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## Organization and Performance: The Case of Banco Alimentare

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## **Abstract (English version)**

The present paradox of surplus food and waste on one hand and food poverty on the other hand in our society calls for the intervention of organisms and institutions to implement strategies towards a more sustainable food system. In this scenario, the role of food banks as no-profit organizations that contribute to the distribution of surplus food to people in need is highly recognized.

Meanwhile, there is a gap in the literature for studies concerning the organizational structure of such organizations, and the implementation of performance management systems that can be used to diagnose, measure and optimize the performance for the context of food banks. In the Italian reality, Banco Alimentare ONLUS is the most representative food bank, structured as a network of 21 regional food banks coordinated by a central body, known as Fondazione Banco Alimentare.

This study performs an analysis of the organizational structure of Banco Alimentare, with the purpose of identifying a link between the level of centralization/decentralization of the competences of the actors involved (regional food banks and Fondazione), with the performance of the organizational processes.

The methodology consisted of the collection and analysis of all the relevant information through primary and secondary sources, and performing interviews to several directives of Banco Alimentare.

The outputs of the present study are several, firstly, a detailed description of the organization and key processes mapping; secondly, a diagnosis of the As-Is status of the allocation of responsibilities for each key process; and finally, a framework that correlates the processes description, the allocation of responsibilities and a set of key performance indicators, which will work as an instrument and set of guidelines to identify possible areas for improvement of the organization's performance by reallocating competences and eventually reviewing processes.



## **Abstract (Italian version)**

L'attuale paradosso delle eccedenze e dello spreco alimentare da una parte e della povertà alimentare dall'altra nella nostra società richiede l'intervento di organismi e istituzioni per attuare strategie verso un sistema alimentare più sostenibile. In questo scenario, il ruolo dei banchi alimentari come organizzazioni senza scopo di lucro che contribuiscono alla distribuzione del cibo in eccedenza alle persone bisognose è altamente riconosciuto.

Nella letteratura vi è carenza di studi riguardanti l'assetto organizzativo di tali organizzazioni e sistemi di misurazione e gestione della performance che possono essere utilizzati per diagnosticare, misurare e ottimizzare la performance nel contesto dei banchi alimentari. Nella realtà italiana, Banco Alimentare ONLUS è il banco alimentare più rappresentativo, strutturato come una rete di 21 banchi regionali coordinati da un organismo centrale, chiamato Fondazione Banco Alimentare.

Questo studio conduce un'analisi dell'assetto organizzativo del Banco Alimentare, con l'obiettivo di identificare un collegamento tra il livello di centralizzazione/decentralizzazione delle competenze degli attori coinvolti (banchi regionali e Fondazione), con la performance dei processi organizzativi.

La metodologia adottata consiste nella raccolta e analisi di tutte le informazioni rilevanti attraverso fonti primarie e secondarie e nell'esecuzione di interviste a diversi direttori del Banco Alimentare. I risultati del presente studio sono molteplici: in primo luogo, una descrizione dettagliata dell'organizzazione e una mappatura dei processi chiave; in secondo luogo, una diagnosi dello stato attuale dell'allocazione delle responsabilità tra banchi regionali e Fondazione per ciascun processo chiave; e infine, un framework che mette in relazione la descrizione dei processi, l'allocazione delle responsabilità e un insieme di indicatori chiave di performance, che funzionerà come uno strumento e un insieme di linea guida per identificare le possibili aree di miglioramento della performance dell'organizzazione attraverso la riallocazione delle competenze ed eventualmente la revisione dei processi.



## **Executive Summary**

The amount of food currently produced every year in the world surpasses the 3,9 billion tons, out of this quantity, almost 1,3 billion tons of food are lost or wasted from the initial agricultural production up until its final household consumption (Gustavsson et al., 2011). Paradoxically, this amount of food would be enough to feed four times the almost 800 million people who suffer hunger in the world (Garrone et al., 2015). Food waste results from the lack of implementation of effective surplus food management practices throughout the Agri-food supply chain.

According to the food waste hierarchy framework proposed by Papargyropoulou et al. (2014) there are different alternatives to handle surplus food and food waste: prevention, re-use, recycle, recovery and disposal. The authors suggest that the most appropriate option to manage surplus food considering the paradox of food waste and food poverty, is to re-use or redistribute it to the benefit of the people in need. In this scenario, no-profit organizations such as food banks play a major role, as their mission consists of recovering surplus food from different sources such as primary sector and food manufacturing companies, wholesalers, retailers, restaurants and canteens, to redistribute it to charitable structures.

In the Italian context, the most representative food bank is Banco Alimentare, structured as a network of 21 regional food banks (hereinafter as OBA, Organizzazione Banco Alimentare) distributed in the territory and coordinated by a central body known as Fondazione Banco Alimentare ONLUS (hereinafter as FBAO). All the OBA are legally and economically independent, they are different from each other in terms of size, resources and they all face diverse and complex realities.

There are several factors leading to consider that is important to develop an in-depth analysis of the organizational structure of such a complex organization as Banco Alimentare.

On the one hand, out of the 5,6 million tons of surplus food produced in Italy, only around 9% is recovered and partly distributed to the people in need (Garrone et al., 2015), evidence that there is plenty of room for improvement in the operations and processes of the companies involved in the surplus food recovery at the different stages of the Agri-food supply chain but also of the no-profit organizations, above all food banks, responsible for the distribution

of surplus food to charitable institutions that provide help to people in need. Moreover, due to the heterogeneity of the OBA in terms of dimension, scope and availability of resources there are considerable differences of performance among them, where some being more internally structured and having in place formal mechanisms of coordination with FBAO, and others missing internal structured procedures and adopting informal mechanisms of coordination with FBAO and external stakeholders. On the other hand, as in most non profit organizations much of the workforce responsible for the management and operational activities in the OBA is comprised by volunteers, people who might not have considerable knowledge regarding organizational process management, accounting and the like; as compared with FBAO who has more capabilities in terms of resources and knowledge, therefore working as a central reference point for the network.

Considering the previous ideas, the objectives of this study are the following: firstly, to understand the complexity of the organizational structure of Banco Alimentare and the functioning of the most relevant processes. Secondly, elaborate a diagnosis of the As-Is status of the allocation of responsibilities between FBAO and OBA, in other words the level of centralization or decentralization for each key process according to the role covered by FBAO and OBA in the decision-making process; if the responsibilities of a process are on behalf of FBAO, the process is said to be centralized. Moreover, identify the most relevant dimensions and indicators of performance for every process and finally, understand the role and potential impact of the level of centralization/decentralization on the performance of processes, to identify possible areas for improvement which could contribute to the optimization of the overall performance of the organization.

Regarding the first objective of understanding the complexity of the organization and the functioning of the organizational processes, the methodology consisted on the review and analysis of primary and secondary sources of information related to Banco Alimentare, then a sequence of meetings with directives of FBAO were held to define the main variables of research and determine the key organizational processes under analysis. Besides those meetings, further interviews with the heads of the processes (Procurement, Fundraising and Communications, Administration and Management Control) in FBAO were necessary to get

a deeper understanding of their functioning. A detailed description of the organization and its processes was the result of this part of the methodology.

To achieve the second objective about the diagnosis of the “As-Is” status of the allocation of responsibilities, the information gathered in the previous step was fundamental, furthermore, during the meetings with directives of FBAO it was decided to analyze the processes with two approaches: one considering the 4 main functions of management (Planning, Organizing, Executing, Controlling) within each process (Carpenter et al., 2009), and the second consisted on dividing each process into its constituting activities; to later identify the actor responsible for every function and activity. Consequently, interviews to 4 OBA were performed to improve the quality of the information and have a better understanding of the complexity of the organization.

To identify the most relevant dimensions and indicator of performance for every process, the methodology consisted on the analysis of the information gathered in the previous steps, to later propose a framework that could be implemented for every process, relating its description, the allocation of responsibilities and the main dimension of performance.

Finally, regarding the fourth objective of identifying the link between the level of centralization/decentralization with the performance of the process, the methodology consisted on the application of the framework to the Procurement process, through analysis of the information and discussions with the head of Procurement in FBAO. The output of the application of the framework is a set of key performance indicators (KPIs) that the organization can use to measure and monitor the performance.

As a result of the research, the roles and competences of FBAO and the OBA were identified. FBAO is entitled to perform more strategic and coordination activities for the wellbeing of the network, for instance, contacting companies, retailers and wholesalers at the national level, representing the network to public authorities and the European Union, developing guidelines and formats used by the OBA and supporting them to solve problems in their operations. Whereas the OBA are entitled to do more operational activities related to the core mission of the organization, they recover, storage and distribute the products to the charitable institutions in the national territory. They can also contact companies, participate to events and develop projects in their regions but always respecting the standards stated by FBAO.

FBAO and the OBA work in a process-based organization, where the key organizational processes are Procurement, Warehouse management, Fundraising, Communications, Administration and Management Control and Management of the relationship with charitable institutions.

Regarding the “As-Is” status of the level of centralization/decentralization of competences in the process, it was determined that only a few fundraising channels entirely managed by FBAO are centralized; the rest of processes and sub-processes are not found to be fully centralized or decentralized. The common feature found in the diagnosis is that FBAO has most of the responsibilities for the planning, organizing and controlling phases in the processes, plus when the channel, event or activity has national connotations. Moreover, the OBA are responsible for most of the executing phase of the processes and when there is a regional connotation in the projects, channels or events.

The other important output of the study is the proposition of a framework that could help the organization to identify the link between the level of centralization/decentralization of competences with the performance of the processes. The framework was applied to the Procurement process and its constitutive sub-processes providing as a result a set of KPIs to monitor, measure and optimize the performance. The set of KPIs represent a tool that can be used by Banco Alimentare to evaluate the process and identify areas for improvement by reallocating competences and eventually reviewing processes between FBAO and OBA if found necessary.

Finally, it is worth mentioning that a study with these characteristics presents several limitations that should be further analyzed, especially because there is little research in the literature concerning the relation between the organizational structure with the performance for such a reality as a food bank. Nevertheless, there is growing interest with this regard, and to conclude the study provides a new framework, an instrument to Banco Alimentare, that can provide valuable insights and lead to managerial implications in order to improve its performance.





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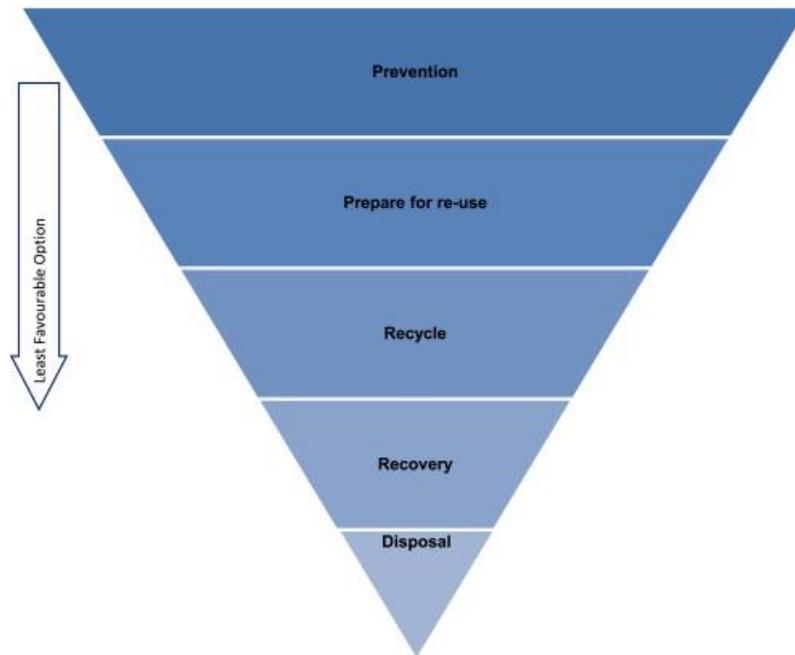


## Chapter 1: Context and Food banks

Surplus food, defined as “the edible food that is produced, manufactured, retailed or served but for various reasons is not sold to or consumed by the intended customer” (Garrone et al. 2014) is generated at all the stages of the food supply chain. As mentioned before, it happens due to several reasons such as: market surpluses, meaning that the quantity supplied or produced by the suppliers is far greater than the quantity demanded by the customer or end user, manufacturing errors, damaged packaging, wrong labelling of products (Kantor et al., 1997), non-compliance with marketing standards of products, inadequate behavior of household consumers and others. If not properly managed surplus food becomes waste.

Several authors provide definitions of food waste, Griffin et al. (2009) defined it as the products wasted along the supply chain without distinction between edible or not, Kantor et al. (1997) and Betts and Burnett (2007) conceived it as the food still suitable for human consumption but not sold to or consumed by people for which it had been produced, FAO (2017) referred to food waste as the decrease of food in subsequent stages of the supply chain intended for human consumption. It is important to be clear on its definition but is equally important to be aware of its magnitude and repercussions, nowadays according to FAO (2017), close to one third of the food that is being produced is lost or wasted around the world, amount that is close to 1.3 billion tons per year. It is shocking to recognize that with this amount of food being wasted, it would be possible to feed four times all the malnourished population all around the world (Garrone et al., 2015).

Considering this paradox, researchers and practitioners focused on finding alternatives and solutions to tackle food waste. Among them Papargyropoulou et al (2014) proposed a conceptual framework for the management of surplus food and food waste as shown in **Figure 1**. The framework presents a hierarchy of the alternatives to manage surplus food taking into consideration the three pillars of sustainability: environmental, social and economic impacts. According to this, the most favorable alternative is prevention of surplus food, leading to savings in all types of resources needed to produce food such as land, water, energy, money and labor. The least favorable alternative is the final disposal of surplus food in landfills, representing the complete loss of the value of food as well as the resources used to produce it.



*Figure 1. The waste hierarchy.*

*Source: Papargyropoulou et al., 2014*

Food waste has three major impacts in terms of negative externalities for the organization, the environment and the society. The economic impact of food waste comprises the costs sustained by the organization to purchase and process the resources necessary for its production and to dispose it in landfills. Food waste has also a negative impact on the environment due to the generation of greenhouse gasses derived from the production and distribution processes and final disposal. Finally, food waste has a negative impact on the society since food waste can be considered as food that had not reach its fundamental purpose which is to feed those who do not have access to it (Garrone et al., 2015).

The social impact of food waste gains stronger attention because there is great potential for applying adequate strategies for managing surplus food in order to alleviate some of the problems for all the people who are currently living under conditions of food insecurity and food poverty.

As previously mentioned, there is a paradox connecting the surplus food produced worldwide and the number of malnourished people that could benefit from it; referring to the food waste hierarchy previously shown, the most appropriate strategy to fight this paradox will be re-using the surplus food, or as taken by Garrone et al. (2015) the redistribution of it to the

population in need. One of the most relevant consequences from this alternative will be the reduction of food poverty.

Food poverty is a concept closely related to food security, which is intended as the situation when “all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life” (FAO, 2013), and even though it is not a legal concept per se (United Nations Human Rights, 2010) therefore not imposing strict obligations, it certainly imposes a duty on the governments to provide the necessary conditions for the access and availability of food to the society.

It should be expected that governments play a major role fighting against the phenomenon of food waste. Nevertheless, as underlined by several authors including Inza-Bartolomé and Sainz de Rozas (2016), Booth and Whelan (2014), Tarasuk et al., (2014) and Middleton G. et al. (2017), governments often fail to provide a concrete solution to tackle food waste and food poverty, leaving space to private organizations to intervene in their place to respond to these societal issues.

Within this scenario food banks play a relevant role. They are non profit organizations whose mission is to “collect, store and distribute donated or surplus food to hungry people, either directly or by going through front line social welfare agencies” (Riches, 2002). The first food bank was established in Arizona in 1967 by an altruistic businessman who wanted to do more with the increasing donations he received for a soup kitchen where he had volunteered back in the days, storing the donations in a warehouse and then distributing them to charity (Cotugna and Beebe, 2002). Since then, the concept of food banks had spread all over the world; nowadays there are four major networks of food banks worldwide (The Global FoodBanking Network, 2017): Global FoodBanking Network (GFN), European Federation of Food Banks (FEBA), Feeding America and Food Banking Regional Network (FBRN), covering at least more than 80 countries through more than 1100 regional food banks (considering only GFN and FEBA).

In 2016, the food banks members of FEBA had distributed the equivalent of 2,9 million meals every day (535.000 tons of food) to 6,1 million people, in partnership with 37.200 charitable

organizations and thanks to the collaboration of 16.400 people among whom 90% were volunteers (FEBA, 2017b).

Even though the previous data gives evidence of the results achieved by a percentage of the food banks operating in Europe, it suggests the significant impact that such organizations can accomplish; but also, this information provides key characteristics of this kind of organizations. For instance, in the attempt to fight hunger, food poverty and inequality in a great scale, food banks need to develop partnerships with charitable institutions who provide direct help to the people in need. Moreover, the fact that the composition of their workforce is around 90% of volunteers (in some cases this number is even higher) gives an idea of their dependence to the altruism of people for the realization of the activities, and the constraints they face in terms of resources, know-how, capabilities and organization. Insights that will be further analyzed in the present document.

In terms of organizational structure and management, there are food banks composed by a small number of organizations, others are more atomized and closer to the regions and their beneficiaries. According to Riches (2002), operationally food banks may differ, for example some operate in large warehouses, others are small local community service centers or church-run agencies. Additionally, some food banks rely solely on donations from individuals in the community and industry oversupply, have little control over the items they receive, and are therefore limited in what they can offer to those in need (Tarasuk et al., 2014), while others also buy food when they are running out of stock.

Despite the great differences in terms of size, organizations and management, all the food banks share the same general purpose and implement a set of core operations to achieve it. The following is a list of several activities and benefits comprising their main operations (FEBA, 2017b):

- Food Banks recover food, all year round, from growers, processors, retail stores, caterers, most of which would otherwise be wasted. They also collect food donations from individuals.
- They transport, sort, and store products in their warehouses, in compliance with hygiene and security standards.
- They redistribute the food to charitable institutions which support people in need

- Food Banks restore the value of food, not only as a life-giving source but also as an opportunity for re-inclusion.
- They do not provide food directly to individuals. They deliver food to certified partner institutions.
- They can handle large quantities of food and redistribute it rapidly and safely to partner organizations thus offering a proven and efficient approach to alleviate food poverty while reducing food waste.
- They save time and money for partner charity organizations which can concentrate on helping people
- They help companies avoid the costly disposal of products and its negative impacts on the environment.
- They encourage civil involvement of people by calling for volunteers and deliver social cohesion by facilitating cooperation between public and private organizations.

In the present document, the analysis is going to be concentrated in the most important food bank in Italy, known as Banco Alimentare ONLUS. The focus is to study its operations, processes and organizational structure from a managerial perspective, with the aim of provide the organization some instruments and elements to find alternatives that will lead to the improvement of the performance.

## **Chapter 2: Banco Alimentare ONLUS**

Founded in 1989 by Mr. Danilo Fossati and Mr. Luigi Giussani, Banco Alimentare is the most representative food bank in Italy. Nowadays it is structured as a network of 21 regional food banks (OBA) distributed across the Italian territory, represented and coordinated by a central body known as Fondazione Banco Alimentare ONLUS (FBAO).

Similar as the other food banks, the mission of Banco Alimentare is the recovery, storage and distribution of surplus food to charitable institutions to provide help to people in need. Moreover, as part of the institutional activities, the network promotes initiatives and policies to fight food waste and support poverty and social exclusion working side by side with national, European institutions and interested stakeholders with the aim to raise public consciousness about sharing time and resources with others and reducing food waste (Santini and Cavicchi, 2014).

For the achievement of the mission, the organization relies on several sources for the recovery and recollection of surplus food and donations:

- Food manufacturing industries at the national and regional level
- Funds from the European Union for European Aid to the Most Deprived (FEAD)
- Points of sale of the network of retailers and wholesalers in the national territory
- Restaurants and canteens
- Supermarkets and markets of fruits and vegetables
- Programs such as the National Food Collection Day (GNCA, Giornata Nazionale della Colleta Alimentare)

In the year 2016, Banco Alimentare collected from the different channels the amount of 66.478 tons of food comprising food donations and surplus food, which were distributed to 8.035 charitable institutions leveraging on the contribution of 1.878 volunteers, 119 employees and assisting more than 1.500.000 people (Banco Alimentare, 2017a).

This huge workforce works in a process-based organization, where the operational activities are comprised in the following key macro-processes:

- Procurement
- Warehouse management

- Fundraising
- Communication
- Administration and Management Control
- Management of the relationship with charitable institutions

This set of organizational processes are present in every OBA to a greater or lesser degree of maturity depending on several features: firstly, all the regional banks are autonomous and legally independent from each other, therefore they are responsible for the realization of their own activities, even though they are supported and coordinated by FBAO.

Every OBA is facing a complex reality in its own territory or region, characterized by different economic growth which is also impacted by the presence or absence of food manufacturing companies and by other factors, such as an uneven willingness of the population to become volunteers in non profit organizations, presence of charitable institutions with whom build relationships for the benefit of the people in need, social and cultural differences. This is to say that, the performance of every OBA is highly influenced by the external factors they must face in their own territory and internal factors related to their structure and organization.

For instance, in the south part of the country there is a OBA whose staff is composed by 15 people, 12 of which are volunteers; meanwhile a different OBA up north has a workforce of around 240 people from which 230 are volunteers; this has inevitably different implications in terms of amount of resources that can be dedicated to every organizational process in both regional banks.

According to Santini and Cavicchi (2014), non profit organization and in particular food banks often lack the adequate degree of control on the input of their operations, meaning food donations, volunteers and money. Therefore, if the purpose is to improve the level of performance in terms of efficiency and effectiveness of such organization, the analysis should concentrate on the management and structure of its organizational processes, as will be presented in the following parts of the document.

## **Chapter 3: Organizational issues, Objectives and Methodology**

### **3.1 Organizational issues**

The focus in this study is to analyze the organizational structure of Banco Alimentare and its relationship with the performance, with the purpose of implementing a framework that will provide the starting point and elements to identify areas for improvement; after having presented the context and a general description of the organization, it is pertinent to explain the problems and organizational issues that lead the path in the realization of the project, as well as the objectives of research and the methodology used to achieve them.

Before going into detail, it is important to go consider the status of research in the literature related to the topic of interest. There are plenty of studies in the literature regarding the activities of food banks, for instance Inza-Bartolomé and Sainz de Rozas (2016), studied the increasing consolidation of food banks, their role against food waste and as substitute of the instruments of the government in some regions of Spain; De Boeck et al. (2017) analyzed the organization of the food donation process, its relationship with food safety and the implications on food banks; Brock and Davis (2015) researched on the structural connection between supermarkets and food banks for the collection of food and several others studies.

Nevertheless, little research is found with respect to managerial aspects of food banks, more specifically, their organizational structure, the level of centralization/decentralization of competences, the improvement of organizational processes and its relationship with the performance. Perhaps, the most related articles to a managerial study of food banks are the ones developed by Coque and Gonzales (2017) about the institutionalization of food charity and the potential technical supply problems and challenges food banks; Gonzales et al. (2017) who analyzed the profiles of several european food banks in terms of the characteristics of the staff, the tons of food they distributed and the number of people served and the relation with the efficiency of the organizations, finally Santini and Cavicchi (2014) developed a study on Banco Alimentare and its capabilities to adapt and face the challenges and changes in its complex environment.

On the other hand, there are several studies regarding the organizational structure or the level of centralization/decentralization in other nonprofit organizations such as hospitals or

educational associations; there are even more studies related to for-profit organizations but none of them cover all the characteristics of this research.

Recognizing the lack of studies in this regard, the main motivation besides start covering the gap in the literature, consists on addressing the organizational issues and constraints of Banco Alimentare.

In the ongoing course of the research, the following organizational issues were identified:

- Banco Alimentare as other food banks, is highly dependent on the sources of donations it receives both in terms of food and money for the development of its activities; as put in words of one of the directives, “you can only give what you have”. Therefore, to improve their performance, the organization needs to focus on improving its internal processes, to make a better use of resources, provide a better output and fulfill their mission in a better way.
- Another aspect consists in the internal capacity to perform assessments of its processes and organization, on the one hand there is the lack of resources, their workforce is mainly concentrated on the daily operations and sometimes they struggle to get things done, moreover, volunteers are the main component of the staff and they might lack the knowledge and continuity to develop this kind of studies; on the other hand, there is the issue of subjectivity. It is reasonable to wonder if the results coming out of an assessment about the processes of an organization, are as productive and pertinent if the study is done by an external entity or by the organization itself.
- There is a considerable heterogeneity of performance among the OBA, some of them are better structured and organized than others for reasons of availability of resources, history, degree of maturity and others.
- Even though there are guidelines, criteria and standards that are respected throughout the network, not all the procedures are formalized and embraced by the OBA.
- Administrative activities are considered as a burden for the OBA that does not have enough resources and present scarce long-term planning mentality.
- Lack of knowledge and interest in the use of financial modules of the information system (SAP), for instance for the elaboration of the budget and financial statements, for which some OBA are struggling with.

- Lack of consolidation of supporting processes such as Human Resources or a department specially dedicated to managing the relationship with the industries.

### **3.2 Objectives**

Considering the previous arguments, the objectives of the realization of the present study are several:

1. Understand the complexity of the organizational structure of Banco Alimentare and the functioning of the key organizational processes.
2. Develop a diagnosis of the As-Is status of the level of centralization/decentralization of competences for each key process and sub-process.
3. Identify the most relevant dimensions and indicators of performance for every process and sub-process.
4. Identify if there is a link between the level of centralization/decentralization of the competences with the performance of the process. Example with Procurement process.

### **3.3 Methodology**

To ensure an adequate level of coherence and precision in the whole analysis, a description of the methodology implemented for every objective is presented, as follows:

#### **3.3.1 Methodology Objective #1**

Objective #1: Understand the complexity of the organizational structure of Banco Alimentare and the functioning of the key organizational processes.

The initial steps of the methodology are common to all the objectives mentioned in paragraph 3.2 because they consisted on gathering the information needed for the realization of the research.

1. Revision of primary sources of information, such as internal documentation of Banco Alimentare related to the Governance, Statute, regulations and financial statements.

2. Revision of secondary sources of information, basically documentation found on internet about Banco Alimentare, such as reviews, reports, case studies focused on food banks and the like, with the aim to understand even more their activities and operations.
3. Group meetings with directives of FBAO, which provided valuable information for the description of the organization and the identification of the key processes. The meetings were held with Mr. Andrea Giussani (President Banco Alimentare), Mr. Antonio Oliva (Vice-president Banco Alimentare) and Mr. Giovanni Bruno (Member of the Board of Directors).
4. After having a clear picture of the overall organization, the consequent part of the analysis focused on the description of the key processes, for which dedicated interviews were performed to the heads of the processes in FBAO as can be seen in Table 1.

<b>Interviewed</b>	<b>Role in FBAO</b>
Paolo Cattini	Head of Fundraising and Communications
Giuliana Malaguti e Vittore Mescia	Heads of Procurement
Sabrina Granata	Head of Administration and Management Control

*Table 1. Responsible of areas subject to interviews in FBAO*

These interviews were elaborated in a way to cover four main topics about the key processes: general description and composition, review of the process and allocation of responsibilities, definition of dimensions and indicators for performance and critical issues and areas for improvement. The questions related to each of those topics are shown in Table 2.

5. Consequently, all the information collected was analyzed and structured to elaborate the complete description of the organization.

General description and composition
<ul style="list-style-type: none"> <li>• Can you provide an overview of the main activities of the process?</li> <li>• How many people are involved in the process? Comprising volunteers and employees.</li> <li>• Are management and control standards currently applied in the process?</li> <li>• Do you use indicators to measure and monitor the performance in the process?</li> </ul>
Review of the process and allocation of responsibilities
<ul style="list-style-type: none"> <li>• What is the current division of the process in sub-processes?</li> <li>• Would you make any modification on that division and why?</li> <li>• Can be identified the allocation of responsibilities between FBAO and OBA in this structure?</li> </ul>
Definition of dimensions and indicators for performance
<ul style="list-style-type: none"> <li>• What are the most relevant dimensions for performance in the process?</li> <li>• In what dimensions is necessary to maximize the performance?</li> <li>• For each of these dimensions what indicators would you use whether if they are qualitative or quantitative?</li> </ul>
Critical issues and areas for improvement
<ul style="list-style-type: none"> <li>• Given the current organizational structure of Banco Alimentare, do you identify critical issues? If affirmative, what are those, what would you change and why?</li> <li>• According to you, are there any processes that should be more centralized or decentralized?</li> <li>• Are there any moments of sharing and confrontation between FBAO and OBA regarding the activities of your process?</li> <li>• Do you have in mind any case of failure or success that can be attributed either to FBAO or OBA?</li> <li>• Are there significant differences of performance between FBAO and OBA? And among the OBA themselves?</li> </ul>

*Table 2. Set of questions of the interviews realized to head of processes in FBAO.*

### 3.3.2 Methodology Objective #2

Objective #2: Develop a diagnosis of the As-Is status of the level of centralization/decentralization of competences for each key process and sub-process.

1. Analysis of the information collected in the steps 1,2 and 4 of the section 3.3.1.
2. During the meetings with directives of FBAO it was decided to analyze the level of centralization/decentralization, meaning the allocation of responsibilities for the organizational process with the following approach consisting in two steps:
  - I. For all the processes: preliminary definition of the roles of FBAO and OBA at every sub-process or constituent activity.
  - II. For the processes of Procurement and Fundraising: analysis of the allocation of responsibilities between FBAO and the OBA, for every sub-process with respect to 4 phases of the management of organizational processes, these phases are: Planning, Organizing, Executing and Controlling (Carpenter et al., 2009).
3. Recognizing that it was not enough to settle with the interviews realized in FBAO, further interviews were performed to several OBA in the territory; which were fundamental to clarify even more about the operations of Banco Alimentare in the different regions and the allocation of responsibilities between FBAO and the OBA. It was not possible to interview all the OBA in the territory; therefore 4 regional banks were selected with the following criteria: geographical coverage, dimension and level of organization or structure. Table 3 shows the OBA selected and the people interviewed.

OBA	Interviewed	Role in OBA
OBA Lombardia	Roberto Vassena Marco Magnelli	President General Manager
OBA Piemonte	Vilma Soncin	General Manager
OBA Puglia	Luigi Riso	President
OBA Toscana	Marco Tommasi	General Manager

Table 3. Set of OBA selected for the interviews.

The mentioned OBA were selected with different characteristics with the attempt of having an adequate representation of most of the realities faced by Banco Alimentare in the territory, moreover, in this way a good level of variety was reached for the interviews and it was the most appropriate way to find out the particularities, challenges and evidences that supported the later phases of the analysis.

It is important to clarify that the interviews were formulated as semi-structured, because the purpose was to allow the interviewed to answer with no pressure or constraints, additionally, this format provided a degree of structure to cover specific topics in the interview and at the same time, allow room for flexibility with the possibility to introduce new questions whenever necessary, gather valuable information (Saunders, 2009), deepen the understanding and clarify answers to questions (Wilson C., 2014). Table 4 presents the questions formulated to the different OBA.

4. Group meetings and further reunions with FBAO were carried on identifying which actor was responsible for every phase in each key process and sub-process. Examples of the application of the mentioned approaches are shown in Table 5 and Table 6. For every component of the table, a red ball is located near the actor being responsible for the phase or activity of the sub-process. When the ball is in the middle between FBAO and OBA, it means that they perform the same activity in parallel and they share the responsibility. The complete results are presented in the following chapter.

The following step consisted of the analysis of all the information collected in the interviews, identifying common points, challenges, constraints and evidences of the allocation of responsibilities of the actors involved. Several meetings were held among the research team with the directives of FBAO, to consolidate and validate the snapshot of the As-Is situation of the organization. At this point, the first two objectives of the research were completed.

### **Set of questions for the interviews to the OBA**

- When was born the OBA X?
- How many people work between employees and volunteers?
- Is the organizational structure divided in macro-areas or processes? If yes, what activities each area cover? If not, why?
- What are the key processes for the proper functioning of OBA X?
- What are the key indicators of performance?
- What are your principal sources of supply? Are there companies or other entities in the territory with which you have a solid relation of supplying of food?
- What are the principal channels of fundraising?
- How do you relate with the charitable institutions?
- How are the administrative and accounting activities handled and what weight do they have on the overall use of resources?
- Have you implemented systems for performance measurement and monitoring results?
- Do you use procedures and standards for management and control, whether if they are developed internally or shared by FBAO?
- How are the relations with the other OBA?
- How do you describe the relationship with FBAO?
- Do you see any critical issues in the current organizational structure of the network? If yes, what would you change?
- In your opinion, where do you think a greater autonomy or instead, greater centralization of the processes would lead to improvements in the performance of the OBA and the network as a whole?

*Table 4. Set of questions for the interviews to the OBA.*

Phase	Explanation
<p style="text-align: center;"><b>Planning</b></p> <p>FBAO  OBA</p>	Big companies communicate with FBAO who directly manage the relationship and the recovery of the surplus
<p style="text-align: center;"><b>Organizing</b></p> <p>FBAO  OBA</p>	According to the needs of the OBA, FBAO decides the distribution of the surplus.
<p style="text-align: center;"><b>Executing</b></p> <p>FBAO  OBA</p>	Part of the food donations from big companies are transported and stored in the warehouse of FBAO in Parma, the remaining donations are directly transported to the regional warehouses of the OBA
<p style="text-align: center;"><b>Controlling</b></p> <p>FBAO  OBA</p>	The activities of monitoring and control of the performance are responsibility of FBAO, who collect the information regarding the operational activities of all the regional warehouses of the network.

*Table 5. As-Is status of the allocation of responsibilities for the channel Industry at the national level.*

Phase	Explanation
<p style="text-align: center;"><b>Inbound transportation</b></p> <p>FBAO  OBA</p>	It is related to the process of Procurement, where both FBAO and the OBA are responsible to transport the products into the warehouses.
<p style="text-align: center;"><b>Inventory management</b></p> <p>FBAO  OBA</p>	FBAO and the OBA are autonomous for the handling activities of the product in their warehouses
<p style="text-align: center;"><b>Outbound transportation</b></p> <p>FBAO  OBA</p>	FBAO is responsible for the distribution of the products going out from the facilities in Parma and the OBA are responsible to organize the distribution of products to the charitable institutions.
<p style="text-align: center;"><b>Staff security and quality control</b></p> <p>FBAO  OBA</p>	The activities for the training and security of the staff are performed by every OBA respecting the standards provided by FBAO.
<p style="text-align: center;"><b>Maintenance</b></p> <p>FBAO  OBA</p>	The maintenance of the vehicles, equipment and facilities is responsibility of the OBA.

*Table 6. As-Is status of the allocation of responsibilities for the process warehouse management.*

### **3.3.3 Methodology Objective #3**

Objective 3: Identify the most relevant dimensions and indicators of performance for every process and sub-process.

1. Analysis of the information collected in the different interviews and meetings with FBAO, complemented with literature review concerning the structuration of a performance measurement system and the selection of indicators for performance.
2. Meetings of the research team to decide the most adequate approach to identify the dimensions and indicators of performance, but also considering the other objectives of the study.
3. Proposition of a framework that relates the 4 main functions of management, the description of the organizational processes, the allocation of responsibilities or competences between FBAO and OBA, the main dimensions and indicators of performance for every corresponding sub-process or activity. The framework is presented in the chapter 4, section 4.3 concerning the results of the objective #3.

The framework is meant to be applied for every sub-process and activity of the key organizational processes. For every function or phase of management, the most relevant dimension(s) for performance need to be identified. Consequently, the indicator(s) that best represents the corresponding dimension is selected and finally the actor responsible for every phase corresponds to the “As-Is” allocation of responsibilities.

The main output of the framework is a set of KPIs to measure and monitor the performance of the sub-process under analysis, moreover it can provide insights on the relations between the phases of the process considering the dimensions selected.

### **3.3.4 Methodology Objective #4**

Objective 4: Identify if there is a link between the level of centralization/decentralization of the competences with the performance of the process. Example with Procurement process.

1. Group meetings and brainstorming sessions with the head of Procurement process in FBAO were carried on with the aim of collecting the necessary information to apply

the logic of the framework described in Table 7. The methodology was applied to every sub-process to guarantee completeness and precision in the analysis.

The methodology followed the following steps:

- I. Identification of the most relevant dimension of performance for every sub-process of the Procurement process. The interviews elaborated to the different OBA provided valuable information for this part of the analysis.
- II. Selection of the adequate key performance indicators (KPIs) for the corresponding dimension.
- III. In the current state of the study, the actor responsible for every phase corresponds to the actor identified in the “As-Is” status of the allocation of responsibilities, explained in the methodology of the objective 2.
- IV. Completing the framework provides a set of key performance indicators (KPIs) that permits to analyze if a change in the allocation of responsibilities between FBAO and the OBA will have an impact in the performance of every sub-process, therefore identify if there is a link between the level of centralization/decentralization and the performance of the process.

## **Chapter 4: Results and analysis**

After the description of the context, the objectives and the methodology of the study, the present chapter contains the results corresponding to every objective.

### **4.1 Description of Banco Alimentare: Key actors and organizational processes**

#### **4.1.1 Key actors**

##### **4.1.1.1 Fondazione Banco Alimentare ONLUS (FBAO):**

FBAO, founded in 1989 with its headquarters in Milan, Italy, is the organism that guides, coordinates and represents the network Banco Alimentare. Even though it is not constituted as a food bank as the OBA, FBAO manages a warehouse located in the city of Parma, which does not receive products as surplus food, but the products coming from the funds of the European Union when the OBA does not have enough space to store them. The warehouse also works as a transit point for the redistribution of product coming from the industry and producer organizations.

#### **Purposes and activities:**

- Its main purpose is to pursue solidarity goals related to social assistance and charity. More specifically, to contribute for the recovery of surplus food from the agricultural production, the industry, retailers, wholesalers, restaurants and canteens to further distribute it to charitable institutions that provide assistance and help to people in need in the Italian territory.
- FBAO relies on the collaboration of a set of regional food banks distributed in the territory for the achievement of the mission.
- FBAO promotes initiatives to raise public awareness related to the problem of food waste, food poverty, inequality and marginalization.

#### **Organs**

FBAO is composed of the following organs divided over their responsibilities:

Governance responsibilities:

- Board of directors
- Founder's Assembly
- Participant's Assembly
- President
- Vice-president

#### Operational responsibilities

- General manager
- General secretary
- Area managers:
  - Procurement and Logistics
  - Fundraising and Communications
  - Administration and management control

FBAO comprises the following competences in the realization of its activities:

- Guidance and coordination of the network
- Provision of services (problem solving support, legal support, representation)
- Development of the network Banco Alimentare
- Image
- Institutional relations and with other organizations
- Communications at the national level
- Fundraising
  - For the benefit of the network
  - For the benefit of FBAO
- Procurement and Logistics
  - Food distribution
  - Relations with the industry, retailers and wholesalers at the national level
- Administration and management control and network information system
- National Food Collection Day (Giornata Nazionale della Colletta Alimentare, GNCA)

#### 4.1.1.2 Organizzazione Banco Alimentare (OBA)

The OBA correspond to the regional food banks distributed in the Italian territory that are part of the network Banco Alimentare, which is coordinated by FBAO. The OBA are legally independent entities and in the implementation of their activities they share the same mission, educational concepts and operating modalities as FBAO.

There are 21 OBA distributed in the territory and with differences between them in terms of size, organization, availability of resources, contact with the region and performance (Banco Alimentare, 2017b). Table 8 presents some data about the regional food banks concerning the number of employees and volunteers as well as the results obtained in the year 2016.

OBA	Employees	Volunteers*	Tons collected	People assisted
OBA Abruzzo	5	30	1.896	47.106
OBA Calabria	2	25	N/A	132.875
OBA Campagna	N/A	N/A	6.303	151.909
OBA Emilia Romagna	8	100	7.551	141.712
OBA Friuli Venezia Giulia	4	60	2.666	51.083
OBA Lazio	7	57	3.380	123.000
OBA Liguria	2	75	1.990 (2015)	67.140
OBA Lombardia	19	720	15.193	208.882
OBA Marche	3	30	N/A	41.121
OBA Piemonte	9	189	6.325	113.200
OBA Piemonte Alessandria	N/A	15	N/A	23.376
OBA Puglia	2	16	N/A	86.101
OBA Puglia Foggia	1	20	N/A	12.745
OBA Sardegna	4	52	N/A	39.510
OBA Sicilia	9	30	4.162 (2014)	160.000
OBA Sicilia Palermo	5	40	N/A	102.356
OBA Toscana	7	80	3.062	94.181
OBA Trentino Alto Adige	3	62	1.200	18.740
OBA Umbria	N/A	60	N/A	34.062
OBA Valle d'Aosta	N/A	14	N/A	1.920
OBA Veneto	2	150	5.198	102.904

*Table 7. List of the OBA present in the territory.*

\*The volunteers do not represent the same amount of working hours than regular employees.

As can be seen from Table 8, there is great heterogeneity between the OBA both in terms of availability of resources and the outputs they provide. This also has an impact in how well their organizational processes are structured, organized and developed.

Despite the structural differences found among the OBA, they all contribute for the achievement of the mission of Banco Alimentare by performing the following activities:

**Activities:**

- Recovery of surplus food in agricultural production, food industry, points of sale of retailers, wholesalers, restaurants and catering.
- Management of food and funds assigned by public and private institutions for the purchase of food to redistribute freely.
- Gathering of groceries at the point of sales of the retailers and wholesalers at the GNCA and food collections donated at events other than the GNCA
- Distribution free of charge to charitable institutions that care and help the poor, emigrants and, in general, all the people in need in the Italian territory, in close collaboration with FBAO and with the other OBA.
- The promotion and support of the aims and activities of FBAO.

**Organs**

The OBA are composed of the following organs divided over their responsibilities:

Governance responsibilities:

- Board of directors
- President
- Vice-president
- Member's assembly

Operational responsibilities:

- Operative manager
- Area managers:
  - Procurement and Logistics

- Fundraising and Communications
- Administration and management control

The OBA comprises the following competences in the realization of their activities:

- Procurement
- Program Siticibo
- Procurement and Logistics
- Relations with the industry, retailers and wholesalers at the regional level
- Administration and management control and network information system
- Relationships with charitable institutions at the regional level

As both all the OBA and FBAO share the same mission, the following organizational processes are present to a greater or lesser extent in all of them:

#### **4.1.2 Key organizational processes**

##### **4.1.2.1 Procurement**

The process of Procurement represents the institutional activity of the network Banco Alimentare, it comprises all the procedures that bring the surplus of food from several channels into the network. The several channels refer to the different entities that provide food in the form of donations or cessions of products; they have diverse characteristics and are managed with different criteria. They are explained as follows:

##### **Industry**

The first channel is related to the donations and surplus recovery coming from the industry. In this channel are present big companies such as Barilla, which deliver weekly notifications to FBAO of the surplus generated, consequently FBAO decides the quantities to allocate to the regional banks, considering several factors for this allocation, such as: the volume of surplus and donations from the companies, the quantities per category of food, the needs of every OBA, the rotation index of the products in the warehouse, the economic sustainability and distance of the OBA. With this approach, a more even distribution of the products is

achieved for the national territory. There are also companies of smaller dimension which are closer to the regional food banks, therefore the communication and relational processes are not managed through FBAO, but are directly managed locally by the OBA. There are companies with a reactive approach that contact Banco Alimentare only whenever they have surplus and request for their withdrawal, while there are other companies more structured with constant communication with Banco Alimentare for regular donations of products.

Finally, within this channel there are also considered the surplus recovered in the regional markets of fruits and vegetables that required the withdrawal of the products to the OBA.

### **Producer Organizations**

It is the channel related to the supplying of fruits and vegetables to Banco Alimentare from producer organizations or companies in the food supply chain having surplus with this type of products. For the donation of the food they contact FBAO to coordinate the delivery of the products to the regional warehouse of the OBA. FBAO can manage the distribution and allocation of the surplus, taking into consideration a proper rotation of the products and the needs of the OBA.

For the economic sustainability of this channel, funds from the European Community are assigned to the producer organizations as a reimbursement for their donations to Banco Alimentare, to compensate for the surplus of the products, the production and transportation to the warehouse of the OBA. Consequently, the cession of the product is more regulated because the organism (European Community) must evaluate the producer organizations and assess if they are worth of being reimbursed for the surplus donated to Banco Alimentare.

### **Siticibo**

Siticibo is related to the channel where the products recovered are cooked meals not consumed in restaurants and company canteens and mainly fresh products not sold in the points of sale of big retailers and wholesalers. Siticibo is born as a program of FBAO in the year 2003 and represents the first application of the Law 155/2003 so called of the Good Samaritan (Banco Alimentare, 2012b). The program has two sources of donations: one being the cooked meals from restaurants and canteens, in this case Banco Alimentare coordinates the withdrawal of the surplus at the facilities of the donors recovering the products with its

own vehicles for the later distribution to the charitable institutions. The regions that have most developed the collaboration with the restaurants are Lombardia, Piemonte and Toscana. The second source is related to the products at the points of sale of retailers and wholesalers throughout the national territory, in this case Banco Alimentare coordinates the withdrawal of the surplus which is performed by the charitable institutions who are closer to the points of sale, to take advantage of their proximity and readiness.

## **AGEA**

AGEA corresponds to the products coming from the contributions of the program FEAD (Fund for European Aid to the most Deprived) of the European Union which provide material assistance to the most deprived, through public bodies and non-governmental organizations (Banco Alimentare, 2017d). The contributions of the program come from European funds that are used for the elaboration of cession of products, based on the requirements of non profit organizations.

The quantity of products and resources allocated to each country and each organization depends on the budget of the European Union and the number of persons assisted by every food bank.

## **National Food Collection Day (Giornata Nazionale della Colleta Alimentare, GNCA)**

The GNCA is an event that takes place every year since 1997 at the last Saturday of November throughout Italy. It consists of the collection of grocery donations made by citizens in the supermarkets, it is organized by FBAO and operatively done by the OBA with the help of volunteers who collect the products and transport them to the warehouse of the regional food banks. On the year 2016, 8.500 tons of food were collected with the collaboration of 145.000 volunteers in 13.000 supermarkets (Banco Alimentare, 2017c).

### **4.1.2.2 Warehouse management**

The process of warehouse management comprises all the activities needed for the handling of the products, starting from the inbound transportation into the regional warehouses towards their distribution to the caritative structures. This process is comprised by the following activities:

### **Inbound transportation**

It is related with the Procurement process, the replenishment of the regional warehouses of Banco Alimentare from the different sources of surplus food and donations.

### **Inventory management**

It consists on the handling of the products within the warehouse, comprising activities as loading, unloading, quality control, picking, rotation, stock control and classification.

### **Delivery planning to caritative structures and outbound transportation**

Comprises the set of decisions to deliver products to the charitable institutions whether if it is from the regional warehouses of Banco Alimentare or from the points of sale of retailers, wholesalers, restaurants of schools and company canteens.

### **Staff security and quality control**

It is a supporting activity of the logistic process to ensure a proper operation of the staff in the warehouse and the loading/unloading stations, to guarantee an adequate handling of the products and compliance with quality and safety regulations.

### **Maintenance**

These activities are necessary for the continuity of operations because they ensure the good status of the facilities and the availability of the vehicles for the transportation of the products.

#### **4.1.2.3 Fundraising**

Fundraising is one of the most important process in any non profit organization: it is essential for the economic sustainability of the organization. The process consists on searching and building relationships with people and entities willing to provide economic support to Banco Alimentare. There are several sources of fundraising depending on the characteristics of the donor and the instruments used to manage the relationship:

## **Invitations to tender and grants**

Banco Alimentare participates to European, national or regional invitations to tender or to competitive grants in order to get the funding for a specific project. For instance, Cariplo Foundations donates to Banco Alimentare 360.000 € for a special project called “Food poverty lab” which aims at building and improving the ability of the whole supply chain to collect surplus food. The OBA apply to tenders and competitive grants at the regional level, while FBAO usually takes care of tenders and grants at the national or European level.

## **5x1000**

5x1000 refers to the channel where people can donate part of their salary to Banco Alimentare by the time they made the declaration of income. It can be done through bank offices or post offices.

## **CSR**

Corporate Social Responsibility is the channel related to the relationships and projects with big companies that want to increase their visibility, improve their image and social responsibility by cooperating with non profit organizations, in this case Banco Alimentare. Some examples are Kellogg’s and P&G, which created projects focused on different kind of customers: Kellogg’s decided to address children from 2 to 7 years old donating food for breakfast, while P&G donated 7 cents for every euro of product sold.

## **Big donors**

This channel refers to the donations coming from companies and wealthy people that surpasses certain threshold.

## **Local events**

There are events organized in the regions of every OBA with the aim of collecting funds for the support of Banco Alimentare. Those events are realized respecting the guidelines provided by Fondazione including the management of the logo, template and procedures. Examples of events can be charity events, dinners for the promotion of the organization, and lotteries.

## **Direct mailing (DEM) and website**

This channel refers to the donations coming through the function “Donate now” (Dona Ora) accessible directly at the website of FBAO and the OBA, and available via the newsletter sent to private citizens. Moreover, each OBA has on its website the PayPal bank account option to receive immediately donations from private citizens.

### **4.1.2.4 Communications**

This is an important process consisting in the constant communication and notification of the results of the organization to the interested stakeholders. There are different channels that Banco Alimentare uses for this purpose:

#### **Public relations**

It is a channel used to spread publicly information about Banco Alimentare.

#### **Corporate branding**

Consists of the practice of controlling daily the press release looking for articles talking about Banco Alimentare. In case of bad reputation, FBAO decides to act to solve the problem.

#### **Website and Social Media**

FBAO and every OBA have their own websites that can be managed with autonomy, as well as their profile on social media. It is an important tool for spreading the knowledge about Banco Alimentare’s mission.

#### **News letter**

The newsletter is a useful tool for direct mailing, communication campaigns and fundraising actions. FBAO invested to build an extensive database of 200.000 people to send relevant communications; this could not be implemented by the OBA due to the lack of resources and capabilities. With this database, it is possible to perform statistical analysis and studies to get insights on the behaviour of the donors and interested partners. For instance, it is possible to figure out the percentage of recurrent donors in the network or the growth of the donor’s database.

#### **4.1.2.5 Administration and management control**

Administration and management control process consists on the set of functions and activities needed to ensure the efficient and effective use of resources. This area is responsible for all the activities that have an administrative relevance for the organization, such as: the general accounting, payments to staff, legal and contractual support, review and certification of financial statements, elaboration of reports, administrative management of the staff, management of the information system and others.

A general description of the main activities of the process is provided as follows.

##### **General Accounting Management**

This is the activity responsible for the registration and synthesis of all the financial operations of the organization for the further elaboration of reports and financial statements. The main steps are the recollection of data, analysis and classification of performed operations and registration of the operations in the management control system.

##### **Payment management**

Payment management is the activity responsible to compensate employees, whether if it is for fiscal reasons or because the employees are required by the organization.

##### **Administrative Management of Personnel**

Comprises all the activities related to the management of personnel (both employees and volunteers) and the aspects binding them with the organization, for instance the drafting of the contracts.

##### **Budgeting**

It is related to the preparation of a document that represents the allocation of resources to the different activities and their economic valorization. It is composed by several phases such as elaboration, revision, reformulation, alignment and approval from the direction.

## **Preparation of Financial Statements**

It is the set of activities consisting in the elaboration of the balance sheet and the income statement of the entities constituting the organization, with the purpose of providing correct information of its financial situation to the interested stakeholders.

## **Legal and Contractual Support**

It is the sub process that provides legal support in the contracts and in the legal activities related to the ongoing development of Banco Alimentare to ensure the compliance with the standards of the law and regulations.

## **Management Control System**

Consists on the administration of the software useful to keep track of the general accountability of the organization, the development of the reports and financial statements and perform the overall control of the resources and results.

### **4.1.2.6 Management of the relationship with charitable institutions**

This process consists of the set of activities to establish partnerships with the charitable institutions that provide help to people in need, therefore is crucial for the achievement of the mission of Banco Alimentare. These charitable institutions are also nonprofit organizations such as parishes, social cooperatives, canteens for the poor, solidarity centers, hospitality facilities for the elderly, children and mothers, recovery communities and others.

There are several steps to consolidate a relationship with a charitable institution:

#### **I. Request for collaboration**

In most cases, the charitable institutions make a formal request to collaborate with Banco Alimentare and receive the donations, contacting the organization via email and indicating the type of activity they perform. Only in a few cases it is Banco Alimentare who contact the institutions to begin the collaboration.

#### **II. Request for agreement**

Every request for collaboration is logged and placed in a waiting list. Before the approval of the agreement, personnel from the OBA contact the institution to program a visit at their facilities to check the compliance of the requirements and conditions of the warehouse. The requirements are stated by two entities: AGEA (Agenzia per le Erogazioni in Agricoltura) and FBAO. The first is responsible for providing funds from the European Union to the farmers in the territory. For this reason, its requirements are more restrictive and mandatory: for instance, in this category cooperative organizations are not included. On the other hand, FBAO places less constraints, but they can cooperate with charitable institutions only with products not coming from the European. Overall, the requirements are related concern the free distribution of food and preservation of products according to the sanitary regulations.

### **III. Approval**

After the satisfaction of the requirements previously mentioned is proven, then the collaboration between the OBA and the charitable institutions begins.

### **IV. Relationship management**

Every OBA is responsible to manage the relationship after the approval, by performing control activities on the operations of the charitable institutions. These activities are carried out with visits and meeting whether in the facilities of the institutions or the OBA, with the aim to control the documentation and registrations of the products received, to verify the compliance with hygiene and health regulations in product conservation and to monitor the distribution of food to the assisted persons. This phase of the process is done periodically to guarantee the ongoing development of the relationships and identify corrective measure in cases of misconduct (Banco Alimentare, 2012a).

#### **4.2 Diagnosis of the “As-Is” status of allocation of responsibilities**

After describing the key actors and processes of Banco Alimentare, the following step of the analysis consists of the diagnosis of the As-Is status of the allocation of responsibilities between FBAO and the OBA for every key process and corresponding sub-processes.

This will resemble to a qualitative representation of the level of centralization or decentralization of the organization. In the case of a specific sub-process where all or most

of the phases are responsibility of FBAO, it will be considered as a centralized sub-process, on the contrary if the responsibilities are on behalf of OBA, it will be considered as decentralized. A process or sub-process can also be considered as partially centralized or partially decentralized.

#### 4.2.1 Procurement

The first channel analyzed corresponds to the industry, meaning all the companies in the food supply chain at the national and regional level that provide food products as donations and cessions to the network Banco Alimentare:

##### Industry at the national level

Phase	Explanation
<p><b>Planning</b></p> 	Big companies communicate with FBAO who directly manage the relationship and organize the recovery of the surplus
<p><b>Organizing</b></p> 	According to the needs and characteristics of every OBA, FBAO decides the distribution of the surplus recovered
<p><b>Executing</b></p> 	Part of the donations from big companies are transport and stored in the warehouse in Parma, the remaining donations are directly transported to the regional warehouses of the OBA
<p><b>Controlling</b></p> 	The activities of monitoring and control of the performance are responsibility of FBAO, using the information regarding the operational activities in all the warehouses of the network.

*Table 8. As-Is status of the allocation of responsibilities for the channel Industry at the national level.*

This sub-process is centralized in its initial phases, because FBAO is entitled to contact the big industries at the national level to start a relationship of collaboration for the donation of products. It is structured in this way because FBAO has all the relevant information to plan and organize the distribution of the surplus in a more efficient manner; information such as the storage capacity of the OBA, the demand they face, the index of rotation of the products in the warehouses.

The fact that the planning and organizing phases are centralized, guarantee a more simplified flow of communication and operations, since companies should only be in contact with one central office and not with 21 different points. In addition, FBAO guarantees a more equitable distribution of the surplus in the territory, so that not only the OBA closest to the sources of surplus can benefit from the cession of products.

Operationally speaking both FBAO and the OBA act in parallel; FBAO is responsible for the transport of product when they come from the warehouse in Parma or when a certain OBA does not have the resources to withdraw the products from the facilities of the companies. Meanwhile, the OBA are in charge to manage the transport of the products from the companies, whether recovering them with own vehicles or coordinating the companies the delivery in the warehouse of the food bank. The control is centralized because FBAO must supervise the compliance of the terms established for the partnership with the companies, therefore it must have the information of all the operations performed by the OBA.

### Industry at the regional level

Phase	Explanation
<p style="text-align: center;"><b>Planning</b></p> <p>FBAO  OBA</p>	The OBA are responsible to contact small and medium companies in their territories from which receive donations of surplus food.
<p style="text-align: center;"><b>Organizing</b></p> <p>FBAO  OBA</p>	The OBA and the companies decide the scheduling and organization of the recovery of products.
<p style="text-align: center;"><b>Executing</b></p> <p>FBAO  OBA</p>	The OBA are responsible to manage the transportation of the products to their warehouses, sometimes the same companies transport the product to the warehouses of the OBA. Moreover, volunteers of the OBA recover the surplus from the markets that have required the withdrawal of the products, and transport them to the regional warehouses.
<p style="text-align: center;"><b>Controlling</b></p> <p>FBAO  OBA</p>	FBAO monitors and controls the performance of the network using the information provided by every OBA on their operational activities.

*Table 9. As-Is status of the allocation of responsibilities for the channel Industry at the regional level.*

This sub-process is mostly decentralized, at least in the initial phases until the controlling of the operations. The OBA are autonomous to contact and propose a relationship of collaboration with small and medium companies in their territories. Therefore, they are responsible to establish the terms of the collaboration, meaning the scheduling of withdrawal and transportation of the products, which can be done by the OBA going to the facilities of the companies, or there are cases when the same company transport the product into the warehouse of the regional food banks.

The control of the operations is realized by FBAO; therefore, the OBA must register each movement on SAP and FBAO has all the information to measure and monitor the performance.

### Producer Organizations

Phase	Explanation
<p style="text-align: center;"><b>Planning</b></p> <p>FBAO    OBA</p>	FBAO is contacted by companies producing fruits and vegetables that are willing to donate their surplus to Banco Alimentare. Moreover, FBAO is responsible to develop projects promoted by the European Union with the aim of recovering surplus of this kind of products.
<p style="text-align: center;"><b>Organizing</b></p> <p>FBAO    OBA</p>	FBAO decides how will be the distribution of products and the quantities of surplus assigned to every OBA based on their needs and the rotation index of the products in their warehouses.
<p style="text-align: center;"><b>Executing</b></p> <p>FBAO    OBA</p>	In agreement with the OBA, the producer organizations deliver the surplus to the warehouse of the regional food banks.
<p style="text-align: center;"><b>Controlling</b></p> <p>FBAO    OBA</p>	FBAO monitors and controls the performance and activities of the OBA using the information provided by them on their operational activities.

*Table 10. As-Is status of the allocation of responsibilities for the channel Producer Organizations.*

This sub-process is centralized in the initial stages of the collaboration with the producer organizations. The donors establish contact with FBAO to plan and organize the donations of the product, the latter knowing the requirements of the network and the specific needs of

every OBA, decides the allocation and distribution of the donations to guarantee an even distribution of the products.

The delivery of the products is performed by the producer organizations who had made the agreement with the OBA, because the economic sustainability of the sub-process is supported by the funds of the European Union dedicated to projects, therefore the donors are reimbursed for the expenses of managing and transporting the surplus to Banco Alimentare. FBAO is entitled to control the activities verifying the movements in every regional warehouse through the information system.

### Siticibo

Phase	Explanation
<p style="text-align: center;"><b>Planning</b></p> <p>FBAO  OBA</p>	With the support of the FBAO, the activation of the Siticibo program at the local level begins with the mapping of canteens (company, schools, etc.) and the points of sale of GDO in the area, available to donate their surplus for social purposes.
<p style="text-align: center;"><b>Organizing</b></p> <p>FBAO  OBA</p>	Every OBA knowing its territory, selects and deploys a collaboration agreement with the restaurants, canteens and points of sale for the recovery of surplus.
<p style="text-align: center;"><b>Executing</b></p> <p>FBAO  OBA</p>	Volunteers of the OBA or from the charitable institutions recover the surplus directly at the restaurants and points of sale of the GDO that is transported to the facilities of the charitable institutions
<p style="text-align: center;"><b>Controlling</b></p> <p>FBAO  OBA</p>	FBAO and the OBA perform training and control activities to the staff and the charitable structures to ensure the compliance of sanitary regulations and the standards for the handling of this kind of products.

*Table 11. As-Is status of the allocation of responsibilities for the channel Siticibo.*

The responsibilities for planning and controlling the activities of Siticibo are shared between FBAO and the OBA. FBAO develops the agreement with the chains of restaurants, canteens and points of sale at the national level while the OBA exert the relations at the regional level, always following the guidelines of FBAO.

In this sub-process, the proximity to the territory plays an important role because the readiness to recover the products determine the availability to distribute them to the people in need, therefore the organizing and executing phases are decentralized. Every OBA coordinates with the points of sale, restaurants and charitable institutions to recover the products in the shortest possible time. For instance, in 90% of the cases the charitable institutions recover the surplus at the points of sale of retailers and wholesalers.

## AGEA

Phase	Explanation
<p><b>Planning</b></p>  <p>FBAO —●— OBA</p>	FBAO as the representative of Banco Alimentare, communicate with the Ministry of Agriculture for the acquisition of products coming from the European funds
<p><b>Organizing</b></p>  <p>FBAO —●— OBA</p>	FBAO organizes the distribution of the product coming from the European Union
<p><b>Executing</b></p>  <p>FBAO —●— OBA</p>	The delivery of the product granted by the European Union are transported by the same companies supplying them or by FBAO if they are stored in the warehouse at Parma.
<p><b>Controlling</b></p>  <p>FBAO —●— OBA</p>	FBAO is entitled to perform all the activities to control the provision of product to the OBA to hold accountability of the process to the Ministry of Agriculture

*Table 12. As-Is status of the allocation of responsibilities for the channel AGEA.*

AGEA can be considered as fully centralized because FBAO has the responsibility in all phases of sub-process. From the planning, FBAO is the representative of the network to the Ministry of Agriculture and to the European Union to participate for the reception of products destined to the people in need. In this case, Banco Alimentare does not decide the amount of product that can be assigned to the network, this is a competence of the European Union that allocates the product in terms of the number of persons assisted by every OBA.

Once the products have been assigned to the network, they are delivered to the warehouse in Parma for the further distribution to the OBA by means of FBAO, or they can be directly delivered to the OBA with the means of the companies producing the product, previous agreement with FBAO that communicates the regional warehouse for this distribution.

The control of the process is also performed by FBAO who verifies all the movements of the OBA through the information system, moreover, given that this sub-process is highly regulated by the Ministry of Agriculture and the European Union, the verification of the requirements imposed to the charitable institutions and the documentation is also necessary and centralized.

## GNCA

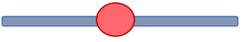
Phase	Explanation
<p style="text-align: center;"><b>Planning</b></p>	FBAO is responsible to promote the implementation of the event in the territory. The OBA develop some initiatives in their territory such as the gathering of boxes and instruments for the event.
<p style="text-align: center;"><b>Organizing</b></p>	The guidelines to consolidate the collaboration with supermarkets and other stakeholders for the GNCA are developed by FBAO
<p style="text-align: center;"><b>Executing</b></p>	The OBA are autonomous on the operational activities of the event, the management of the volunteers, the collection of donations and distribution to the warehouses.
<p style="text-align: center;"><b>Controlling</b></p>	FBAO is responsible for measuring the performance and results of the event, as well as controlling the compliance of the guidelines.

*Table 13. As-Is status of the allocation of responsibilities for the channel GNCA.*

The GNCA is a sub-process that has been implemented since 1997, in the initial phases of the event it is planned and organized by FBAO with some intervention of the OBA which can develop some projects or initiative to collect resources for the realization of the event. When the GNCA is consolidated in a region, the role of FBAO diminishes and it becomes responsibility of the OBA to find the collaborations of volunteers and perform the operational activities always respecting the guidelines established by FBAO.

The control of the results of the event is performed by FBAO, that verifies the amount of donations collected when the products are delivered to the warehouse and registered on SAP.

## 4.2.2 Warehouse Management

Phase	Explanation
<b>Inbound transportation</b> FBAO  OBA	It is related to the process of Procurement, where both FBAO and the OBA are responsible to transport the products into the warehouses.
<b>Inventory management</b> FBAO  OBA	FBAO and the OBA are autonomous for the handling activities of the product in their warehouses
<b>Outbound transportation</b> FBAO  OBA	FBAO is responsible for the distribution of the products going out from the facilities in Parma and the OBA are responsible to organize the distribution of products to the charitable institutions.
<b>Staff security and quality control</b> FBAO  OBA	The activities for the training and security of the staff are performed by every OBA respecting the standards provided by FBAO.
<b>Maintenance</b> FBAO  OBA	The maintenance of the vehicles, equipment and facilities is responsibility of the OBA.

*Table 14. As-Is status of the allocation of responsibilities for the process Warehouse management.*

The process of warehouse management is not analyzed based on the 4 functions of management but on its constitutive activities. It can be said that all the activities of the process are performed in parallel between FBAO and the OBA, because every actor is responsible for the operations in its own warehouse, FBAO manages the operations in the warehouse in Parma and the OBA are responsible for their own operations.

As FBAO has the role of supporting the network for the coordination of activities and for problem solving, there are cases when it needs to cover the role of the OBA, for instance, when they do not have the means to recover donations from the industry in the territory or when they lack the resources to train new volunteers in the activities and procedures of the organization.

### 4.2.3 Fundraising

#### Invitations to tenders and competitive grants

##### Tenders and grants at the national level

Phase	Explanation
<b>Planning</b> FBAO ●————— OBA	FBAO is entitled to participate to the tenders when it represents the network Banco Alimentare to the public administration or philanthropic entities.
<b>Organizing</b> FBAO ●————— OBA	FBAO is responsible for the elaboration of the formats and documents used to participate too the tenders or grants.
<b>Executing</b> FBAO ●————— OBA	The formal application to the tenders and grants and following the process is on behalf of FBAO.
<b>Controlling</b> FBAO ●————— OBA	It is responsibility of FBAO to monitor the results and disclose the use of the funds received from the tenders or grants

*Table 15. As-Is status of the allocation of responsibilities for the channel Invitations to tender and grants with participation at the national level.*

##### Tenders and grants at the regional level

Phase	Explanation
<b>Planning</b> FBAO —————● OBA	The OBA have the autonomy to participate to any tender or grant that is promoted in their territory.
<b>Organizing</b> FBAO ●————— OBA	FBAO is responsible for the elaboration of the formats and documents used to participate to the tenders and grant at any level.
<b>Executing</b> FBAO —————● OBA	The formal application to the tenders and grants and following the process is on behalf of OBA.
<b>Controlling</b> FBAO —————● OBA	It is responsibility of OBA to monitor the results and disclose the use of the funds received from the tenders or grants.

*Table 16. As-Is status of the allocation of responsibilities for the channel Invitations to tender and grants with participation at the regional level.*

## 5x1000

Phase	Explanation
<p><b>Planning</b></p> <p>FBAO ●————— OBA</p>	The initiative to active 5x1000 as a channel for fundraising for Banco Alimentare was developed in FBAO
<p><b>Organizing</b></p> <p>FBAO ●————— OBA</p>	FBAO provides the information to the citizens so they can decide to contribute through this channel.
<p><b>Executing</b></p> <p>FBAO —●———— OBA</p>	The promotion and communication of this channel is autonomy of FBAO and the OBA.
<p><b>Controlling</b></p> <p>FBAO ●————— OBA</p>	Measuring and controlling the results and performance is responsibility of FBAO.

*Table 17. As-Is status of the allocation of responsibilities for the channel 5x1000.*

## CSR

Phase	Explanation
<p><b>Planning</b></p> <p>FBAO ●————— OBA</p>	FBAO is entitled for the initial steps of the collaboration between companies and Banco Alimentare due to its relevance and benefits
<p><b>Organizing</b></p> <p>FBAO ●————— OBA</p>	FBAO is responsible to decide the schedule and organization in the realization of the projects and activities with the companies
<p><b>Executing</b></p> <p>FBAO ●————— OBA</p>	The operative part of the process is on behalf of FBAO or the company depending on the precedent organization
<p><b>Controlling</b></p> <p>FBAO ●————— OBA</p>	FBAO keeps track on the results and performance of the projects developed with the companies

*Table 18. As-Is status of the allocation of responsibilities for the channel CSR.*

## Big donors

Phase	Explanation
<p><b>Planning</b></p> <p>FBAO ●————— OBA</p>	Given the importance of the relationship with big donors such as private persons and organizations, the initial step of the process is on FBAO.
<p><b>Organizing</b></p> <p>FBAO ●————— OBA</p>	FBAO decides the timing and the allocation of resources to maintain the relation with the donors.
<p><b>Executing</b></p> <p>FBAO ●————— OBA</p>	The contact and operational activities for fundraising are competence of FBAO.
<p><b>Controlling</b></p> <p>FBAO ●————— OBA</p>	FBAO is responsible for the control and maintenance of the relation with big donors, as well as computing the results resulting from it.

*Table 19. As-Is status of the allocation of responsibilities for the channel Big donors.*

## Local events

Phase	Explanation
<p><b>Planning</b></p> <p>FBAO —————● OBA</p>	The initiative and proposal to develop a local event for fundraising is autonomy of the OBA.
<p><b>Organizing</b></p> <p>FBAO ●————— OBA</p>	FBAO establishes the guidelines and standards that the OBA must respect when they perform the events.
<p><b>Executing</b></p> <p>FBAO —————● OBA</p>	The operational activities of the event are responsibility of the OBA.
<p><b>Controlling</b></p> <p>FBAO ●————— OBA</p>	FBAO has the duty of controlling the compliance of rules and standards, while the OBA are entitled to measure and control the results and benefits as a consequence of the events.

*Table 20. As-Is status of the allocation of responsibilities for the channel Local events.*

### Private Direct E-Mailing (DEM)

Phase	Explanation
<p><b>Planning</b></p>	FBAO is responsible for the initial steps of the process because it has all the resources and the means necessary to deploy it.
<p><b>Organizing</b></p>	FBAO decides how to communicate with the regular donors and potential donors, considering the communication needs of every OBA.
<p><b>Executing</b></p>	FBAO sends directly the communications to the donors because it has the appropriate informatic means to do it.
<p><b>Controlling</b></p>	Measuring the performance and results of the channel is responsibility of FBAO.

Table 21. As-Is status of the allocation of responsibilities for the channel Private Direct Mailing (DEM).

### Private Website

Phase	Explanation
<p><b>Planning</b></p>	FBAO has proposed the implementation of an alternative to receive donations directly from its website and the website of the OBA.
<p><b>Organizing</b></p>	Each entity, whether FBAO or OBA is responsible to manage the channel and the use of the website to promote it.
<p><b>Executing</b></p>	The donation received through the website is own by every entity and they are autonomous of the use on the benefit of the network.
<p><b>Controlling</b></p>	Both FBAO and the OBA are responsible to measure and control the benefits resulting from this channel.

Table 22. As-Is status of the allocation of responsibilities for the channel Private Website.

Analyzing the allocation of responsibilities for every channel of the Fundraising process provides the following common results.

- For the channels that have a national relevance or connotations, for instance the Invitations to tender and grants announced at the national level, CSR, Big donors and Private Direct E-Mailing the allocation of responsibilities belongs to FBAO, precisely

because it is the representative of the network at the national level, it has the knowledge of the requirements of the network, and it has the resources and capabilities to participate and realize projects that will provide funds to the network.

- Instead, if the Invitations to tender and grants, events and projects have a regional connotation, meaning they can only be elaborated and performed by the local entities, the OBA are responsible to participate and organize the channels for fundraising.
- Even though the OBA have the autonomy to participate and develop events in search for funds for their economic survival, they must respect the guidelines and standards established by FBAO, and they must report the results obtained with every channel. Consequently, most of the organizing and controlling responsibilities are on behalf of FBAO.

#### 4.2.4 Communications

Phase	Explanation
<p style="text-align: center;"><b>Public relations</b></p> <p>FBAO  OBA</p>	<p>FBAO is responsible for the communication with interested public stakeholders at the national level, while the OBA are autonomous for their communications in their territories.</p>
<p style="text-align: center;"><b>Website and social media</b></p> <p>FBAO  OBA</p>	<p>FBAO and the OBA manage their websites and profiles in social media with autonomy.</p>
<p style="text-align: center;"><b>Newsletter</b></p> <p>FBAO  OBA</p>	<p>FBAO and the OBA send newsletter to their donors and other stakeholders whenever they consider appropriate. Nevertheless, for special events or holidays FBAO is entitled to send the newsletter on behalf of the OBA.</p>
<p style="text-align: center;"><b>Corporate Branding</b></p> <p>FBAO  OBA</p>	<p>The image and reputation of Banco Alimentare is controlled by FBAO by checking every day public news and reports about the organization</p>

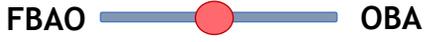
*Table 23. As-Is status of the allocation of responsibilities for the process Communications.*

The process of Communication is characterized by a high degree of autonomy for FBAO and the OBA when it comes to manage the channels they use to communicate with interested stakeholders. For instance, every actor is autonomous to manage its website and profile in

social media as long as they respect the standards set by FBAO, for instance with the use of the logo of the organization and the communication of the mission.

When the impact and connotation of the communication is for the national level, the competence is for FBAO, for instance if the network desires to send a newsletter to all the donors at once for the same event or when it comes to exert control on the image and reputation of Banco Alimentare.

#### 4.2.5 Administration and Management Control

Phase	Explanation
<b>Administrative management of personnel</b> 	FBAO and the OBA is responsible for the administrative management of their personnel, elaborating the contracts and affiliation of volunteers
<b>Budgeting and preparation of financial statements</b> 	Every actor is responsible for the elaboration of their own budget and financial statements, which are later reported to FBAO for matters of control.
<b>Contractual and legal support</b> 	Due to the availability of resources, knowledge and representation of the network, FBAO is entitled to perform contractual and legal support.
<b>Management Control System</b> 	The information system that is used by the OBA for the registration of their operations is managed by FBAO.

*Table 24. As-Is status of the allocation of responsibilities for the process Administration and Management Control*

The process of Administration and Management Control can be somewhat centralized, according to the activities presented in the previous table. FBAO and the OBA are responsible for the administrative management of the personnel and the elaboration of the budget and financial statement required to report the activities and results of every actor year by year. As every OBA is legally and economically independent from each other and FBAO, they should present the budget and financial statements to the latter, nevertheless as this is an activity that represent a burden for the OBA because they do not have the capabilities or the time required to elaborate these documents, FBAO also supports them in this matter.

There are some OBA well-structured that can dedicate resources for the elaboration of this documents, moreover because they have embraced the use of the financial modules of the information system SAP; other realities have decided to outsource this responsibility and others need the support of FBAO. As FBAO is the legal representative of the network, it also has the responsibility to exert legal and contractual support to the OBA. Finally, the management of the information system is on behalf of FBAO because it is the central body that coordinates and supports the network, therefore it must be able to verify all the activities performed by every OBA in terms of reception and distribution of products through SAP.

**4.2.6 Management of the Relationship with Charitable Institutions**

Phase	Explanation
<b>Request for collaboration</b> 	The OBA are contacted by the charitable institutions to establish partnership and collaboration with Banco Alimentare.
<b>Request for agreement</b> 	The requirements and characteristics that the charitable institutions must satisfy are stated and consolidated by FBAO.
<b>Approval</b> 	The OBA are responsible for the verification and approval of the requirements demanded to the charitable institutions.
<b>Relationship management</b> 	The development and management of the partnership is entitled to the OBA, who decide how to supervise and control the charitable institutions.

*Table 25. As-Is status of the allocation of responsibilities for the process Management of the relationship with charitable institutions.*

The process of managing the relationships with charitable institutions is mostly decentralized. Establishing the collaboration with them starts when they contact Banco Alimentare to begin a partnership for the distribution of products to the people in need. It is faculty of the OBA to verify the requirements and capabilities of the charitable institution to be able to receive products from the organization, nevertheless always respecting the standards set by FBAO.

The OBA are entitled to exert some control and verification on the activities of the charitable institutions, to make sure that they guarantee the integrity of the products distributed to them

and that they use the products on the benefits of the people in need. There are some OBA that supervise the institutions once a month, others one a year but this depends on how they are structured and how they manage their collaborations.

**4.3 Development of a conceptual framework**

Considering the objective #3 of identifying the most relevant dimensions and indicator of performance for every process and corresponding sub-process, the following table represents a framework proposed to achieve this objective. As explained in the methodology, it considers the 4 main functions of managing organizational processes, the process description, the allocation of responsibilities and the dimensions for performance.

<b>Sub-process:</b>	<b>Planning</b>	<b>Organizing</b>	<b>Executing</b>	<b>Controlling</b>
<b>Dimension</b>				
<b>Indicator</b>				
<b>Actor As-Is</b>				

*Table 26. Framework to identify the dimensions and indicator of performance.*

Applying the framework to every sub-process provides a set of KPIs to measure and monitor the performance, besides valuable insights can be obtained analyzing the interactions between the phases and the relations between the dimensions for performance.

**4.4 Application of the framework**

Apply the framework previously mentioned to the process of Procurement, will provide Banco Alimentare a set of guidelines to identify the link between the level of centralization/decentralization with the performance, as well as identify possible areas for improvement. The following results are shown per sub-process or source of Procurement with the respective analysis, finally a synthesis of the set of dimensions and KPIs obtained for the Procurement process is presented.

## Industry at the national level

Sub-process: Industry at the national level	Planning	Organizing	Executing	Controlling
Dimension	- Growth of the supply base - Balanced product mix - Volume of donations	- Level of formalization of the recovery process of surplus food	- Time - Cost	- Rigorousness - Continuity of donors
KPI	- % growth # donors /food category of product - Kg recovered /food category of products - Average Kg recovered/donor	- Rotation index of products - Frequency of donations - Communication approach	- Days to recover surplus - Cost/Kg recovered	- Average Kg recovered/donor - % Kg distributed/ Kg recovered
Actor As-Is	FBAO	FBAO	FBAO/OBA	FBAO

*Table 27. Framework applied to the sub-process Industry at the national level.*

The framework applied to the channel industry at the national level provides the following interesting results:

For the planning phase, the most relevant dimensions of performance are: to increase the effectiveness of the channel by increasing the growth of the supply base intended as the number of donor, and consequently the quantity of product entering the network. The second dimension is to improve the balance of the product mix recovered from the industry, therefore guaranteeing an adequate proportion of all the product categories (fresh product, frozen products, beans, meats, sweets, food for children and others) in terms of kilograms based on the nutritional value and provide a better service to the charitable institutions. The indicators to measure these dimensions are:

- % growth of the number of donor/ food category of product
- Kg recovered/food category of product
- Behavior of the average Kg recovered/donor

Meanwhile, for the organizing phase the most relevant dimension is the level of formalization of the recovery process, which is conditioned by the way the companies communicate to Banco Alimentare the amount of surplus they have available in their warehouses. If this communication is done periodically (once a week or once a month) then Banco Alimentare is capable to organize better the scheduling of the withdrawals, and reduce the amount of resources implemented for the cession of the product. With this approach, Banco Alimentare can save money, time, optimize the number of transports, optimize the space in the trucks and in the warehouses to improve the operations. Moreover, an additional consequence is that with this approach the network increases the quantity of product recovered because it forces the companies to be punctual, organized and the surplus will be more available to be donated to food banks. This methodology is currently implemented with more or less half of the industries at the national level. The indicators that correspond to this dimension are:

- Rotation index/product category in the warehouses of the OBA: a higher rotation index means that the product category is being more distributed to the charitable institutions, therefore the collaboration with the donors is more productive.
- Frequency of donations
- Communication approach

It is possible to relate the last two indicators with a matrix presented in Figure 2, and proposed by Garrone et al. (2015), describing the relationship between a company donating surplus and a non profit organization receiving it. The relationship is structured by two factors, the frequency of donations which can be sporadic or periodic; and the communication approach between the two actors which can be reactive if it is initiated by the non profit organization (Banco Alimentare) or reactive if it is initiated by the company.

The matrix can be used to cluster the donors in 4 categories, for which the preferred category is the one represented by Periodic donations with a Proactive approach of communication. The matrix gives useful insights for developing the right communication strategy depending on the donor. In this way, if more companies can be managed with a proactive approach, Banco Alimentare can sustain all the benefits previously mentioned

Frequency of donations	Periodic	Reactive approach Periodic donation	Proactive approach Periodic donation
	Sporadic	Reactive approach Sporadic donation	Proactive approach Sporadic donation
		Reactive	Proactive
Communication approach			

*Figure 2. Relationship Company – Nonprofit Organization*

*Adopted from: Garrone et al., (2015). Surplus food management. Against food waste*

The most relevant dimensions for the executing phase are the time and cost. Time is more related to fresh products, because the speed and readiness for their recovery will determine the degree of availability to redistribute them to the charitable institutions. Meanwhile, the cost is associated to other type of products that can be stored longer periods of time, for which there is high availability and lower risk of damaging or expiration. Currently, for this type of products, Banco Alimentare takes advantage of agreements with logistic services providers, because they transport the surplus to the warehouses at lower rates, but according to the scheduling decided by the logistic providers for them to saturate the truck capacity and optimize the transport.

The indicators that represent these dimensions are:

- Days to recover the surplus: meaning the time elapsed between the request of withdrawal and the actual withdrawal from the company’s warehouse.
- Cost/Kg recovered: including all the relevant costs for the recovery of the surplus

Finally, the dimensions for which the controlling phase is interested are: the rigorousness of the process and the continuity of donors. The rigorousness of the process is considered because is important to guarantee that the quantity of products donated by the companies is the same as the quantity of products stored in the warehouses and distributed to the charitable institutions. Regarding the continuity of donors, FBAO keeps track of the quantity donated

per donor in a certain period, to identify which companies are more actively involved and which are reducing the donations of surplus.

The indicators representing this phase are:

- % Kg recovered/Kg distributed
- Average Kg recovered/donor

Keeping track of the donations recovered by donor year by year, Banco Alimentare get a classification of the companies in terms of the volumes and with this information, the organization knows where to focus for the planning process. For instance, if a company has considerably reduced the donations, then Banco Alimentare investigates the reasons why this has happened and try to collaborate with it to increase the amount of donations.

### Industry at the regional level

<b>Sub-process: Industry at the regional level</b>	<b>Planning</b>	<b>Organizing</b>	<b>Executing</b>	<b>Controlling</b>
Dimension	- Growth of the supply base - Balanced product mix - Volume of donations	- Level of formalization of the recovery process of surplus food	- Time - Cost	- Rigorousness - Continuity of donors
KPI	- % growth # donors/food category of product - Kg/food category of products - Average Kg recovered/donor	- Rotation index of products - Frequency of donations - Communication approach	- Days to recover surplus - Cost/Kg recovered	- Average Kg recovered/donor - %Kg distributed/Kg recovered
Actor As-Is	OBA	OBA	OBA	FBAO

*Table 28. Framework applied to the sub-process Industry at the regional level.*

The framework applied to the sub-process of Industry at the regional level provides the same results as the sub-process of Industry at the national level in terms of dimensions and indicators for performance, meaning that the organization considers this information as

representatives for both sub-processes. The main difference between them is the actor responsible for every phase.

As can be identified from the tables in the previous section 4.2.1 in Tables 8 and 9; FBAO is entitled to manage the relationship with industries at the national level, for reasons of reputation, decisional power and availability of resources and capabilities. Given that FBAO knows all the requirements for the different OBA, it has greater capacity to coordinate and have a better overall vision of the network. Meanwhile, the relationship with industries at the regional level is managed by the respective OBA due to their proximity to the industries, the closeness to the territory, the better flexibility and readiness that the OBA have respect to FBAO for the interaction with these industries.

It is crucial that the organization considers all the factors previously mentioned in the analysis, because they have a direct impact on the wellbeing and sustainability of the relationships.

### Producer Organizations

Sub-process: Producer Organizations	Planning	Organizing	Executing	Controlling
Dimension	- Flexibility - Growth of the supply base	- Flexibility	- Time - Quality of products	- Quality of products
KPI	- # vehicles available for distribution - Availability of parallel distribution channels - Volume capacity to storage - Increase # producer organizations	- # vehicles available for distribution - Availability of parallel distribution channels - Volume capacity to storage	- Days to recover surplus	- % Kg damaged product/ Kg total product donated
Actor As-Is	FBAO	FBAO	OBA	FBAO

*Table 29. Framework applied to the sub-process Producer Organizations.*

The framework applied to the sub-process of Producer Organizations provides the following results:

There are several factors that increase the complexity to manage this sub-process. On the one hand, the producer organizations for fruits and vegetables must comply and follow the regulations established by the European Community if they are to be beneficiary of the funds destined for the recovery of this kind of products. On the other hand, the existence of surplus is conditioned to external factors such as: the seasonality of the products, crisis on the market, capabilities of the producer organizations and their willingness to collaborate with Banco Alimentare.

This is to say that the planning phase for this scenario is quite complex and the main dimensions for performance consist on increasing the flexibility to recover as much product as possible, and increase the growth of the supply base. Increase the flexibility means increase the reception, storage and distribution capacities of the network. Given that such products are delivered by the producer organizations to the regional warehouses of Banco Alimentare, the latter must be flexible enough to store and distribute as much product as possible. The growth of the supply base is related to the increasing number of producer organizations collaborating with Banco Alimentare, and it is crucial to maintain the levels of performance and increase the recuperation of such products that contribute greatly to the nutritional value of the assistance provided to the persons in need. Additionally, to increasing the supply base, Banco Alimentare should identify the perfect timing to establish the collaboration with such organizations, for instance when crisis in the market occur and there is high availability of surplus and take advantage of more opportunities for product donations. The indicators used to measure this dimension are:

- # vehicles available for distribution
- Availability of parallel distribution channels
- Volume capacity to storage
- Increase # producer organizations

The organizing phase also considers flexibility as the main dimension for performance, therefore, for the allocation of resources to carry on the activities for reception, storage and distribution of products, the previously mentioned indicators need to be considered.

For the executing phase, time is the most important dimension, indeed, this sub-process supplies the network with fruits and vegetables that have special considerations for their

handling and storage to avoid damages and expiration. The activities need to be performed with proper timing and ensuring the quality of the products. The indicator to measure the performance is:

- Days to recover the surplus: even though the delivery of product to the regional warehouses of the OBA is performed by the producer organizations, special attention must be given to the time needed to deliver the product to storage, reason why the communication and coordination between producer organizations and Banco Alimentare must be adequate to avoid losses of product in the process.

The controlling phase considers the quality of the product as the main dimension. One aspect is to control the proper conditions and organoleptic characteristics of the product, but as this sub-process has the intervention of the European Community, Banco Alimentare should guarantee that the producer organizations can comply with the standards and regulations to reach a satisfactory redistribution of the product. The indicator to measure this dimension is:

- Kg of product damaged on inbound transportation: gives the idea of how adequate is the handling of the product is on this process.

### **Siticibo (restaurants and canteens)**

<b>Sub-process: Siticibo restaurant and canteens</b>	<b>Planning</b>	<b>Organizing</b>	<b>Executing</b>	<b>Controlling</b>
Dimension	- Growth of the supply base - Awareness of the program	- Efficient recovery of surplus	- Time - Cost	- Compliance with sanitary regulations
KPI	- Increase # restaurants and canteens	- Cost/Kg recovered - Frequency of donations	- Time to recover and distribute the surplus [hours, days] - Cost/Kg recovered	- Frequency of irregularities with sanitary regulations
Actor As-Is	FBAO/OBA	OBA	OBA	FBAO/OBA

*Table 30. Framework applied to the sub-process Siticibo (restaurants and canteens).*

The framework applied to this channel provides the following results:

The planning phase considers as the most relevant dimensions for performance the growth of the supply base, intended as the increase in the number of restaurants and canteens that donate surplus to Banco Alimentare. The other dimension concerns the awareness of the program Siticibo in the national territory. Currently, 3 of the 21 OBA cover more than 70% of the products resulting from this channel.

The indicator to measure the performance in these dimensions is:

- Increase in the number of restaurants and canteens collaborating with Banco Alimentare. The indicator can be calculated for all the network and for every OBA, to identify the development of the program in different regions.

For the organizing phase, the main dimension is related to the efficiency recovering the surplus; given that for most than 80% of the cases, the OBA are entitled to recover the products with their own vehicles and deliver to the regional warehouse or directly to the facilities of the charitable institutions.

The indicators related to this dimension are:

- Cost/Kg recovered
- Frequency of withdrawals: this indicator gives an idea of the coordination with the restaurants and canteens, if the withdrawals are done periodically and organized, the process will be more efficient and will save resources.

The executing phase is more focused on the dimensions for time and cost. Time is crucial in this sub-process because the product are cooked meals, bread, fruits and vegetables that must be distributed and consumed quickly to avoid becoming wasted. Cost is relevant for the operational activities because Banco Alimentare is responsible for the actual withdrawal of the surplus, therefore the use of vehicles and resources is a great component of the cost. The indicators to measure the performance in this regard are:

- Time to recover and distribute the surplus: the time can be measured in hours if the surplus is directly delivered to the charitable institutions for immediate consumption, or in days if the surplus is stored in the regional warehouses.

- Cost/Kg recovered: the cost in this case should consider all the relevant cost of the operations, not only transportation cost but also administrative cost

For the controlling phase, the most relevant dimension is the compliance with sanitary regulations. Cooked meals, bread, fruits and vegetables recovered present high risk of damage and contaminations, therefore all the activities needed for their redistribution need to be realized respecting the sanitary regulations. Quality controls must be made from the training the volunteers in the normative HACCP (Hazard Analysis and Critical Control Points) to the verification of the sanitary conditions in restaurants, canteens, warehouses of the OBA and facilities of charitable institutions. The indicator related to this dimension is:

- Frequency of irregularities with sanitary regulations: with this indicator, it is possible to identify the compliance with the regulations controlling the activities of the actors involved.

### Siticibo (GDO)

Sub-process: Siticibo (GDO)	Planning	Organizing	Executing	Controlling
Dimension	- Complexity of the process - Coordination of the withdrawal of surplus at the point of sale	- Complexity of the process - Coordination of the withdrawal of surplus at the point of sale	- Time - Cost	- Compliance of requirements and regulations - Rigorousness - Quality of products
KPI	- # problems with charitable institutions	- # problems with charitable institutions	- Time to recover and distribute the surplus [hours, days] - Cost/Kg Recovered	- # problems with charitable institutions
Actor As-Is	FBAO/OBA	OBA	OBA	FBAO/OBA

*Table 31. Framework applied to the sub-process Siticibo (GDO).*

The framework applied to the sub-process Siticibo (GDO) provides the following results:

Manage the complexity of this channel is a challenge for the organization. Starting at the planning phase, the main dimension for performance are to reduce the complexity of the process and improve the coordination for the withdrawal of the products at the point of sale

of retailers and wholesalers. Charitable institutions are entitled to recover the products directly at those points of sale, but Banco Alimentare is responsible to coordinate which charitable institutions recover surplus from which points of sale. However, it is very challenging to manage a vast number of entities with a single logic because they are diverse from each other and they work differently, for instance, they use different types of formats and documents that are shared with Banco Alimentare to register the activities. This level of variety is very complex to manage.

The indicator that can represent the performance in this dimension is:

- # problems with the charitable institutions: problems and inconveniences can be found during operations, such as delays, duplication of activities, misalignments in documentation, miscommunications and others. As long as the number of problems keeps increasing, Banco Alimentare should put more efforts for planning and organizing better the channel.

The organizing phase considers the same dimensions and indicator for performance as planning. To be able to perform these phases properly, Banco Alimentare should consider several factors such as: select the adequate institutions having the vehicles with adequate isolations and refrigerated storage capacity, the volunteers responsible to handle the product should have the knowledge and certification related to sanitary regulations and they should be trained to verify qualitatively and quantitatively the surplus recovered.

The executing phase considers time and cost as the principal dimensions for performance. Time is crucial because most of the products recovered are fresh products with close expiration dates, therefore their immediate redistribution is imperative before they become waste. Cost is an important indicator of the amount of resources dedicated for the realization of the process. The indicator that measure the performance in this regard are:

- Time to recover and distribute the surplus: the time can be measured in hours if the surplus is directly delivered to the charitable institutions for immediate consumption, or in days if the surplus is stored in the regional warehouses.
- Costs/Kg recovered: this indicator considers administrative and transportation costs

The dimension for which the controlling phase are interested is the compliance of requirements and regulations, rigorousness and quality of products. Given that most of the operational activities are entitled to the charitable institutions, Banco Alimentare need to exert control over them to guarantee they have the logistics capabilities to fulfill the demands of the donors in the first place, and comply with the regulations. Rigorousness and quality of the products in the process are evidenced with qualitative and quantitative verifications that must be done by the charitable institutions and later communicate to Banco Alimentare in the form of the Document of Transport. The indicator used in this regard is the same used for the planning and organizing phases.

- # problems with the charitable institutions: special attention can be given to the control of the documents that the charitable institutions deliver to Banco Alimentare, because it is a recognized bottle neck of the process for the work it represents.

## AGEA

Sub-process: AGEA	Planning	Organizing	Executing	Controlling
Dimension	- Compliance with the requirements and regulations - Volume of products	- Coordination of the delivery of products to the OBA	- Control of documents	- Compliance with the requirements and regulations
KPI	- # charitable institutions assisted - Kg product/year	- Cost/Kg product assigned	- # sanctions due to wrong documentation	- # sanctions due to wrong documentation - # charitable institutions assisted - Kg product/year
Actor As-Is	FBAO	FBAO	FBAO	FBAO

*Table 32. Framework applied to the sub-process AGEA.*

The framework applied to the sub-process AGEA provides the following results:

For the planning phase, the most relevant dimensions for performance are the compliance with the requirements established by the European Union and the volume of product assigned from this source. The compliance with the requirements applies for the OBA and the charitable institutions, it will guarantee that more institutions are recognized and registered with the Ministry of Agriculture to be able to receive the products coming from european

funds. The volume of products is also a relevant dimension because this sub-process represents close to half of all the product received by the organization and conditions the survival of several OBA that are highly dependent of this channel to assist charitable institutions. The indicators to measure the performance in this phase are:

- # charitable institutions assisted
- Kg products/year

The organizing phase considers as the main dimension the coordination of the delivery of products to the OBA, as most of the product assigned by AGEA are delivered to the warehouse in Parma, the organization must decide the best way to distribute the products to the regional warehouses. If this is not the case, Banco Alimentare can coordinate with the supplying companies to deliver the products directly to the regional warehouses; either way the coordination of the deliveries must be efficient to avoid spending too many resources. The indicator to measure the performance is:

- Cost/Kg product assigned

The executing phase is interested in the control of the documentations as the main dimension for performance, given that this sub-process is highly regulated and the registration of the activities must be done properly to report to the Ministry of Agriculture and the European Union. The indicator to measure this dimension can be:

- # sanctions registered due to wrong documentation: the indicator gives an idea of the conformity to the operative procedures and regulations imposed by the Ministry of Agriculture and the European Union for the registration and control of the cession of the product. If anomalies are to be found, the European Union can impose sanctions to the organization.

The controlling phase also considers the compliance with requirements and regulations as the main dimension for performance, because this sub-process is highly supervised by the Ministry of Agriculture and the European Union. Therefore, it is crucial to keeping control on the registration of documents used in the process, as well as in the results obtained with this channel. The indicators that can measure the performance have been mentioned before:

- # sanctions registered due to wrong documentation
- # charitable institutions assisted
- Kg products/year

## GNCA

Sub-process: GNCA	Planning	Organizing	Executing	Controlling
Dimension	- Volume of donations - Growth of the supply base	- Availability of resources	- Volume of donations	- Rigorousness - Continuity of points of sale
KPI	- Kg collected/ point of sale - # volunteers/ point of sale	- # volunteers/ point of sale	- Kg collected/ point of sale - # volunteers/ point of sale	- % Kg collected/ Kg distributed - Kg collected /point of sale
Actor As-Is	FBAO	FBAO	OBA	FBAO

*Table 33. Framework applied to the sub-process GNCA.*

The framework applied to the sub-process GNCA provides the following results:

For the planning phase, the most relevant dimensions of performance are: the volume of donations, intended as the amount of donations collected in the supermarkets in the national territory; and the growth of the supply base, in this case the number of points of sale of the supermarket registered and collaborating with Banco Alimentare for the realization of the event. The indicators to measure the performance are:

- Kg collected/point of sale: this indicator should be measured in a yearly basis to identify the behavior of the donations per point of sale and determine if the increase in the volumes is due to an increase in the points of sale, or because the work of the volunteers is better in the existing points of sale.
- # volunteers/point of sale: this indicator gives an idea of the amount of resources available to receive the donations of the citizens.

The organizing phase considers the availability of resources as the main dimension for performance. Given the huge amount of product (close to 8.000 tons of food) that are collected in one day throughout the national territory, Banco Alimentare must ensure the availability of resources to manage those products. Resources such as workforce as the

number of volunteers, vehicles, boxes and packaging to transport to donations. Volunteers are perhaps the most valuable resource for this event because in every point of sale they are responsible to incentivize the citizens and collect donations. The indicator in this regard is:

- # volunteers/point of sale

The executing phase is aligned with the planning phase considering the same dimension for performance, the volume of donations. It is important to highlight that the first objective is not to increase the number of supermarkets or points of sale, but to ensure enough number of volunteers for every supermarket to make the most out of this event. The indicators to measure the performance are the same used for the planning phase.

The controlling phase is interested in the following dimensions: rigorousness to control the event, viewed as the level of supervision for the management of the resulting donations because it is important to guarantee that all the product collected are distributed to the charitable institutions. A second dimension is related to the continuity of points of sale, by controlling which supermarkets have stopped or reduced the collaboration with Banco Alimentare, the organization can investigate the reasons of the incident, identify areas for improvement and dedicate more resources if needed to maintain the relationships.

This event has been implemented since 1997, reason why every region carries on the activities respecting the standards and guidelines stated by FBAO, therefore even though some supervision is realized for this matter is not the main concern for the controlling phase. The indicators to measure the performance are:

- % Kg collected/ Kg distributed
- Kg collected /point of sale

#### **4.5 Synthesis of the set of Dimensions and KPIs obtained for the Procurement process**

The results of the previous section show that there are considerable differences between the sub-process of Procurement in terms of the dimension of performance they consider as most relevant. Indeed, all the sub-processes cannot be managed with the same approach because they have their own distinguishing characteristics.

Nevertheless, some common points arise from the results and it is worth to gather all the dimensions and indicators of performance for a further analysis. Merging the results for every channel it is possible to cluster the dimension and indicators in three categories, as it is shown in Tables 34 and 35. The category of Effectiveness comprises the dimensions and indicators whose main purpose is to provide a better service to all the stakeholders involved, being the donating companies, public institutions, charitable institutions and people in need. The category of Efficiency is related to all the dimensions and indicators that condition the realization of activities with the best use of resources. Finally, the category of Volume comprises the dimensions and indicator representing the result of the operations in terms of the quantity of product the organization is able to recover and distribute to the people in need.

<b>Category</b>	<b>Dimension</b>
Effectiveness	<ul style="list-style-type: none"> <li>- Availability of resources</li> <li>- Balanced product mix</li> <li>- Compliance with the requirements and regulations</li> <li>- Complexity of the process</li> <li>- Continuity of donors</li> <li>- Control of documents</li> <li>- Flexibility</li> <li>- Growth of the supply base</li> <li>- Level of formalization of the recovery process of surplus food</li> <li>- Quality of products</li> <li>- Rigorousness</li> <li>- Time</li> </ul>
Efficiency	<ul style="list-style-type: none"> <li>- Coordination of the withdrawal of surplus at the point of sale</li> <li>- Coordination of the delivery of products to the OBA</li> <li>- Cost</li> <li>- Efficient recovery of surplus</li> <li>- Complexity of the process</li> <li>- Time</li> </ul>
Volume	<ul style="list-style-type: none"> <li>- Awareness of the program</li> <li>- Growth of the supply base</li> <li>- Volume of donations</li> <li>- Volume of products</li> </ul>

*Table 34. Overall set of dimensions for the Procurement process.*

The previous table synthesizes the key dimensions of performance for the different sub-processes or sources of the Procurement process in the realization of their activities. It is unreasonable to consider that a single sub-process can consider all the dimensions as relevant, even more because there are cases when some dimensions and categories of dimensions are contradictory among each other. For instance, taking the dimensions of Volume and Efficiency, if a sub-process desires to increase the volumes of product entering the network it will have to incur in additional costs of transportation and storage, which is contradictory to the logic of efficiency, therefore a tradeoff analysis is needed to evaluate the importance of the dimensions.

It is interesting to notice from the Table 34 that there are more dimensions for the category Effectiveness than for the other two categories, leading to the idea that the organization might give more attention at least from the Procurement process, to being more effective on its operations than being efficient or getting more volumes of product. Nevertheless, because Banco Alimentare is contributing to feed the people in need and at the same time working in such a regulated environment, the organization must ensure a high level of effectiveness in its activities; still considering that it must be efficient with the use of resources and with the purpose of increasing the amount of donations to distribute.

Finally, one more consideration about the set of dimensions of the process, concerns the 4 phases of the management of organizational processes (Planning, Organizing, Executing and Controlling); it can be evidenced from the results in section 4.4 that in several cases, the dimensions that these phases considered as most relevant were different among each other.

For the sub-processes of Producer Organizations, Siticibo (GDO) and AGEA, the phases can be considered as “aligned” because they considered the same dimensions of performance as being the most relevant. This is not to say that for the other sub-processes the phases are not “aligned” or that this behavior necessarily determines a better performance for the sub-process; but it sure is an interesting point of analysis especially when studying the impact of the allocation of competences in the performance of the processes.

The following table represents the whole set of KPIs that were identified applying the framework proposed to the diverse sub-processes of Procurement; but it is important to clarify that not all of the KPIs are related to every sub-process, but it is a merging of results.

Category	KPI
Effectiveness	<ul style="list-style-type: none"> <li>- # problems with charitable institutions</li> <li>- # vehicles available for distribution</li> <li>- # volunteers/point of sale</li> <li>- # sanctions due to wrong documentation</li> <li>- % Kg collected/Kg distributed</li> <li>- Availability of parallel distribution channels</li> <li>- Communication approach</li> <li>- Days to recover surplus</li> <li>- Frequency of donations</li> <li>- Frequency of withdrawal</li> <li>- Frequency of irregularities with sanitary regulations</li> <li>- Kg collected/ # volunteers</li> <li>- Kg/ food category of products</li> <li>- Kg damaged product in inbound transportation</li> <li>- Rotation index of products</li> <li>- Volume capacity to storage</li> </ul>
Efficiency	<ul style="list-style-type: none"> <li>- Cost/ Kg product assigned</li> <li>- Cost/Kg recovered</li> <li>- Days to recover surplus</li> <li>- Time to recover and distribute the surplus [hours, days]</li> </ul>
Volume	<ul style="list-style-type: none"> <li>- # charitable institutions assisted</li> <li>- # volunteers/point of sale</li> <li>- % growth in # donors/food category of product</li> <li>- Average Kg recovered/donor</li> <li>- Increase # producer organizations</li> <li>- Increase # restaurants and canteens</li> <li>- Kg collected/ point of sale</li> <li>- Kg product/year</li> </ul>

*Table 35. Overall set of KPIs for the Procurement process.*

Using this overall set of KPIs can be used to measure and monitor the performance of the whole spectrum of activities of the Procurement process. Nevertheless, for a performance measurement system to be consistent and pertinent with the result, it should use an adequate number of KPIs to provide a comprehensive view of the performance.

Therefore, to evaluate the impact of the allocation of responsibilities in the performance of every sub-process, Banco Alimentare should use the framework proposed in the section **4.3**

considering also the pertinence and availability of information to narrow the set of KPIs and obtain better result with a comprehensive approach.

The results obtained in the section **4.4** of the present study constituted an instrument, a set of guidelines that can be used by the organization to measure, monitor and improve the performance.

Banco Alimentare can make use of the instrument with the following steps:

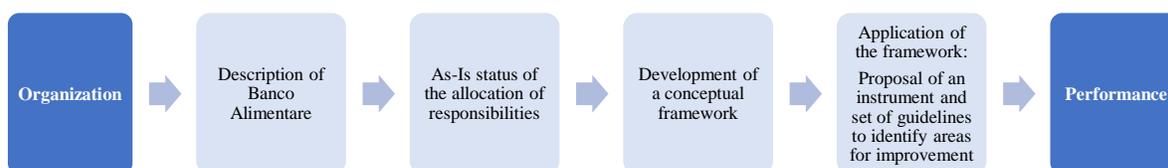
- I. Consider the set of KPIs provided by the framework for a specific sub-process in section **4.4**.
- II. Make a selection of the KPIs that can be measured with the data available for the network.
- III. Measure the performance of FBAO and the OBA with respect to the KPIs for a specific phase of the sub-process.
- IV. Compare the results obtained for FBAO and the OBA.
- V. Decide if the current allocation of responsibilities bring the most favorable performance for the network. If not, the phase under analysis is a potential area to improve the performance by reallocating the competences between FBAO and OBA.

To finalize, the results that can be obtained from this instrument are not absolute and they need validation with the opinion of expert within the organization and be further analyzed, besides that, they should be complemented with qualitative factors that cannot be measured quantitatively with indicators, but that are worth to include in the analysis such as the wellbeing of relationships with the donors, the territoriality of the OBA, the decisional power of FBAO and others.

## Chapter 5: Conclusions

### 5.1 Conclusions and framework proposal

With the main purpose to analyze the organizational structure of Banco Alimentare in order to optimize the performance, the outcomes of this research can be described according to the logic depicted in Figure 3. The figure considers two focal points of the analysis, Organization and Performance, and connects them through the main outputs obtained in the study.



*Figure 3. Scheme of results.*

The first output consisted of a detailed description of Banco Alimentare: by knowing the competences and responsibilities of its main actors, Fondazione Banco Alimentare ONLUS (FBAO) and the regional food banks (Organizzazione Banco Alimentare, OBA), it is easier to understand how the organization works. It is evidenced that FBAO, being the central body representing the network, performs more strategic (guiding, planning, supervising) than operational activities, while the OBA performing more operational activities due to their proximity to the territory and the contact with the charitable institutions. The heterogeneity of the OBA is recognized in terms of dimension, use and availability of resources, degree of development, degree of implementation of organizational processes and performance.

Banco Alimentare can be considered as a process-based organization, where the key functions and activities can be reunited in the following key organizational processes:

- Procurement
- Warehouse management
- Fundraising
- Communication
- Administration and Management Control
- Management of the relationship with charitable institutions

The processes of Procurement and Fundraising, being two of the most important processes for the network, were analyzed more in depth, considering the different sources of procurement and the channels for fundraising respectively, to ensure completeness in the analysis. The remaining processes were described in terms of their constituting activities.

After the description of the object of study, the following step of the analysis consisted of the diagnosis of the “As-Is” status of the level of centralization/decentralization of the decisions and competences between FBAO and the OBA for every process and corresponding sub-processes or activities.

Several considerations can result from the diagnosis. It emerged that FBAO has more responsibilities related to the planning, organizing and controlling phases of the processes, precisely because it is the body that coordinates, guides and represents the whole organization. In this sense, FBAO is responsible to contact companies, consolidate partnerships, participate to Invitations to tender and grants and realize events that have relevance and impact at the national level, moreover, it is entitled to elaborate the guidelines, develop formats and procedures that must be respected and followed by the regional food banks in the realization of their activities.

On the other hand, the OBA are more entitled to perform operational activities, this is not to say that they do not plan, organize or control their operations; on the contrary, they must do so because they are legally and economically independent from FBAO, but the operative component of their activities has more relevance for the wellbeing of the network, reason why they need the support and guidance from FBAO.

At this point of the research, the connection between the organizational processes and the performance needed to be made, therefore a framework was proposed (evidenced in Table 36), that could relate the description of the processes, the allocation of responsibilities and the most relevant dimensions of performance. Applying the framework to a specific process and its corresponding sub-processes, provides a set of key performance indicators (KPIs) useful to diagnose, measure and optimize the performance of the sub-processes.

<b>Sub-process:</b>	<b>Planning</b>	<b>Organizing</b>	<b>Executing</b>	<b>Controlling</b>
<b>Dimension</b>				
<b>Indicator</b>				
<b>Actor As-Is</b>				

*Table 36. Framework proposed.*

The final output of the study resulted from the application of the framework to the Procurement process. The result is a tool, a set of guidelines to help the organization identify possible areas for improvement to optimize the performance of its processes, hence of the network. The most important element of the instrument is the set of KPIs selected for every sub-process.

The set of guidelines can be summarized in the following steps:

- VI. Consider the set of KPIs provided by the framework for a specific sub-process.
- VII. Make a selection of the KPIs that can be measured with the data available for the network.
- VIII. Measure the performance of FBAO and the OBA with respect to the KPIs for a specific phase of the sub-process.
- IX. Compare the results obtained for FBAO and the OBA.
- X. Decide if the current allocation of responsibilities bring the most favorable performance for the network. If not, the phase under analysis is a potential area to improve the performance by reallocating the competences between FBAO and OBA.

Two relevant points are worth mentioning, the set of KPIs proposed is pertinent because it was elaborated considering the most relevant dimensions of performance for the sub-processes, the relations between those dimensions and an adequate level of precision to measure the performance.

Moreover, the use of the KPIs should be complemented with the consideration of other factors that cannot be easily measured with performance indicators, for instance, the territoriality and closeness in the relationships that can be achieved by the OBA, or the

decisional power and reputation of FBAO; because they have a great impact in the performance of the processes. Therefore, the opinions of experts and directives within Banco Alimentare for the implementation of the instrument in this topic need to be considered.

## **5.2 Theoretical and practical implications**

The scientific contributions of the present study are twofold. First, it is a starting point to cover the gap in the literature for a project with the characteristics that have been discussed in the present document. It is evident the lack of methodologies and studies related to the measurement and improvement of the performance of organizational processes in realities as complex as no-profit organizations and especially food banks.

The complexity relies on the fact that there are plenty of internal and external factors that impact and shape the behavior of such organizations, therefore is not easy to find or structure an approach that consider all those factors at once and that provides significant results of analysis.

The second scientific contribution of the study has been mentioned before, that is to propose an instrument, a set of guidelines that the organization Banco Alimentare can use for decision making processes and its managerial implications. In the case of interest, the decisions consist of evaluating if a reallocation of competences between FBAO and the OBA, will bring benefits in terms of performance for the organization; nevertheless, with the utilization of the mentioned instrument, other managerial implications arise for the interest of Banco Alimentare and other stakeholders.

For instance, an assessment can be realized on the performance indicators that have been currently used by the organization to monitor and communicate its performance, it can happen that the current indicators being used, do not represent the whole picture of the results attained.

Moreover, implementing the methodology with all the regional banks in the territory will increase the visibility of the competences of FBAO, which can have an impact on the engagement of the employees and volunteers in the OBA, if they are shown to be accountable

and more valuable when initiatives and decisions are taken considering also their perspective and points of view.

In the case of external stakeholders, they can also experience changes or improvements in their operations, for instance if the communications between the companies donating products and Banco Alimentare is more organized, the former will be able to save resources such as time and space because the latter will recover the surplus more efficiently bringing benefits for both parties. The charitable institutions can also try to improve their operations to better meet the requirements of Banco Alimentare.

### **5.3 Limitations and opportunities for further research**

Regarding the limits found in the realization of the study there are several considerations. One crucial point is related to the quality of the information gathered through the interviews at the regional banks; Banco Alimentare is composed by 21 regional banks but only 4 of them were selected for the realization of the interviews, because it was not possible to cover all the territory. Hence, there is an opportunity to enrich the analysis collecting more information from the OBA not considered in the interviews which can be done by surveys, questionnaires or virtual interviews.

On the other hand, regarding the implementation of the framework, it was applied only to the Procurement process; thus, even though the logic of the framework is the same if it is applied to the remaining organizational processes, it is an opportunity to consolidate it and provide more elements of analysis to the set of guidelines ultimately proposed.

The quantitative measurement of the performance using the set of KPIs proposed for the Procurement process is another limitation of the study, at the current state of the research it was not possible to gather and organize all the required data to compute the indicators, but certainly is an opportunity to do deeper in the analysis in the attempt also to validate the framework proposed.

Finally, it is worth mentioning that the realization of the study was a challenge both for the research team and for the organization, precisely because a project with those characteristics was never realized before. In the interviews, there were occasions where the answer to the

questions was not easily found as well as the analysis of the information. Nevertheless, it is shown that with the application of managerial concepts and frameworks in a structured way, it is possible to approach a project with such magnitude and arrive to an interesting proposal.

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