A	5,22%	5,22%	0,02%
OPTIMUS COMUNICAÇÕES, SA	3,68%	8,90%	0,03%
ENDESA ENERGIA SA (PORTUGAL)	2,67%	11,57%	0,05%
LINCE TELECOMUNICACIONES, S.A	2,00%	13,57%	0,07%
S.P.A.S.T. - SOC. PORT. ALUGUER E SERV. TÊXTEIS	2,00%	15,57%	0,09%
EUROPCAR INT.ALUGUER AUTOMOVEIS,LDA	1,98%	17,54%	0,10%
TELEFONICA DE ESPANA, SA	1,83%	19,37%	0,12%
PT COMUNICAÇÕES, SA	1,63%	21,00%	0,14%
ENDESA ENERGIA, S.A.	1,54%	22,54%	0,15%
NESTLE WATERS DIRECT PORT.- COM.DIST.PROD.ALIM., SA	1,37%	23,91%	0,17%


APPENDIX 20- ANALYSIS ON THE INVOICES IN SDP BY STORE

Ano 2013		
Company	Invoices in SDP	Total invoices processed
D143	55,43%	50,3%
C500	13,73%	16,0%
S744	8,48%	7,3%
C397	7,29%	7,0%
C330	6,44%	5,7%
D383	4,55%	5,0%
C324	2,44%	4,1%
D380	1,63%	4,6%
Total	100,00%	100,00%

TABLE 4 STAGING SDP - ANALYSIS BY STORE


Recommendations

Onboarding



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## BEM VINDO À SONAE

É com enorme prazer que o acolhemos como parceiro do nosso grupo.

Pretendemos auxiliá-lo em todos os pontos da nossa relação comercial e administrativa.

Encontrará, aqui, todos os passos a seguir desde o início da parceria, até ao momento do pagamento das suas faturas, bem como todos os contactos necessários.

Para qualquer esclarecimento, não hesite em contactar o nosso Contact Center Fornecedores no número 22 011 92 90, através do endereço [contactcenterfornecedores@sonae.pt](mailto:contactcenterfornecedores@sonae.pt), ou, ainda, através do canal Helpdesk no portal de fornecedores – [www.weconnect.sonae.pt](http://www.weconnect.sonae.pt).

## CONTACTOS

### CONTACT CENTER FORNECEDORES

Privilegiando a celeridade dos processos, o canal oficial de comunicação é o Portal de Fornecedores. Todas as dúvidas, reclamações e pedidos de esclarecimento, devem ser registados no separador *Helpdesk* deste portal. O canal de atendimento telefónico e/ ou endereço eletrónico poderão ser utilizados para solicitar esclarecimentos gerais ou pontos de situação dos pedidos registados. É importante que, aquando do contacto telefónico, tenha presente o seu NIF e/ ou número da ocorrência que registou no Portal.

WWW.WECONNECT.SONAE.PT

22 011 92 90

contactcenterfornecedores@sonae.pt

## PORTAL FORNECEDORES

### WECONNECT

É uma ferramenta privilegiada para partilha de informação entre a sua Empresa e o nosso grupo. Aqui, poderá encontrar informações comerciais, logísticas, financeiras, dados de lojas e entrepostos, entre outras, respondendo às necessidades do negócio de ambas as partes.

Para o poder auxiliar na navegação pelo Portal de Fornecedores, consulte o manual que também se encontra disponível *online*, via **XXXXXX [inserir endereço dropbox]**

#### PRINCIPAIS SEPARADORES

##### FINANCEIRO

Consulta conta corrente;<sup>a)</sup>  
Pedido de antecipação pagamentos;

a) Disponível sob condições específicas;

##### HELPDESK

Criação/ manutenção de ocorrências;

##### TRANSACIONAL

Consulta de Notas de Crédito/ Débito;  
Consulta Cartas de Pagamento/ Avisos de Compensação;  
Pedidos de Compra/ Pedido de Compras;

## ENVIO DE DOCUMENTOS

### CIRCUITO DOCUMENTAL

Depois de emitir os seus documentos (como facturas ou notas de crédito) pode remetê-los pelas seguintes vias:

#### via CTT

Gestão Documental  
Apartado 1620  
4401-991 Vila Nova de Gaia

De forma a agilizar o circuito documental, minimizando o risco de extravios e consequentes impactos na disponibilização dos documentos para pagamento, as facturas e documentos equivalentes (notas de débito ou crédito) devem ser enviados para a morada acima indicada.

#### via EDI [ELECTRONIC DOCUMENT INTERCHANGE]

factura.electronica@sonae.pt

Os processos de integração eletrónica apresentam inúmeras vantagens, entre as quais a eliminação do risco de extravio de facturas. Deve contactar o endereço eletrónico acima, de modo a solicitar mais informações e/ou efetuar as respetivas configurações. O envio de *pdf's* (Portable Document Format – Adobe Systems®) não constitui uma solução de EDI.

## Pedido de Compra

### ENVIO DE PEDIDOS DE COMPRA

O Pedido de Compra é o ponto de partida das transações comerciais com os nossos fornecedores, sendo o documento que irá desencadear todo o processo.

É essencial que o Pedido de Compra seja mencionado na fatura. Sem este dado, poderão ocorrer atrasos na conferência e disponibilização para pagamento do documento.

Os Pedido de Compras ser-lhe-ão enviadas via **e-mail ou portal de fornecedores**. No entanto, se pretender o envio eletrónico das mesmas (EDI), por favor, consulte este manual no ponto relativo a faturação eletrónica.

Os Pedido de Compras encontram-se disponíveis no nosso portal de fornecedores, via separador transacional, mediante pedido por parte do fornecedor.

O layout deste documento encontra-se disponível no link **XXXXXX**

## Fornecimento do Serviço

### PROCEDIMENTOS ENTREGA DA MERCADORIA

O fornecimento do serviço do serviço nas lojas/entrepósitos deverá ser acompanhado pelo documento fatura/guia de remessa, por forma a agilizar o processo de conferência.

**Como comprovativo da entrega da mercadoria a loja / entreposto deverá entregar ao fornecedor uma nota de receção. Nos casos de conferência à posteriori deverá carimbar a 3ª via da guia de remessa/ transporte com esta indicação.**

## REQUISITOS LEGAIS

Sabia que... em média, uma fatura com o pedido de compra correto fica disponível para pagamento x dias mais depressa que uma sem pedido de compra?.

### FATURAS E NOTAS DE CRÉDITO

As faturas e documentos equivalentes como elementos financeiros por excelência devem ser emitidos tendo por base os requisitos legais obrigatórios dos quais devemos destacar:

Menção do número de contribuinte do emissor e respetiva razão social;

Número de contribuinte da empresa Sonae com as designações corretas (dados de acordo com os enviados na Pedido de Compra);

<sup>a)</sup> Resumos de IVA e resumos de taxas Eco (caso aplicável);

Para além dos requisitos legais existe ainda um conjunto de informações que devem constar das faturas e que permitem agilizar o processo de conferência e consequente disponibilização para pagamento:

todas as faturas devem mencionar sempre o código de pedido de compra; se aplicável, poderá mencionar também a guia de remessa .

<sup>a)</sup> as taxas de IVA a aplicar devem ter em consideração a origem da transação;

## GESTÃO DOCUMENTOS

### DOCUMENTOS EMITIDOS PELA SONAE

#### DÉBITOS DE CONFERÊNCIA

Têm origem na conferência da fatura emitida pelo fornecedor e a receção que a loja/entrepósito efetuou. Podem ter por base diferenças de preço ou de quantidade; São incluídos no mesmo pagamento da fatura a que dizem respeito;

Disponibilizados diariamente no Portal de Fornecedores;

O *layout* deste documento encontra-se disponível em **XXXX**

#### CESSÃO DE CRÉDITOS

Movimento contabilístico intra-grupo, através do qual a empresa de origem, cede à empresa de destino, um saldo que tem a seu favor. <sup>b)</sup>

O Fornecedor é notificado deste movimento através de uma carta enviada por correio.

O *layout* deste documento encontra-se disponível em **XXXX**

<sup>b)</sup> de acordo com o previsto no art.º 583 do Código Civil;

## PAGAMENTOS

### DOCUMENTOS EMITIDOS PELA SONAE

Os pagamentos são efetuados de acordo com as condições previstas em Contrato Geral de Fornecimento (CGF).

#### DATA BASE DOCUMENTO

O cálculo do prazo de pagamento é efetuado tendo em conta a data base do documento (data de entrada do documento na Sonae ou data de receção da mercadoria), e não com base na data do documento.

#### RESUMO DE FATURA

É necessário ter em consideração se a condição de pagamento é "Resumo" (p.e. Resumo Mensal). Neste casos o prazo de pagamento é calculado sempre após o final do mês de emissão do documento.

Exemplo: Numa condição de Resumo Mensal a 30 dias, todas as faturas emitidas Julho apenas estarão vencidas no final do mês de Agosto;

O *layout* deste documento encontra-se disponível em **XXXX**

## PAGAMENTOS

### DOCUMENTOS EMITIDOS PELA SONAE

#### CARTAS DE PAGAMENTO

Todos os pagamentos emitidos são detalhados numa carta de pagamento disponibilizada no portal de fornecedores;

O *layout* deste documento encontra-se disponível em **XXXX**

## INTEGRAÇÃO ELETRÓNICA

Sabia que...

90% da nossa  
faturação já nos  
chega via  
eletrónica  
?

### EDI [Transferência Eletrónica de Documentos]

O programa de EDI (transferência eletrónica de documentos) visa potenciar, através da utilização de tecnologias de transferência automática de informação, o aumento de eficácia e eficiência na troca de documentos comerciais/logísticos/financeiros com a consequente redução de custos.

Atualmente já incluímos, entre outras, neste programa as seguintes mensagens:

- Pedido de Compra (*Inbound* e *Outbound*);
- Fatura (Fatura Eletrónica Legal);
- Aviso de expedição (guia de remessa);
- Avisos de débito e crédito (relativos a conferência e devolução de mercadorias e a receitas comerciais);
- Contratos (contratos relacionados com receitas promocionais);

Temos uma equipa disponível para acompanhar todo o processo de implementação, desde a fase de adesão, passando pela execução de testes até à entrada em produção que poderá contactar através de: [fatura.electronica@sonae.pt](mailto:fatura.electronica@sonae.pt)



## APPENDIX 22- ONBOARDING SCRIPT

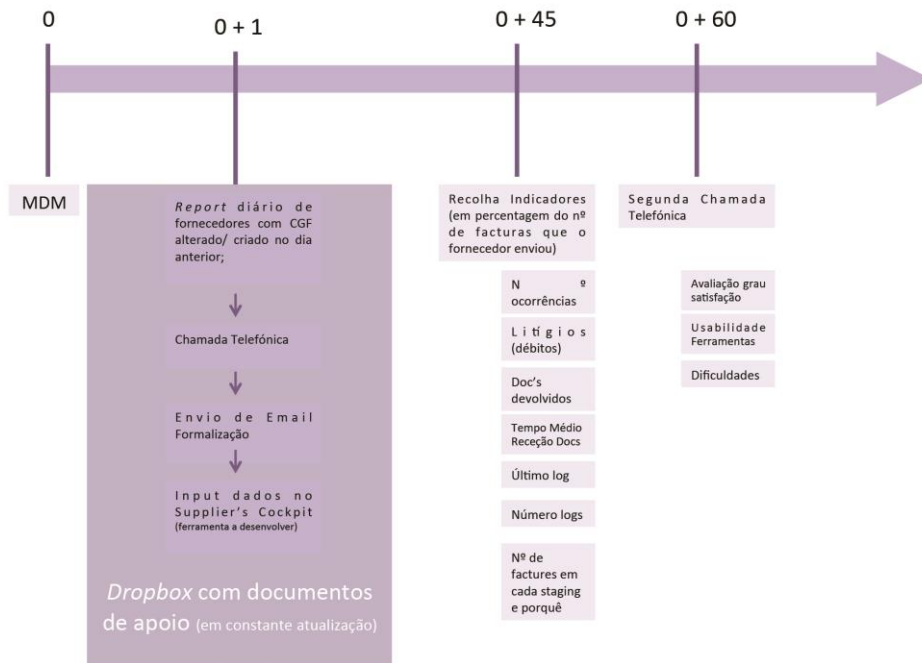


AÇÃO	DESCRIÇÃO	TEMPO ESTIMADO
SAUDAR O FORNECEDOR	Utilizar contactos do utilizador do portal;	1 min
APRESENTAÇÃO DE QUEM LIGA	Apresentação de quem está a ligar. Informar que pertence à equipa de On Boarding (acolhimento) na gestão de fornecedores	1 min
PERGUNTAR SE A CHAMADA É OPORTUNA	É necessário tempo e disponibilidade de parte do fornecedor. Caso a resposta seja negativa, reagendar.	1 min
MOSTRAR CONTEÚDOS PRINCIPAIS DO PORTAL	Verificar se o fornecedor está ativado no portal (em caso negativo, reenviar email de ativação); Mostrar canais e utilização dos canais principais: - <b>Helpdesk</b> (criação e consulta de ocorrências; alertar para a correta tipificação e introdução dos dados corretos dos documentos reclamados); - <b>Transacional</b> (Consulta de Notas de Crédito/ Débito; Consulta Cartas de Pagamento/ Avisos de Compensação; Pedidos de Compra/ Encomendas); - <b>Financeiro</b> (Consulta conta corrente; Pedido de antecipação pagamentos);	10 min

AÇÃO	DESCRIÇÃO	TEMPO ESTIMADO
EDI	Informar que trabalhamos com fatura eletrónica e que a grande maioria dos nossos fornecedores trabalha também. Verificar disponibilidade do fornecedor face ao tema.	2 min
INFORMAR LINK DROPBOX COM TODOS OS DOCUMENTOS	Informar que vamos enviar um link onde se encontram todos os documentos pertinentes, bem como os manuais necessários. Aconselhar a sua consulta;	5 min
ENVIO DE EMAIL DE FORMALIZAÇÃO	Informar que vamos enviar email a formalizar a conversa. Neste email consta o link e um pequeno manual de boas vindas.	5 min
REFORÇAR A IMPORTÂNCIA DO CÓDIGO DE PO	Para que a fatura seja facilmente processada e fique pronta para pagamento, referir que é essencial que o fornecedor mencione sempre o código do pedido de compra ao qual a factura diz respeito	0,5 min
CONTACTOS EM CASO DE DÚVIDA E DESPEDIDA	Informar que, qualquer dúvida deve ser esclarecida via Contact Center Fornecedores.	0,5 min
<b>TEMPO TOTAL MÉDIO 25 MIN's</b>		

CHECKLIST
<input type="checkbox"/> Identidade de quem liga e propósito
<input type="checkbox"/> Utilização / ativação portal
<input type="checkbox"/> Importância do PO
<input type="checkbox"/> EDI
<input type="checkbox"/> Contactos e link com documentos de apoio
<input type="checkbox"/> Envio de email de formalização

APPENDIX 23-ONBOARDING CICLE



APPENDIX 24- KAIZEN TABLE

<b>Problem</b>	<b>Possible solution</b>
EDP invoices: the last page may be a credit note instead which cannot go to trash	workshop to the Separation team
Many times, an invoice is not automatically processed since a PO has many lines and the system cannot know to which line the invoice corresponds. It often happens with monthly agreements	Allow the system to read the number of the line in each PO
Supplier's code is wrong	"Close" the old supplier's code so that it is not na option
invoices from water suppliers do not mention PO's code but the counter's number	Uniformize the way the purchase order is issued, so that in the description text comes mentioned the counter's number. Ideally, each store would associate the PO's code with the counter's number
Receptions made with dates ahead of today's	Do not allow on the system
There are small errors that are identified by the employees. However, since there's no end-to-end responsible for the process, there is no one they identify as someone they could communicate such errors and so they keep happening	Assign an end-to-end responsible
When a supplier has a problem (the same problem but for different stores), stores are called to call the supplier and call us afterwards.	Call directly to the supplier
Budgets are asked with VAT included.	workshop to requestors - Budgets must be aske without VAT included
PO's issued for old supplier's fiscal number	Close the old fiscal number
Monthly agreements being charged a higher value than what is agreed	Since it is a monthly agreement, it is important to contact suppliers to correct the situation
PO for suppliers who are not created on the system	When a PO is sent to a new supplier, a message must be sent to the responsible to create the supplier on the system
Suppliers call directly to employees instead of using the official channel	Understand why this happens and correct the situation
Water or energy supply invoices always deliver a price divergence	Turn them automatically accepted
Too many missing reception	Make a list of reception that are predicted to occur soon and contact the store to assure they make them, in a more proactive attitude
Communication between teams is little clear	Create norms for communication
In the <i>staging</i> SSN, people make the same analysis as the people in <i>staging</i> SDP	Create a norm so that only one team performs that task
Sometimes na invoice is cancelled and when months later na employee wants to know why, he can not	Make mandatory na explanatory note on the reason of such cancellation
Employees must resend many times the same email for stores' responsible who have not replied to a correction request	Create a tool which automatic sends na email to people who have not replied yet
the catalogue has outdated prices	Outdate prices
Purchasing departments do not mention the store's code	workshop to purchasing departments to mention store's code
Energy supply invoice does not have the PO's code mentioned	Ask the supplier to send the invoice to the store who would add the PO's code and send it to this office
There are not common performance indicators	Create common performance indicators and turn them public
There are many doubts from suppliers	Create a FAQ site on Sonae's website


APPENDIX 25- POTENTIAL GAINS - COMPLETE ANALYSIS

De Abril 2013 a Março de 2014	Pessimistic	Nor pessimistic nor optimistic	Optimistic
	<b>20%</b>	<b>50%</b>	<b>80%</b>
<b>IP</b>	0,47%	2,84%	10,77%
Total number of invoices	15754,00	15754,00	15754,00
Number "corrected"	3150,80	7877,00	12603,20
Minutes to process each invoice	2,22	2,22	2,22
daily FTE's saved	14,55	36,38	58,20
<b>SP</b>	0,16%	1,62%	12,57%
Total number of invoices	105859,00	105859,00	105859,00
Number "corrected"	21171,80	52929,50	84687,20
Minutes to process each invoice	1,20	1,20	1,20
daily FTE's saved	52,93	132,32	211,72
<b>SDP</b>	0,36%	3,40%	21,18%
Total number of invoices	15837,00	15837,00	15837,00
Number "corrected"	3167,40	7918,50	12669,60
Minutes to process each invoice	5,65	5,65	5,65
daily FTE's saved	37,28	93,21	149,13
<b>SSN</b>	0,54%	3,33%	16,42%
Total number of invoices	5973,00	5973,00	5973,00
Number "corrected"	1194,60	2986,50	4778,40
Minutes to process each invoice	5,65	5,65	5,65
daily FTE's saved	14,06	35,15	56,25
daily FTE's saved	118,82	297,06	475,30
Monthly FTE's saved	5,40	13,50	21,60
Yearly FTE's saved	0,45	1,13	1,80

APPENDIX 26- POTENTIAL SAVINGS ON ELECTRONIC INVOICES


	<b>Pessimistic</b>	<b>Nor pessimistic nor optimistic</b>	<b>Optimistic</b>
Effectiveness	20%	50%	80%
Percentage of suppliers	0,14%	1,33%	9,09%
Total number of invoices	367.776	367.776	367.776
Invoices changed	73.555	183.888	294.221
Saved value/invoice	0,29 €	0,29 €	0,29 €
Total value saved	21.625 €	54.063 €	86.501 €

11.501 (1)  
que facta vinda



**AT**  
autoridade  
tributária e aduaneira

**Fatura-Recibo Original**



14 020514 0143 0000084606

FATURA-RECIBO N.º  DATA DE EMISSÃO

NIF

**DADOS DO PRESTADOR DE SERVIÇOS**

NOME ROGERIO ARTUR PINTO BRANDÃO  
 ATIVIDADE EXERCIDA VETERINARIOS  
 DOMICÍLIO FISCAL /  
 ESTABELECIMENTO ESTÁVEL R DOS FOGUETEIROS 539 3º DTO 4460-725 C.JSTÓIAS MTS

**DADOS DO ADQUIRENTE DO SERVIÇO**

NOME MODELO CONTINENTE HIPERMERCADOS SA  
 MORADA RUA JOÃO MENDONÇA N.505 4484-503 SENHORA DA HORA  
 NIF ESTRANGEIRO/OUTRO DOC.IDENT.   
 SUBSISTEMA DE SAÚDE

**DADOS DO SERVIÇO PRESTADO**

DATA DA PRESTAÇÃO DO SERVIÇO   
 DESCRIÇÃO Médico Veterinário-4600030579/30580/30254/30953/31306/31272/36.6-1/30290/31300/30559/30465/30356/31159/32779/32736-5/05

VALOR BASE	998.00 €
IVA : Contínente - 23% [taxa normal atual] :	229.54 €
IMPOSTO DO SELO	0.00 €
IRS : A taxa de 25%, OE2013 - artº 101º nº 1), após 01-01-2013	249.50 €
IMPORTÂNCIA RECEBIDA	978.04 €

Importância recebida a título de Honorários  Adiantamento por conta de honorários  Adiantar.e.tic para pagamento de despesas por conta e em nome do cliente

**Assinatura do prestador:** \_\_\_\_\_

Documento emitido eletronicamente. Disponível para consulta Le'io adquirente no Portal das Financas (httns://www.mafidatfinancas.gov.pt)

Data on stagings

Staging IP

APPENDIX 28- PARETO ANALYSIS ON THE NUMBER OF INVOICES IN STAGING IP

<b>Supplier's code</b>	<b>Number of invoices (in percentage of total)</b>	<b>Cumulative number</b>	<b>Cumulative percentage of suppliers</b>
2030830	8,93%	8,93%	0,14%
2008252	6,81%	15,74%	0,29%
2001163	3,92%	19,66%	0,43%
2022661	3,31%	22,97%	0,58%
2008566	2,47%	25,44%	0,72%
2010913	2,15%	27,59%	0,87%
2020919	1,86%	29,46%	1,01%
2010901	1,73%	31,19%	1,16%
2000005	1,64%	32,83%	1,30%
2014195	1,45%	34,28%	1,45%
2004139	1,41%	35,69%	1,59%
2011824	1,38%	37,07%	1,74%
2012030	1,38%	38,45%	1,88%
2021975	1,35%	39,80%	2,03%
2020396	1,28%	41,09%	2,17%
2010160	1,28%	42,37%	2,32%
2007253	1,22%	43,59%	2,46%
2031735	1,22%	44,81%	2,60%
2022883	1,19%	46,00%	2,75%
2010523	1,16%	47,16%	2,89%
2021805	1,12%	48,28%	3,04%
2000490	1,06%	49,34%	3,18%
2029096	1,06%	50,40%	3,33%
2016223	1,00%	51,40%	3,47%
2010254	0,93%	52,33%	3,62%
2010693	0,90%	53,23%	3,76%
2022646	0,84%	54,06%	3,91%
2004247	0,84%	54,90%	4,05%
2027929	0,77%	55,67%	4,20%
2017943	0,77%	56,44%	4,34%
2003649	0,74%	57,18%	4,49%
2011209	0,74%	57,92%	4,63%
2022531	0,71%	58,63%	4,78%
2023554	0,67%	59,30%	4,92%

2006213	0,67%	59,97%	5,07%
2021195	0,67%	60,65%	5,21%
2001612	0,64%	61,29%	5,35%
2028116	0,64%	61,93%	5,50%
2023614	0,61%	62,54%	5,64%
2012682	0,61%	63,15%	5,79%
2021666	0,61%	63,76%	5,93%
2001113	0,61%	64,38%	6,08%
2033608	0,58%	64,95%	6,22%
2010348	0,55%	65,50%	6,37%
2094	0,51%	66,01%	6,51%
2000687	0,51%	66,53%	6,66%
2030544	0,51%	67,04%	6,80%
2005757	0,51%	67,56%	6,95%
2000939	0,51%	68,07%	7,09%
2007257	0,51%	68,58%	7,24%
2010421	0,48%	69,07%	7,38%
2007004	0,48%	69,55%	7,53%
2004371	0,45%	70,00%	7,67%
2000719	0,45%	70,45%	7,81%
2030644	0,42%	70,86%	7,96%
2024443	0,42%	71,28%	8,10%
2020990	0,42%	71,70%	8,25%
2016967	0,42%	72,12%	8,39%
2026548	0,42%	72,53%	8,54%
2033872	0,39%	72,92%	8,68%
2001930	0,39%	73,31%	8,83%
2001084	0,35%	73,66%	8,97%
2001245	0,35%	74,01%	9,12%
2012721	0,32%	74,33%	9,26%
2029522	0,32%	74,65%	9,41%
2006505	0,32%	74,98%	9,55%
9062	0,32%	75,30%	9,70%
2018829	0,32%	75,62%	9,84%
2033726	0,29%	75,91%	9,99%

APPENDIX 29- PARETO ANALYSIS ON THE VALUE OF INVOICES IN *STAGING IP*

Supplier's code	Number of invoices (in percentage of total)	Cumulative number	Cumulative percentage of suppliers
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2010160	41,94%	41,94%	0,29%
2000809	17,92%	59,86%	0,58%
2012030	9,87%	69,74%	0,87%
2021195	9,82%	79,56%	1,16%
2007933	4,15%	83,71%	1,45%
2029522	2,92%	86,63%	1,74%
2001084	2,62%	89,25%	2,03%
2001163	1,55%	90,80%	2,33%
2030664	0,56%	91,36%	2,62%
2009815	0,52%	91,88%	2,91%
2010901	0,42%	92,30%	3,20%
2021805	0,41%	92,71%	3,49%
2008566	0,41%	93,12%	3,78%
2030809	0,41%	93,52%	4,07%
2010913	0,29%	93,81%	4,36%
2008252	0,23%	94,04%	4,65%
2032834	0,23%	94,27%	4,94%
2004247	0,22%	94,48%	5,23%
2014195	0,21%	94,69%	5,52%
2026262	0,20%	94,89%	5,81%
2005743	0,18%	95,07%	6,10%
2031248	0,18%	95,25%	6,40%
2017943	0,17%	95,43%	6,69%
2897	0,17%	95,59%	6,98%
2008003	0,16%	95,75%	7,27%
2029651	0,15%	95,90%	7,56%
2011209	0,13%	96,03%	7,85%
2033582	0,13%	96,15%	8,14%
2004139	0,12%	96,27%	8,43%
2023693	0,12%	96,39%	8,72%
2023034	0,11%	96,50%	9,01%
2022661	0,11%	96,61%	9,30%
2033164	0,11%	96,72%	9,59%
2024443	0,11%	96,83%	9,88%
2004371	0,10%	96,93%	10,17%

Staging SP:

APPENDIX 30- PARETO ANALYSIS ON THE NUMBER OF INVOICES IN *STAGING SP*

Supplier's code	Number of invoices (in percentage of total)	Cumulative number	Cumulative percentage of suppliers
2003902	8,77%	8,77%	0,06%
2002775	7,61%	16,38%	0,11%

2027704	4,65%	21,03%	0,17%
2001171	3,33%	24,36%	0,22%
2000957	2,92%	27,28%	0,28%
2001163	2,14%	29,42%	0,34%
2029522	2,02%	31,44%	0,39%
2022187	2,00%	33,44%	0,45%
2004228	1,46%	34,90%	0,50%
2006505	1,34%	36,24%	0,56%
2005013	1,27%	37,51%	0,62%
2027188	1,26%	38,77%	0,67%
2008891	1,21%	39,98%	0,73%
2018890	1,08%	41,06%	0,78%
2020523	1,03%	42,09%	0,84%
2022240	0,96%	43,05%	0,89%
2001201	0,92%	43,97%	0,95%
2019592	0,81%	44,78%	1,01%
9062	0,63%	45,41%	1,06%
2000477	0,61%	46,02%	1,12%
2014013	0,60%	46,62%	1,17%
2024031	0,60%	47,22%	1,23%
2007463	0,59%	47,80%	1,29%
2000259	0,57%	48,37%	1,34%
2005368	0,56%	48,93%	1,40%
2031594	0,54%	49,47%	1,45%
2016748	0,52%	49,99%	1,51%
2032854	0,51%	50,51%	1,57%
2005834	0,47%	50,97%	1,62%
2016723	0,47%	51,44%	1,68%
14003	0,46%	51,89%	1,73%
2033719	0,43%	52,32%	1,79%
2014811	0,42%	52,75%	1,85%
2031628	0,42%	53,16%	1,90%
2009616	0,40%	53,57%	1,96%
2028776	0,40%	53,97%	2,01%
2004570	0,39%	54,36%	2,07%
2003470	0,37%	54,73%	2,13%
2004279	0,35%	55,08%	2,18%
2024872	0,35%	55,43%	2,24%
2027703	0,34%	55,76%	2,29%
2008252	0,34%	56,10%	2,35%
2000908	0,33%	56,43%	2,40%
2015431	0,33%	56,76%	2,46%
2000659	0,32%	57,08%	2,52%

2032172	0,32%	57,40%	2,57%
2006112	0,31%	57,70%	2,63%
2011975	0,31%	58,01%	2,68%
2027569	0,30%	58,31%	2,74%
2000446	0,30%	58,61%	2,80%
2009815	0,29%	58,90%	2,85%
2007054	0,29%	59,18%	2,91%
2031784	0,26%	59,45%	2,96%
2020685	0,26%	59,71%	3,02%
2017996	0,26%	59,97%	3,08%
2030953	0,25%	60,23%	3,13%
2014167	0,25%	60,47%	3,19%
2024182	0,24%	60,72%	3,24%
2014534	0,24%	60,96%	3,30%
2001508	0,24%	61,20%	3,36%
2008566	0,24%	61,44%	3,41%
2000854	0,23%	61,67%	3,47%
2024509	0,22%	61,89%	3,52%
2003293	0,22%	62,11%	3,58%
2020824	0,22%	62,33%	3,64%
2002903	0,22%	62,55%	3,69%
2026522	0,22%	62,77%	3,75%
2028368	0,21%	62,98%	3,80%
2010266	0,21%	63,19%	3,86%
2006633	0,21%	63,40%	3,91%
2031389	0,20%	63,60%	3,97%
2002815	0,20%	63,79%	4,03%
2012287	0,19%	63,98%	4,08%
2012711	0,19%	64,18%	4,14%
2020704	0,19%	64,36%	4,19%
2030374	0,19%	64,55%	4,25%
2015313	0,19%	64,74%	4,31%
2026300	0,18%	64,91%	4,36%
2000758	0,18%	65,09%	4,42%
2001641	0,18%	65,27%	4,47%
2002171	0,18%	65,45%	4,53%
2008198	0,18%	65,62%	4,59%
2001423	0,17%	65,80%	4,64%
2014481	0,17%	65,97%	4,70%
2013885	0,17%	66,14%	4,75%
2006136	0,17%	66,31%	4,81%
2025762	0,17%	66,48%	4,87%
2032958	0,17%	66,64%	4,92%

2015111	0,16%	66,81%	4,98%
2022697	0,16%	66,97%	5,03%
2002571	0,16%	67,12%	5,09%
2010218	0,15%	67,28%	5,15%
2030539	0,15%	67,43%	5,20%
2022646	0,15%	67,58%	5,26%
2017331	0,15%	67,73%	5,31%
2030977	0,15%	67,88%	5,37%
2020006	0,15%	68,03%	5,43%
2033578	0,15%	68,18%	5,48%
2014647	0,15%	68,33%	5,54%
2007985	0,15%	68,48%	5,59%
2000809	0,14%	68,63%	5,65%
2009894	0,14%	68,77%	5,70%
2012811	0,14%	68,90%	5,76%
2024481	0,14%	69,04%	5,82%
2001753	0,14%	69,18%	5,87%
2026687	0,14%	69,31%	5,93%
2026712	0,14%	69,45%	5,98%
2033770	0,13%	69,58%	6,04%
2017326	0,13%	69,72%	6,10%
2025415	0,13%	69,85%	6,15%
2027933	0,13%	69,98%	6,21%
2000596	0,13%	70,12%	6,26%
2026482	0,13%	70,25%	6,32%
2012630	0,13%	70,38%	6,38%
2003413	0,13%	70,51%	6,43%
2022661	0,13%	70,64%	6,49%
2004005	0,13%	70,77%	6,54%
2008742	0,13%	70,90%	6,60%
2010905	0,12%	71,02%	6,66%
2017034	0,12%	71,14%	6,71%
2000384	0,12%	71,26%	6,77%
2009416	0,12%	71,39%	6,82%
2021131	0,12%	71,51%	6,88%
2007253	0,12%	71,62%	6,94%
2020915	0,12%	71,74%	6,99%
2023768	0,12%	71,86%	7,05%
2000432	0,11%	71,97%	7,10%
2003534	0,11%	72,09%	7,16%
2028641	0,11%	72,20%	7,21%
2004302	0,11%	72,31%	7,27%
2001612	0,11%	72,42%	7,33%

2022688	0,11%	72,53%	7,38%
2029886	0,11%	72,65%	7,44%
2033849	0,11%	72,76%	7,49%
2006213	0,11%	72,86%	7,55%
2031553	0,11%	72,97%	7,61%
2018351	0,10%	73,07%	7,66%
2017871	0,10%	73,18%	7,72%
2027756	0,10%	73,28%	7,77%
2014035	0,10%	73,39%	7,83%
2016344	0,10%	73,49%	7,89%
2006877	0,10%	73,59%	7,94%
2031103	0,10%	73,69%	8,00%
2007249	0,10%	73,79%	8,05%
2019497	0,10%	73,89%	8,11%
2023785	0,10%	73,99%	8,17%
2019070	0,10%	74,09%	8,22%
2032524	0,10%	74,18%	8,28%
2006153	0,10%	74,28%	8,33%
2000846	0,10%	74,38%	8,39%
2000291	0,10%	74,48%	8,45%
2030404	0,10%	74,58%	8,50%
2034410	0,10%	74,67%	8,56%
6447	0,09%	74,77%	8,61%
2022324	0,09%	74,86%	8,67%
2003195	0,09%	74,96%	8,72%
2020489	0,09%	75,05%	8,78%
2027224	0,09%	75,14%	8,84%
2001208	0,09%	75,23%	8,89%
2016558	0,09%	75,32%	8,95%
2021036	0,09%	75,42%	9,00%
2018150	0,09%	75,50%	9,06%
2022637	0,09%	75,59%	9,12%
2002575	0,09%	75,68%	9,17%
2001772	0,09%	75,77%	9,23%
2017832	0,09%	75,85%	9,28%
2012611	0,08%	75,94%	9,34%
2020180	0,08%	76,02%	9,40%
2001113	0,08%	76,11%	9,45%
2014986	0,08%	76,19%	9,51%
2013998	0,08%	76,27%	9,56%
2024985	0,08%	76,36%	9,62%
2001571	0,08%	76,44%	9,68%
2010348	0,08%	76,52%	9,73%

2017251	0,08%	76,60%	9,79%
2001394	0,08%	76,68%	9,84%
2000412	0,08%	76,76%	9,90%
2027519	0,08%	76,84%	9,96%
2000079	0,08%	76,92%	10,01%

APPENDIX 31- PARETO ANALYSIS ON THE VALUE OF INVOICES IN *STAGING IP*

<b>Supplier's code</b>	<b>Number of invoices (in percentage of total)</b>	<b>Cumulative number</b>	<b>Cumulative percentage of suppliers</b>
2029522	0,500837	50,08%	0,06%
2010160	0,046498	54,73%	0,11%
2000809	0,045824	59,32%	0,17%
980002	0,042087	63,52%	0,22%
2009815	0,034906	67,02%	0,28%
2018207	0,031362	70,15%	0,34%
2027704	0,024262	72,58%	0,39%
2020704	0,021822	74,76%	0,45%
2019094	0,015362	76,30%	0,50%
2025180	0,015218	77,82%	0,56%
2022187	0,011268	78,94%	0,62%
2001201	0,010908	80,04%	0,67%
2008891	0,008332	80,87%	0,73%
2001084	0,007853	81,65%	0,78%
2021195	0,007841	82,44%	0,84%
2000854	0,007293	83,17%	0,89%
2005013	0,005073	83,67%	0,95%
2002962	0,005007	84,18%	1,01%
2000957	0,004557	84,63%	1,06%
2024509	0,004119	85,04%	1,12%
2010206	0,004052	85,45%	1,17%
2018890	0,004002	85,85%	1,23%
2006505	0,003797	86,23%	1,29%
2014249	0,003716	86,60%	1,34%
2002775	0,003518	86,95%	1,40%
2031389	0,002924	87,24%	1,45%
2012287	0,002608	87,50%	1,51%
2001163	0,002574	87,76%	1,57%
2021893	0,002519	88,01%	1,62%
2027015	0,002298	88,24%	1,68%
2007933	0,002202	88,46%	1,73%
2014013	0,00189	88,65%	1,79%

2002815	0,001881	88,84%	1,85%
2026731	0,001856	89,03%	1,90%
2025878	0,001848	89,21%	1,96%
2006153	0,001728	89,38%	2,01%
2030924	0,001692	89,55%	2,07%
2007883	0,001683	89,72%	2,13%
2033849	0,001466	89,87%	2,18%
2018282	0,001433	90,01%	2,24%
2001621	0,00143	90,16%	2,29%
2006112	0,001413	90,30%	2,35%
2031594	0,001343	90,43%	2,40%
2007463	0,001338	90,56%	2,46%
2000532	0,001331	90,70%	2,52%
2022688	0,001285	90,83%	2,57%
2003472	0,00126	90,95%	2,63%
2012030	0,001228	91,07%	2,68%
2006633	0,001149	91,19%	2,74%
2010384	0,001138	91,30%	2,80%
2026316	0,001129	91,42%	2,85%
2007054	0,001105	91,53%	2,91%
2001734	0,001098	91,64%	2,96%
2030374	0,001052	91,74%	3,02%
2022592	0,000922	91,83%	3,08%
2027793	0,000917	91,93%	3,13%
2027438	0,000916	92,02%	3,19%
2000908	0,000907	92,11%	3,24%
2017590	0,000868	92,19%	3,30%
2017871	0,000856	92,28%	3,36%
2024481	0,000855	92,37%	3,41%
2000446	0,000845	92,45%	3,47%
2030793	0,000824	92,53%	3,52%
2022233	0,00082	92,61%	3,58%
2004440	0,000793	92,69%	3,64%
2034481	0,000792	92,77%	3,69%
2004976	0,000787	92,85%	3,75%
2017327	0,000782	92,93%	3,80%
2002575	0,000778	93,01%	3,86%
2017995	0,000758	93,08%	3,91%
2031553	0,000753	93,16%	3,97%
2027444	0,000752	93,23%	4,03%
2033756	0,000741	93,31%	4,08%
2025415	0,000709	93,38%	4,14%
2897	0,000695	93,45%	4,19%

2026697	0,000677	93,52%	4,25%
2023034	0,000677	93,58%	4,31%
2028026	0,000664	93,65%	4,36%
2000238	0,000648	93,72%	4,42%
2013060	0,000626	93,78%	4,47%
2020489	0,000617	93,84%	4,53%
2028304	0,000612	93,90%	4,59%
2003293	0,000612	93,96%	4,64%
2034456	0,0006	94,02%	4,70%
2008018	0,000568	94,08%	4,75%
2017331	0,000551	94,13%	4,81%
2000569	0,000535	94,19%	4,87%
2028994	0,000527	94,24%	4,92%
2030471	0,000516	94,29%	4,98%
2028776	0,000496	94,34%	5,03%
2032834	0,000466	94,39%	5,09%
2014647	0,000455	94,43%	5,15%
2031165	0,000453	94,48%	5,20%
2020884	0,000424	94,52%	5,26%
2018724	0,000422	94,56%	5,31%
2016329	0,000416	94,60%	5,37%
2033409	0,00041	94,65%	5,43%
2008566	0,000401	94,69%	5,48%
2023174	0,000401	94,73%	5,54%
2014801	0,000399	94,77%	5,59%
2019538	0,000395	94,81%	5,65%
2013885	0,000394	94,84%	5,70%
2010178	0,000391	94,88%	5,76%
2000477	0,000385	94,92%	5,82%
2009894	0,000381	94,96%	5,87%
2022644	0,000377	95,00%	5,93%
2007121	0,000372	95,04%	5,98%
2015937	0,000371	95,07%	6,04%
2005003	0,000365	95,11%	6,10%
2025485	0,000365	95,15%	6,15%
2022215	0,000363	95,18%	6,21%
2001280	0,000357	95,22%	6,26%
2028044	0,000357	95,25%	6,32%
2013214	0,000357	95,29%	6,38%
2011643	0,000355	95,32%	6,43%
2024163	0,000352	95,36%	6,49%
2030953	0,000351	95,39%	6,54%
2030571	0,000343	95,43%	6,60%

2030809	0,00034	95,46%	6,66%
2005324	0,00034	95,50%	6,71%
2033582	0,000337	95,53%	6,77%
2031467	0,000331	95,56%	6,82%
2010829	0,000318	95,60%	6,88%
2027224	0,000315	95,63%	6,94%
2024443	0,00031	95,66%	6,99%
2003902	0,000308	95,69%	7,05%
2009919	0,000301	95,72%	7,10%
2020523	0,000298	95,75%	7,16%
2005368	0,000295	95,78%	7,21%
2027442	0,000295	95,81%	7,27%
2029997	0,000292	95,84%	7,33%
2029580	0,000291	95,87%	7,38%
2033546	0,000289	95,90%	7,44%
2019512	0,000285	95,92%	7,49%
2019824	0,000273	95,95%	7,55%
2027598	0,000273	95,98%	7,61%
2001675	0,000271	96,01%	7,66%
2020180	0,00027	96,03%	7,72%
2015954	0,000266	96,06%	7,77%
2000687	0,000263	96,09%	7,83%
2001171	0,000261	96,11%	7,89%
2027703	0,000256	96,14%	7,94%
2019569	0,000255	96,16%	8,00%
2004139	0,000253	96,19%	8,05%
2019781	0,000253	96,21%	8,11%
2033042	0,000253	96,24%	8,17%
2028841	0,000252	96,26%	8,22%
2004959	0,000251	96,29%	8,28%
2010218	0,000251	96,31%	8,33%
2005169	0,000244	96,34%	8,39%
2032958	0,000239	96,36%	8,45%
2012711	0,000236	96,39%	8,50%
2030310	0,000234	96,41%	8,56%
2019507	0,000233	96,43%	8,61%
2028513	0,000229	96,46%	8,67%
2022660	0,000227	96,48%	8,72%
2027756	0,000226	96,50%	8,78%
2014481	0,000222	96,52%	8,84%
2004247	0,000222	96,55%	8,89%
2017531	0,000221	96,57%	8,95%
2030327	0,000221	96,59%	9,00%

2007828	0,000218	96,61%	9,06%
2032785	0,000215	96,63%	9,12%
2015968	0,000211	96,65%	9,17%
2020243	0,000211	96,67%	9,23%
2031079	0,00021	96,70%	9,28%
2001641	0,000209	96,72%	9,34%
2029391	0,000206	96,74%	9,40%
2022698	0,000202	96,76%	9,45%
2020329	0,000201	96,78%	9,51%
2027365	0,000195	96,80%	9,56%
2000095	0,000193	96,82%	9,62%
2033473	0,00019	96,84%	9,68%
2026300	0,000189	96,85%	9,73%
2020181	0,000187	96,87%	9,79%
2016748	0,000187	96,89%	9,84%
2027097	0,000186	96,91%	9,90%
2016967	0,000184	96,93%	9,96%
2008003	0,000183	96,95%	10,01%

Staging SDP:

APPENDIX 32- PARETO ANALYSIS ON THE NUMBER OF INVOICES IN *STAGING SDP*

<b>Supplier's code</b>	<b>Number of invoices (in percentage of total)</b>	<b>Cumulative number</b>	<b>Cumulative percentage of suppliers</b>
2004228	8,57%	8,57%	0,09%
2016723	4,60%	13,17%	0,19%
2001163	4,28%	17,44%	0,28%
2000957	3,10%	20,54%	0,38%
2003902	2,34%	22,89%	0,47%
2001171	2,15%	25,04%	0,56%
2022240	1,79%	26,83%	0,66%
2021660	1,73%	28,56%	0,75%
2028368	1,42%	29,97%	0,85%
2005013	1,35%	31,32%	0,94%
2005368	1,31%	32,63%	1,03%
2002775	1,24%	33,87%	1,13%
2032854	1,17%	35,03%	1,22%
2008891	1,12%	36,15%	1,32%
2000446	1,05%	37,19%	1,41%
2000659	0,96%	38,15%	1,50%
2014534	0,96%	39,12%	1,60%
2001201	0,95%	40,06%	1,69%
2031389	0,94%	41,00%	1,79%

2006633	0,91%	41,91%	1,88%
2000259	0,88%	42,79%	1,97%
2011721	0,72%	43,51%	2,07%
2005701	0,71%	44,22%	2,16%
2016748	0,70%	44,92%	2,26%
2018586	0,68%	45,60%	2,35%
2000412	0,64%	46,24%	2,44%
2012287	0,64%	46,88%	2,54%
2029265	0,61%	47,49%	2,63%
2000758	0,61%	48,10%	2,73%
2012630	0,58%	48,68%	2,82%
2001538	0,54%	49,22%	2,91%
2020006	0,54%	49,76%	3,01%
2007253	0,50%	50,26%	3,10%
2003812	0,49%	50,76%	3,20%
2000432	0,49%	51,25%	3,29%
2014167	0,48%	51,73%	3,38%
2020823	0,47%	52,20%	3,48%
2033756	0,47%	52,67%	3,57%
2026919	0,42%	53,09%	3,67%
2022661	0,42%	53,51%	3,76%
2001126	0,42%	53,93%	3,85%
2023776	0,41%	54,34%	3,95%
2005131	0,41%	54,75%	4,04%
2004649	0,41%	55,15%	4,14%
2002571	0,40%	55,55%	4,23%
2025069	0,37%	55,92%	4,32%
2033809	0,37%	56,30%	4,42%
2008556	0,36%	56,66%	4,51%
2000898	0,36%	57,02%	4,61%
2004570	0,35%	57,36%	4,70%
2011975	0,35%	57,71%	4,79%
2009907	0,35%	58,06%	4,89%
2001101	0,34%	58,40%	4,98%
2024182	0,34%	58,73%	5,08%
2027704	0,32%	59,06%	5,17%
2001753	0,32%	59,38%	5,26%
2008451	0,31%	59,69%	5,36%
2000374	0,31%	60,01%	5,45%
2010969	0,31%	60,32%	5,55%
2010266	0,29%	60,61%	5,64%
2029522	0,29%	60,90%	5,73%
2017535	0,29%	61,18%	5,83%

2004302	0,28%	61,46%	5,92%
2020030	0,28%	61,74%	6,02%
2000908	0,28%	62,01%	6,11%
2031714	0,26%	62,28%	6,20%
2022930	0,26%	62,54%	6,30%
2026482	0,25%	62,79%	6,39%
2013885	0,24%	63,03%	6,48%
2000609	0,24%	63,27%	6,58%
2030064	0,23%	63,50%	6,67%
2008905	0,23%	63,73%	6,77%
2032164	0,22%	63,95%	6,86%
2001906	0,22%	64,16%	6,95%
2000819	0,22%	64,38%	7,05%
2020907	0,22%	64,60%	7,14%
2027519	0,22%	64,81%	7,24%
2026920	0,22%	65,03%	7,33%
2018890	0,22%	65,25%	7,42%
2020523	0,22%	65,46%	7,52%
2024872	0,20%	65,67%	7,61%
2034331	0,20%	65,87%	7,71%
2027933	0,20%	66,07%	7,80%
2001445	0,20%	66,28%	7,89%
2020685	0,20%	66,48%	7,99%
2010468	0,20%	66,69%	8,08%
2027756	0,20%	66,89%	8,18%
2023579	0,20%	67,10%	8,27%
2028776	0,20%	67,30%	8,36%
2030183	0,20%	67,50%	8,46%
2019592	0,20%	67,71%	8,55%
2001813	0,19%	67,90%	8,65%
2029066	0,19%	68,09%	8,74%
2000477	0,19%	68,28%	8,83%
2000920	0,18%	68,46%	8,93%
2023531	0,18%	68,64%	9,02%
2006136	0,18%	68,83%	9,12%
2030102	0,17%	68,99%	9,21%
2007463	0,17%	69,16%	9,30%
2032654	0,17%	69,33%	9,40%
2006153	0,17%	69,50%	9,49%
2003413	0,17%	69,67%	9,59%
2014811	0,16%	69,82%	9,68%
2021449	0,16%	69,98%	9,77%
2000851	0,16%	70,13%	9,87%

2015239	0,14%	70,28%	9,96%
2025602	0,14%	70,42%	10,06%

APPENDIX 33- PARETO ANALYSIS ON THE VALUE OF INVOICES IN STAGING SDP

<b>Supplier's code</b>	<b>Number of invoices (in percentage of total)</b>	<b>Cumulative number</b>	<b>Cumulative percentage of suppliers</b>
2029522	34,43%	34,43%	0,09%
2001201	4,07%	38,50%	0,19%
2031389	4,01%	42,51%	0,28%
2007933	2,94%	45,45%	0,38%
2020704	2,88%	48,33%	0,47%
2012030	2,56%	50,90%	0,56%
2010206	1,83%	52,72%	0,66%
2033756	1,80%	54,53%	0,75%
2001621	1,60%	56,13%	0,85%
2008891	1,57%	57,70%	0,94%
2034261	1,46%	59,16%	1,03%
2000854	1,44%	60,60%	1,13%
2005013	1,37%	61,97%	1,22%
2014249	1,35%	63,32%	1,32%
2001163	1,33%	64,65%	1,41%
2026023	1,29%	65,94%	1,50%
2009815	1,25%	67,19%	1,60%
2026731	1,17%	68,36%	1,69%
2000957	1,13%	69,49%	1,79%
2027015	1,09%	70,58%	1,88%
2008451	0,91%	71,49%	1,97%
2006153	0,91%	72,40%	2,07%
2031248	0,86%	73,26%	2,16%
2023034	0,76%	74,02%	2,26%
2021195	0,65%	74,67%	2,35%
2018890	0,60%	75,27%	2,44%
2021893	0,56%	75,84%	2,54%
2033159	0,53%	76,36%	2,63%
2027438	0,51%	76,88%	2,73%
2006633	0,50%	77,38%	2,82%
2034331	0,50%	77,88%	2,91%
2033537	0,46%	78,34%	3,01%
2005701	0,46%	78,80%	3,10%
2034481	0,44%	79,24%	3,20%
2026697	0,43%	79,68%	3,29%

2005743	0,43%	80,10%	3,38%
2030793	0,37%	80,48%	3,48%
2017590	0,37%	80,85%	3,57%
2016723	0,36%	81,20%	3,67%
2033164	0,36%	81,56%	3,76%
2012287	0,35%	81,91%	3,85%
2027793	0,34%	82,26%	3,95%
2012670	0,32%	82,58%	4,04%
2017327	0,32%	82,90%	4,14%
2028304	0,30%	83,20%	4,23%
2000238	0,29%	83,49%	4,32%
2022233	0,27%	83,76%	4,42%
2002571	0,25%	84,01%	4,51%
2002775	0,25%	84,27%	4,61%
2025878	0,25%	84,52%	4,70%
2028026	0,25%	84,77%	4,79%
2000446	0,25%	85,01%	4,89%
2027444	0,24%	85,25%	4,98%
2001675	0,24%	85,49%	5,08%
2017871	0,23%	85,73%	5,17%
2017535	0,23%	85,95%	5,26%
2017531	0,22%	86,17%	5,36%
2010829	0,21%	86,38%	5,45%
2002815	0,21%	86,59%	5,55%
2022215	0,20%	86,79%	5,64%
2002575	0,19%	86,98%	5,73%
2033937	0,19%	87,18%	5,83%
2013885	0,19%	87,36%	5,92%
2034485	0,17%	87,53%	6,02%
2001280	0,17%	87,70%	6,11%
2014534	0,16%	87,86%	6,20%
2007121	0,15%	88,02%	6,30%
2027704	0,15%	88,17%	6,39%
2025602	0,14%	88,31%	6,48%
2033473	0,14%	88,46%	6,58%
2027513	0,14%	88,59%	6,67%
2032908	0,14%	88,73%	6,77%
2030571	0,14%	88,86%	6,86%
2032785	0,13%	89,00%	6,95%
2000908	0,13%	89,13%	7,05%
2022536	0,13%	89,26%	7,14%
2020489	0,13%	89,39%	7,24%
2021152	0,13%	89,51%	7,33%

2030471	0,12%	89,64%	7,42%
2033713	0,12%	89,76%	7,52%
2010671	0,12%	89,88%	7,61%
2020243	0,12%	90,00%	7,71%
2027756	0,12%	90,11%	7,80%
2021473	0,12%	90,23%	7,89%
2000569	0,12%	90,35%	7,99%
2011643	0,11%	90,46%	8,08%
2014801	0,11%	90,57%	8,18%
2018282	0,11%	90,68%	8,27%
2019824	0,10%	90,78%	8,36%
2024070	0,10%	90,88%	8,46%
2007463	0,10%	90,98%	8,55%
2019781	0,09%	91,07%	8,65%
2028776	0,09%	91,16%	8,74%
2004006	0,09%	91,25%	8,83%
2024481	0,09%	91,33%	8,93%
2019512	0,08%	91,42%	9,02%
2009919	0,08%	91,50%	9,12%
2020228	0,08%	91,58%	9,21%
2021805	0,08%	91,67%	9,30%
2001538	0,08%	91,75%	9,40%
2034348	0,08%	91,83%	9,49%
2020572	0,08%	91,91%	9,59%
2002652	0,08%	91,99%	9,68%
2022187	0,08%	92,06%	9,77%
2019569	0,08%	92,14%	9,87%
2019538	0,07%	92,21%	9,96%
2019507	0,07%	92,29%	10,06%

Staging SSN:

APPENDIX 34- PARETO ANALYSIS ON THE NUMBER OF INVOICES IN *STAGING SSN*

Supplier's code	Number of invoices (in percentage of total)	Cumulative number	Cumulative percentage of suppliers
2001163	8,06%	8,06%	0,19%
2016723	7,89%	15,96%	0,37%
2004228	7,19%	23,14%	0,56%
2000957	4,47%	27,61%	0,74%
2022240	3,63%	31,24%	0,93%
2001171	3,48%	34,72%	1,11%
2021660	2,77%	37,49%	1,30%
2014534	2,48%	39,98%	1,48%

2028368	2,41%	42,38%	1,67%
2032854	1,95%	44,33%	1,86%
2008891	1,85%	46,19%	2,04%
2000659	1,36%	47,54%	2,23%
2007253	1,26%	48,81%	2,41%
2000259	1,18%	49,99%	2,60%
2027704	1,05%	51,04%	2,78%
2003902	1,03%	52,07%	2,97%
2011975	1,01%	53,09%	3,15%
2005368	0,99%	54,08%	3,34%
2029265	0,97%	55,05%	3,53%
2014167	0,92%	55,97%	3,71%
2005131	0,90%	56,87%	3,90%
2000412	0,88%	57,75%	4,08%
2000758	0,82%	58,57%	4,27%
2004570	0,78%	59,35%	4,45%
2020030	0,76%	60,12%	4,64%
2000432	0,71%	60,83%	4,82%
2001201	0,65%	61,48%	5,01%
2018890	0,65%	62,12%	5,19%
2004649	0,65%	62,77%	5,38%
2022661	0,63%	63,41%	5,57%
2001126	0,63%	64,04%	5,75%
2020823	0,59%	64,63%	5,94%
2006136	0,52%	65,14%	6,12%
2012287	0,52%	65,66%	6,31%
2012630	0,50%	66,16%	6,49%
2012639	0,48%	66,63%	6,68%
2026482	0,48%	67,11%	6,86%
2021449	0,46%	67,57%	7,05%
2004302	0,44%	68,01%	7,24%
2000374	0,44%	68,45%	7,42%
2015239	0,42%	68,87%	7,61%
2020685	0,40%	69,27%	7,79%
2017326	0,40%	69,67%	7,98%
2025069	0,36%	70,04%	8,16%
2000908	0,36%	70,40%	8,35%
2022341	0,36%	70,76%	8,53%
2020523	0,36%	71,13%	8,72%
2000609	0,34%	71,47%	8,91%
2005013	0,34%	71,81%	9,09%
2008742	0,34%	72,16%	9,28%
2000477	0,32%	72,48%	9,46%

2028776	0,31%	72,79%	9,65%
2029522	0,29%	73,07%	9,83%
2024985	0,29%	73,36%	10,02%

APPENDIX 35- PARETO ANALYSIS ON THE VALUE OF INVOICES IN *STAGING* SSN

Supplier's code	Number of invoices (in percentage of total)	Cumulative number	Cumulative percentage of suppliers
2029522	50,36%	50,36%	0,19%
2020704	7,80%	58,16%	0,37%
2012030	6,39%	64,55%	0,56%
2009815	4,91%	69,46%	0,74%
2001201	4,16%	73,61%	0,93%
2021195	3,02%	76,64%	1,11%
2000957	1,88%	78,52%	1,30%
2001084	1,33%	79,85%	1,48%
2033537	1,00%	80,85%	1,67%
2006153	0,98%	81,83%	1,86%
2016723	0,82%	82,65%	2,04%
2001163	0,80%	83,45%	2,23%
2008891	0,65%	84,09%	2,41%
2027704	0,61%	84,71%	2,60%
2000609	0,49%	85,20%	2,78%
2007828	0,49%	85,69%	2,97%
2033159	0,48%	86,16%	3,15%
2026697	0,47%	86,63%	3,34%
2014534	0,47%	87,10%	3,53%
2033473	0,46%	87,56%	3,71%
2018890	0,42%	87,98%	3,90%
2017590	0,40%	88,38%	4,08%
2000446	0,37%	88,75%	4,27%
2033409	0,33%	89,08%	4,45%
2027015	0,33%	89,40%	4,64%
2014249	0,32%	89,72%	4,82%
2002575	0,31%	90,04%	5,01%
2002571	0,27%	90,31%	5,19%
2001675	0,26%	90,56%	5,38%
2005490	0,24%	90,81%	5,57%
2032785	0,24%	91,05%	5,75%
2012287	0,24%	91,29%	5,94%
2017531	0,23%	91,52%	6,12%
2033725	0,22%	91,74%	6,31%

2032549	0,21%	91,95%	6,49%
2034531	0,20%	92,16%	6,68%
2019781	0,20%	92,36%	6,86%
2033546	0,20%	92,56%	7,05%
2000908	0,18%	92,73%	7,24%
2028776	0,16%	92,89%	7,42%
2004649	0,16%	93,05%	7,61%
2004302	0,14%	93,19%	7,79%
2009032	0,14%	93,33%	7,98%
2007253	0,13%	93,46%	8,16%
2001368	0,12%	93,58%	8,35%
2034055	0,12%	93,69%	8,53%
2006112	0,12%	93,81%	8,72%
2000841	0,11%	93,92%	8,91%
2015239	0,11%	94,03%	9,09%
2028368	0,11%	94,14%	9,28%
2020647	0,10%	94,25%	9,46%
2016006	0,10%	94,35%	9,65%
2000412	0,10%	94,45%	9,83%
2031682	0,10%	94,55%	10,02%