# POLITECNICO DI MILANO School of Industrial and Information Engineering

# Master of Science in Management Engineering



# Food banks process and performance management: the case of Banco Alimentare

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"dei centimetri di libri sotto i piedi per tirare la maniglia della porta e andare fuori"

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## **ABSTRACT**

The current paradox between food poverty and waste is still a widespread phenomenon all over the world.

Nowadays, developed countries, increasingly wealthier compared to the past, do have easy access to food and think they can even afford to waste it. Indeed, if we look at European countries, 88 million tons of food are wasted along the supply chain every year, but this turns into an economic loss of 143 billion of Euro.

At the same time, there are almost 870 million malnourished and hungry people most of whom living in developing countries.

In this context, the role of food banks become increasingly relevant. They are organizations that recover surplus food to feed hungry people. The first bank in the world was born in the US in 1966, while in Europe it appeared in Paris in 1984. This type of entity is the no- profit organization which has grown faster compared to all the other existing ones. Therefore, it is evident the significant role and the potential impact that these organizations can have in tackling food poverty and reducing food waste.

However, in the literature there is a lack of studies that investigate the characteristics and functioning of such complex organisms and analyze the management and performance measurement tools which can be applied to this type of non-profit organizations in order to optimize their overall performance. In fact, in literature there are several models and instruments related to organizational design, process analysis and performance measurement and control system, which are targeted to managers of for profit organizations, but there is no attempt to translate and customize them to the context of no-profit organizations and that of food banks. In particular, there is no clear evidence about the role and impact that the allocation of responsibilities between the central body of a food bank organization and its associated regional banks can have on the performance of the whole system. In other words, it is not clear whether the decision of a more centralized or, conversely, decentralized organization can lead to a better process performance and thus a greater impact of the network.

Having identified this gap in literature, the present study analyzes in depth the case of Banco Alimentare Onlus, which is the largest food bank operating in Italy, with the aim of mapping and analyzing its key processes, the current allocation of responsibilities and competences between the central body (Fondazione Banco Alimentare) and the regional associated bodies, and proposing a set of performance indicators which link the processes' performance to the current allocation of responsibilities.

Therefore, the final output of this research is a pilot model of operational guidelines targeted to food banks' managers to map most relevant processes, define the key dimensions of performance and identify potential areas of improvement of their own organizations. This theoretic framework can serve as a basis for eventually redesigning processes and centralizing or decentralizing responsibilities, finally optimizing the performance of the overall organization and maximizing its beneficial impact.

## **ABSTRACT**

L'attuale paradosso tra carenza di cibo e spreco è, purtroppo, un fenomeno diffuso a livello mondiale.

Al giorno d'oggi, sebbene i paesi sviluppati vivano in una condizione di benessere migliore rispetto agli anni passati, sono comunque portati a sprecare molto più cibo. In Europa, 88 milioni di tonnellate di alimenti vengono sprecate lungo tutta la filiera produttiva, con un costo stimato intorno ai 143 bilioni di Euro.

Allo stesso tempo, invece, si vede la presenza di quasi 870 milioni di persone malnutrite e affamate che costituiscono che sono, per il 98%, abitanti in paesi in via di sviluppo.

In questo contesto si è distinto il ruolo dei banchi alimentare: strutture che si occupano di recuperare le eccedenze alimentare da tutta la catena produttiva per distribuirlo e donarlo a strutture caritative. Il primo banco a livello mondiale nasce negli USA nel 1966, mentre in Europa appare a Parigi nel 1984. Questa tipologia di ente no-profit è l'organizzazione caritativa che è cresciuta più velocemente rispetto a tutte le altre esistenti. Dunque, appare evidente il ruolo significativo e il potenziale impatto che queste strutture possono avere nella lotta allo spreco e alla povertà alimentare.

Tuttavia, nella letteratura mancano studi che approfondiscono le caratteristiche e il funzionamento di tali organismi così complessi, come sono carenti anche strumenti di misurazione e gestione della performance appropriati a tali organizzazioni non a fini di lucro.

Infatti, in letteratura, esistono diversi modelli e strumenti per la progettazione organizzativa, l'analisi dei processi e sistemi di misurazione e controllo della performance, indirizzati a manager di organizzazioni profit, ma non vi è alcun tentativo di tradurli e personalizzarli nel contesto di organizzazioni no -profit e, in particolare, dei banchi alimentari

In particolare, non vi sono chiare dimostrazioni del ruolo e dell'impatto che l'allocazione delle competenze tra l'organismo centrale di un'organizzazione di banchi alimentari e i banchi regionali associati può avere sulle prestazioni dell'intero sistema. In altre parole, non è chiaro se la decisione di un'organizzazione essere più centralizzata o, viceversa, decentralizzata possa portare a migliori prestazioni e quindi un maggiore impatto sulla rete.

Avendo identificato questo gap in letteratura, il presente studio analizza in modo approfondito il caso Banco Alimentare Onlus, la più grande organizzazione di questo tipo operante in Italia, con l'obiettivo di mappare e analizzare i suoi processi chiave, l'attuale allocazione delle competenze tra l'organo centrale (Fondazione Banco Alimentare) e gli enti regionali associati, proponendo una serie di indicatori di performance creando un nesso tra le prestazioni dei processi e l''attuale ripartizione delle responsabilità.

Pertanto, il risultato finale di questa ricerca è un framework di linee guida operative rivolte ai gestori operanti nel settore con l'intento dir mappare i processi più rilevanti, definire le dimensioni chiave della performance e identificare potenziali aree di miglioramento delle proprie organizzazioni. Questo quadro teorico può servire come base per un eventuale ridisegno dei processi e centralizzare o decentralizzare le responsabilità, ottimizzando infine le prestazioni dell'organizzazione complessiva e massimizzandone l'impatto positivo

# **EXECUTIVE SUMMARY**

Nowadays developed countries do not have problems to access to food and more, they are wealthier compared to the past. Nevertheless, we think we can afford to waste food [1] There are several causes of food waste along the whole food supply chain: for example, consumers purchase more than what they actually need and they are not always aware about the food they are wasting [2], and the lack of coordination between different actors in the supply chain generate surplus food, which turns into waste [3].

To understand this wrong behaviour, it is useful to use some data: for instance, the Waste and Resources Action Programme (WRAP) has shown that food waste in 2008 in UK was about 83.000 tonnes each year [4]. In Italy, the situation doesn't change: food waste is about 12.6 milliards of Euro each year [5].

On the other side, especially in developing countries people are dying of starvation: 870 million people, which is more than the population of USA, Canada and the European Union in total, do not have enough to eat.

To manage this challenge, nowadays the end of life strategies of food life cycle, in developed country, includes the prevention of food waste, the recovering and providing food for livestock, composting and using compost to improve soil fertility, landfilling and incineration.

However, an important option is to recover food to feed hungry people: it is in this context and position that the role of food banks becomes crucial.

The first food bank was created in 1966 in the USA, while in Europe the first one appeared in Paris in 1984: food banks were the fastest-growing charitable organizations in developed countries.

The main activity if this type of organizations consists of collecting surplus food from all the actors of the food supply chain, including farmers, manufacturers, distributors, retail stores and other sources and making it available to those people in need through an established network of charitable organizations. In Europe, the European Federation of food banks, FEBA, was launched in 1989 with the goal of reducing hungry and malnutrition through the fight against food waste. Nowadays the chain involves 326 food banks and branches 23 European countries. Despite the structural difference of all the organizations, all the banks operate along the same set of values: giving, sharing, fighting food waste and calling for solidarity across Europe.

The main Italian food bank organization, Banco Alimentare ONLUS, was born from the partnership between Danilo Fossati, president of Star company, and Monsignor Luigi Giussani.

Every day, it is able to collect and redistribute surplus food to the 8035 associated charitable organizations.

This organization operates across the whole country through the presence of 21 local banks (Organizzazione Banco Alimentare) and the Foundation (Fondazione Banco Alimentare Onlus).

Analysing organizational model of these organizations and understanding which are the levers to be used to increase performance and increase the social impact, lack of literature on these topics appear immediately.

This is remarked by as Gonzales at al. study, which explains as previous work on food bank is quite scarce and mostly concentrated on the USA reality.

Considering this assumption, the general objective of study is to develop a methodology, applied to the Italian case but potentially useful to all actors in the sector, to measure and study the performance of such difficult structures. Starting from this statement, the study starts from the analysis of existing models applied to profit organizations and tests their sustainability in the non-profit sector using the case of Banco Alimentare as a pilot.

In order to this, the specific objectives (or research questions) of the study are the following: definition of the key actors, their role and competences and the identification and analysis of the main processes; diagnosis of As-is situation and the identification of the level of centralization and decentralization; identification of the most relevant dimensions and performance indicators for every process and sub process; identification of a possible link between the level of centralization / decentralization of the competences with the performance of the process.

The result of the study is the proposition of a framework applicable to all the processes of the organization, with the aim of mapping these processes to their key dimensions, proposing a set of performance indicators useful for identifying possible improvement's areas.

To respond to the first research question, relevant documents were analyzed to understand the composition and the structure of the Foundation and the regional banks. These primary sources include documentation of Banco Alimentare ONLUS about the Governance, Statute, regulations and financial statements.

Then, secondary sources of information were analyzed to gather more data: web pages of the organizations, journal articles, reports and cases studies.

Furthermore, group meetings with the directives of FBAO were conducted to go in depth with the description of each single process and to have a clear vision of the main functions: President Banco Alimentare Andrea Giussani, Vice president Banco Alimentare Antonio Oliva and Member of the Board of Directors Giovanni Bruno took part of that group meetings.

From the literature point of view, the Porter's Value Chain Mapping model was applied to identify the main processes: Procurement, Logistics, Communication, Fundraising, Administration and control, Relationship with Charitable Structures.

For the second question, meaning the map of all the process to identify the span of control and the level of centralization and decentralization, interviews to Presidents and/or General Manager of the regional food banks of Piemonte, Lombardia, Toscana and Puglia were developed.

The selection of the four regional food banks was done based on their different dimensions and number of employees and volunteers. Moreover, two of them are more structured, then the other ones.

For each of the processes previously mentioned, both the allocation of responsibilities of the actor involved and the common points across the different realities were analyzed.

In order to do this, several models were used: Planning, Organizing, Execution and Control model, which allows to divide a single process into several steps and the definition of span of attention to understand the allocation of responsibilities for every activity needed for the realization of the process.

To achieve the third research questions of the study and so to identify the relevant dimension and indicators for every process and sub-process, firstly an analysis of the information collected in the previous interviews was developed.

Then, other meetings were organized to assess the most adequate approach for the identification of the dimension and the relative indicators. A framework, which combines the allocation of responsibilities, the relevant dimension and the actors involved was designed and developed. The framework was developed to be applied to every sub-process and activity of the key organizational process found in the previous steps.

For every phase, the most relevant dimension for performance was identified and consequently also the indicators that, in a more completely way, represent the corresponding dimension. The main output of this phase is a dashboard of indicators useful to monitor and measure the performance of each sub process.

At the end, in order to identify a possible link between the level of centralization / decentralization of the competences with the performance of the process, the procurement process was analyzed as application case.

Also in this case, group meeting and brainstorming with the head of function were crucial for the collection of the necessary information.

The results achieved from the analysis, the different role of FBAO and OBA were identified. FBAO has more a coordination and guide support, instead local banks accomplish more operational activities. Both structures share the same relevant process as shown through the Porter Value Chain: operational

activities as procurement of surplus food, logistic and relation with charitable organization; and support activity as administration and control, fundraising and communication.

The difficulty lies in the fact that these types of organizations are influenced by both external and internal factors that make it almost impossible to model them and identify common factors.

Focusing on the description of the As-Is situation and the individuation of the span of control, it showed as just few processes are fully managed by the Foundation itself, but most of them are not totally centralized or decentralized. They are the case of processes related to relation with national or public institution, where the bargaining power of the foundation is fundamental. Therefore, the common situation describes that FBAO takes accountability and responsibility for the planning and organizational phase while the local banks are responsible for the operational activities.

The other important output of the research proposed a framework useful to analyze the link between the level of centralization and decentralization with the relevant dimension of processes.

In this research, the framework was applied to the procurement process with the consequent definition of a set of KPIs, but this schema could be applied also to other processes and more could be useful for other actors operating in this sector.

To conclude it is important to mention the fact that this research have some limitations: for instance, some data can be collected to measure the performance through the selected KPIs. Moreover, the framework could be applied to all the other process. Although the applied logic is the same, using the framework for the study of all other process, there could be found discrepancies, misalignments or opportunities for improvements.

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# **INTRODUCTION**

Different studies show that, still nowadays, in different parts of the world people are dying because of starvation: 870 million people do not have enough to eat [6].

On the other side, however, 51 million tons of edible food are wasted every year, and paradoxically the amount of global waste is enough to feed all the hungry people in the world.

To fix this paradox, the role of food banks become relevant: today, hundreds of thousands of people in need in Europe are daily receiving food, thanks to these organizations, managed by volunteers who collect donated surplus food and distribute it to charitable organizations, [6], which in turn distribute it for free to disadvantaged people. [6]

In Europe, the first food bank was created in 1966 in the USA, while in Europe the first one appeared in 1984, in Paris. [6].

There are just a few studies from the literature focused on this type of organizations and regarding the American food bank organization [6]: this is explained by the fact that in USA, 28.8 millions of people are food-insecure.

In general research on food banks, their features and functioning is quite scarce, as mentioned by P. Gonzàlez – Torre in 2017 in their study about efficiency analysis of the European Food Banks.

Trying to cover this gap, the study aims to develop a methodology for measuring the performance of food banks, focusing on the Italian Case: Banco Alimentare ONLUS.

To achieve this goal some literature tools have been used. Such tools, previously applied to profit organizations, in this research were applied and adapted to a not-for-profit sector.

The research question or the specific objectives of the study can be summarized as follow:

1. Definition of the key actors, their role and competences as the analysis and the identification of the process.

So, in order to have a clear vision of the structure of such organization, the process mapping was useful, in particular it was used the Porter Value Chain.

2. Diagnosis of As-is situation and the identification of the level of centralization and decentralization.

For this step, firstly each process was divided in 4 phase, based on the Management principles of Carpenter. Then, the definition of span of attention, coming from the literature was applied at each stage of every process. The concept of centralized/centralized organizations, influenced by span of attention among managers, was applied in this way to identify the allocation of responsibilities.

- 3. Identification of the most relevant dimensions and performance indicators for every process and sub process.
- 4. Identification of a possible link between the level of centralization / decentralization of the competences with the performance of the process.

In this step, a framework, shown in the results, was proposed.

The study was developed and the results are explained following this schema:

Firstly, a brief description of the food waste phenomenon and the important role of food banks was given to give a clear picture of the context.

Then, to give all the managerial competences to study food banks' structure, the different tools used in the research were provided and explained.

At the end of this part, where the context and the literature review are clear, the research questions of the study and the methodology applied were described.

To conclude, conclusion were provided with the aim to explain also future improvement for future researches.

# CHAPTER I - CONTEXT

## 1.1 TODAY'S PARADOX IN THE MODERN AGRI-FOOD SYSTEM: FOOD POVERTY AND WASTE

Before starting, it is important to understand what is food waste and which are its origins.

Food waste can be defined as any uneaten food or food preparation residues from residences or commercial establishments. [2]

Nowadays, developed countries doesn't have problems to access to food and more, they are wealthier compared to the past. Nevertheless, we think we afford to waste food [2]. There are a lot of reasons beyond this wrong behaviour: people purchase more they need and not always are not think aware about the food they are wasting [2], as well as lack of coordination between different actors in the supply chain [3]. Whenever is possible, the distinction is made between three classification of household food waste, called "kitchen waste": avoidable, possible avoidable and unavoidable [4]. Become easy think about the food waste regarding only the final consumption of the consumer, but food lost happened among the whole supply chain: from initial agricultural production, down to final household consumption.

Avoidable are food and drink thrown away that was, at some point prior to disposal, edible in the clear majority of situation

Possible avoidable are food and drink that some people eat and others do not, or that can be eaten when food is prepared in one way but not in another (for instance potato skin).

Unavoidable is waste coming from food preparation that is not more edible under normal circumstances. [4]

Understanding this wrong behaviour, it useful to use some data: for instance, the Waste and Resources Action Programme (WRAP) has shown that food waste in 2008 in UK was about 8.3 Mt of food and drink wasted each year [4]. In Italy, the situation doesn't change: food waste is about 15,5 milliards of Euro each year [5].

In Europe (EU-28) 88 million tons of food is wasted along the supply chain each year with an estimated cost of €143 billion.

51 million tons are edible and 23 million tons occur in sectors of primary production, processing and manufacturing, retail and food service [7]

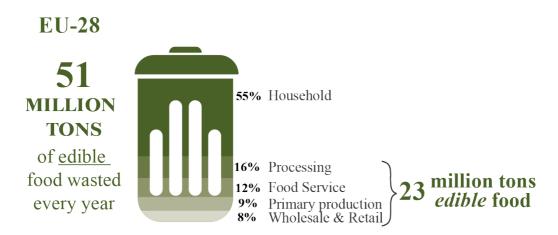


Figure 1.1.1 tons of edible food wasted every year (March 2016)

In a global scale, roughly one third of food produced for human consumption is lost or wasted, which amount to about 1.3 billion tons per year.

The other side of the equation, by contrary, shows that in other part of the world, people are dying of starvation: 870 million people, which is more that the population of USA, Canada and the European Union in total, do not have enough to eat [2]. The 98% of hungry people live in developing country, where almost 15% of the population is malnourished [2].

Ironically the amount of global waste is enough – and more - to cover all the hungry people on the world.

## **1.2 END OF LIFE FOOD STRATEGIES**

It is unbelievable how much is the food waste: it was found that meat, fruit and vegetables, bread and bakery product are the top three major food waste categories in developed countries [2].

In theory, to manage this challenge the best solution should be stopping wasting. However, it easy to understand that this solution is unavailable.

Nowadays, the end of life strategies of the food life cycle, in developed country, includes also the prevention of food waste, the recovering and providing food for livestock, compositing and using the compost to improve soil fertility, landfilling or incineration – the last solution manages the 95% of food waste [2].

However, an important option is to recover surplus food to feed hungry people. Excess food can be given to the people in need only if it is collected properly and hygienically. More, the food must be edible and it must not be spoiled or contaminated. [2].

The main challenge is that the food is not always edible and can deteriorate easily: this makes the collection process very difficult.

#### **1.3 THE ROLE OF FOOD BANKS IN THE EUROPEAN CONTEXT**

Food waste is a challenge of the actual situation. Different studies show as 1/3 and  $\frac{1}{2}$  of the world food production is not consumed [7] leading to negative impacts throughout the food supply chain including households [7].

Exactly in this situation the role and the presence of food bank becomes crucial.

It was explained how the trade-off between the food waste and hungry is a challenge nowadays and how waste, if properly managed, can cover the percentage of hunger population.

The first one was created in 1966 in the USA, while in Europe the first one appeared in Paris in 1984: food banks were the fastest-growing charitable industries in developed countries. [6]

Food banking systems capture surplus food and deliver it to the people who need it most, engaging all sectors of society in the process. Food banks acquire donated food, much of which would otherwise be wasted, from farms, manufacturers, distributors, retail stores, consumers, and other sources, making it available to those in need through an established network of community agencies [8].

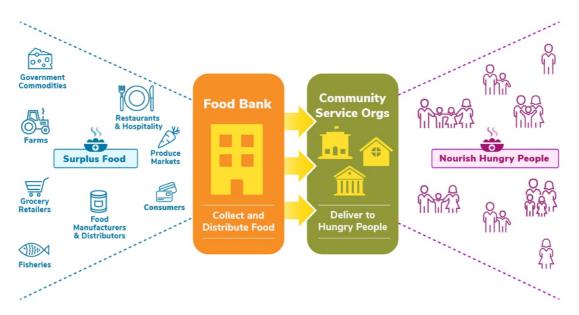


Figure 1.3.1 System of food banks

About the European situation, FEBA, the European federation of food bank, was launched on 23th September of 1986 with the goal of reducing hungry and malnutrition through the fight against food waste and the support and development of food banks in countries where they are most needed [9].

Today FEBA food banks:

Provide food for 6,1 million people Equivalent to 2,9 meals each day Through 37200 charities

The chain involves 326 food banks and branches of 23 European countries, 16400 co-workers, 90% of which are volunteers [9].

During the years, FEBA develops a unique solution:

For providing food and solidarity to the most deprived people To contribute to reducing food waste and redistribute the surplus Helping food companies to reduce their losses and minimize their disposal costs

Between 1988 and 1992 FEBA supported the development of food banks in Spain, Italy, Ireland followed by Portugal, Poland, Greece and Luxembourg from 1994 to 2001. Since 2004, Hungary, the Czech Republic, Slovakia, the United Kingdom, Lithuania and Serbia have joined the network, followed by the Netherlands, Switzerland, Estonia, Denmark and more recently by Ukraine and Bulgaria in 2013, Norway (2014) and Austria (2015).

The different European Banks are shown below and have different structure according to the country's exigencies. [10]



Figure 1.3.2 Members of the European federation of food banks

Despite their structural difference, all the banks operate along the same set of values [11]:

- *Giving*: products received and distributed are free of charge, food bank operations depends primarily on volunteers and supported by private and public organizations and individuals [11];
- *Sharing*: products are shared fairly and without any discrimination between the receiving partner charity organizations and the people they support [11];
- *Fighting food waste*: by recovering nutritious surpluses from the food chain, food banks play a major role in reducing food wastage [11];
- *Calling for solidarity across Europe*: food banks foster social cohesion between all the constituents of societies at local national and European levels as well as solidarity between themselves whatever the countries they are active in [11].

## **1.3.1 The case BANCO ALIMENTARE**

Beyond the idea of the Foundation, there were two principal figures:

Banco Alimentare

Danilo Fossati, president of Star company and Monsignor Luigi Giussani. Thanks to their partnership, Banco Alimentare was founded in 1989, based on the structure of Fundació Banc dels Aliments (Barcelona). [12]

Every day, the bank is able to collect surplus food involving different actor of the Food Supply Chain (FSC) and to donate it to the 8035 charitable organizations (data of 2016).



Figure 1.3.3 Position of local banks in Italy

In Italy, they have 21 local food Bank Organization in order to be in every area of the country.

Banco Alimentare has four principal strengths:

*Social*: foods still good are saved finding a second life in the charitable organizations which receive them free of charge. In this way that organizations can invest saved resources improving their services,

*Economical*: through the donation of surplus, company can both balance their storage and disposal costs and offer an important contribution for those are in difficulty.

*Environmental*: the recovery of surplus food limits the creation of waste, allows on one hand saving in energy surplus, with a reduction of CO2 emissions, and on the other a recycling of packaging. *Educational*: since its origin Banco Alimentare has overpassed every aspect of the welfare, focusing on the single person with "Sharing needs to share the meaning of life". [13]

#### 1.4 ITALIAN LEGISLATION: LAW 166/2016 AND LEGGE DI BILANCIO 2018

[14] The Italian legislation develops articles to encourage the reduction of the waste. In 2016, the law Gadda pursues the aim to reduce waste for each phase of the supply chain: from the production to the distribution and administration of food and pharmaceutical products through the achievement of some objectives:

- a) Promote the collection and the donation of food surplus for social and solidarity scope, allocating the for human use;
- b) incentive the collection and the donation of pharmaceutical products and other products for social solidarity purposes;
- c) contribute to the limitation of negative impacts on the environment and on natural resources through actions aimed at the reduction of waste production and promoting the reuse and recycling to extend the products' life cycle;
- d) contribute to the achievement of the general objectives established by the National Waste Prevention program, adopted due to article 180, paragraph 1-bis (3rd April 2006) n. 152, and by the National plan for the prevention provided by the same program as well as for the reduction of the amount of biodegradable waste sent to landfill;
- e) to contribute to research, information and sensitization of consumers and institutions on the subjects covered by this law, regarding the younger generations

After this legislation, the legislation di Bilancio, promulgated in 2018, has the aim to enlarge the action of 166/2016 law with two amendments that enlarges the panel of products that can be donated for social purposes, simplifying some procedures and extending tax incentives. In other words, this law makes easier and more accessible the donation and collection of surplus. [15]

This legislation has to be understood also under the importance of the Sustainable Development Goals. More in detail, according the goal 12.3, "According to the Food and Agriculture Organization of the United Nation (FAO), approximately one-third of all food produced in the world is lost or wasted. This huge level of inefficiency has significant impacts".

# CHAPTER II - LITERATURE REVIEW

#### 2.1 ORGANIZING FOR PERFORMANCE

When an organizational structure is designed, the parts are the basic building blocks of the organization, and the whole is the working relationship among these blocks that collectively comprise a business. In organisations, both profit and no-profit one, a structure is mandatory in order to facilitate work flow and focus attention. Structuring activities enables patterns in work flows: in some cases, flow of products down and assembly line, in other cases flow of information. However, in any case, the design of flow determines how value will be added at each stage of the enterprises.

By contrast, focusing attention is achieved through three primary levers: the design of work units, span of control, and span of accountability. [16]

#### 2.1.1 Accountability and span of control

It's important to underlie that individuals are grouped into work units to perform specific tasks. Accountability defines the outputs and the target that a work unit is expected to produce and the

performance standards that managers and employees of each work unit are expected to meet.

Span of control indicates how many subordinates and functions report to each manager in the organization. It describes the resources directly under a manager's control. Span of control can be broad, with many people and a wide range of resources reporting to a manager, or narrow, with few people and narrow range of resources under a manager's direct control.

It outlines who is accountable to whom and what they are accountable for. For this reason, we need another concept: span of accountability. It describes the range of performance measure used to evaluate

a manager's achievements. Span of accountability defines the financial items for which a manager is accountable.

By contrary, span of attention refers to the domain of activities that are within a manager's field of view. It defines what an individual will attempt to gather information on and influence. Span of attention is totally different in nature than both span of attention and span of control. They are top-down concepts and defined by superiors. Span of attention, instead, comes from an individual manager, because all employees and managers must form their own judgments about what they believe to be important. So, to conclude, span of attention consist of three levers: the work unit; the people and the functions under the manager's direct control and the performance measures for which the manager is held

accountable to superiors. [16]

# 2.1.2 Span of attention and level of centralization and decentralization of an organization

Shaping span of attention is one of the key objectives of organizational design, and is at the core of the concept of centralization and decentralization.

A centralized organization is designed so that unit managers have narrow span of attention. Senior manager want to ensure that subordinates do not become distracted by information and events that could pull their attention away from maximizing efficiency through specialization. Units are typically grouped by functional specialty, and units' managers are accountable for narrow subset of income statement as defined by their cost centres of responsibilities. In centralized organization, accountability for trade-off among income statement and balance sheet accounts rests at the top of the organization, where the individual functions come together to form profit centres.

Decentralized organization are designed so that managers have wide span of attention.

Decentralized organization are essential when the business strategy demands quick and agile responsiveness to customers' needs and market developments. Accountability for trade-offs among key income statement a and balance sheet accounts is delegated low in the organization. They make trade-offs to maximize competing objectives across a wide array of activities.

The design of work units, span of control and span of accountability are the main structural tool to influence and direct organizational attention to ensure that everyone working toward shared goals. [16]

# 2.2 USING INFORMATION FOR PERFORMANCE MEASUREMENT AND CONTROL

One of the primary purposes of performance measurement and control is to allow fact-based management.

Information can be defined in many ways. A dictionary definition would refer to information as the communication or reception of intelligence or knowledge.

Inside an organization, we usually think of information flowing to managers to inform them about the operations of their business; however, the information is of two types: information about progress in achieving goals, and information about emerging threats and opportunities. Both types of information provide feedback: this information is essential to allow managers to conduct and update SWOT analyses, based on changed competitive dynamics and internal capabilities.

In addition to feedback, however, information must also flow from managers to employees to serve several purposes. First, managers must inform employees throughout the organization about the market segments and types of activities to which they are willing to commit resources. Second, managers must communicate clearly the intended strategy of the business. Third, managers must communicate plans, goals, and milestones.

Finally, managers must communicate these same strategies and performance goals to superiors and external parties whose support is needed to implement the strategy of the business. [16]

## 2.2.1 Organizational process model

Managers must understand the process by which inputs are converted to outputs. All organizational processes can be decomposed into inputs such as information, material, energy, labour, and support services that are needed to create a product or services, a transformation process that consumes these inputs to create or sustain something of value, and outputs in the form of intermediate or final products or services.

To gain control through a cybernetic process, therefore, it is useful to add two more ingredients beyond an understanding of input, processes, and output. We also must have a standard or benchmark against which to compare actual performance and a feedback channel to allow information on variances to be communicated and acted upon.

An output standard or benchmark is a formal representation of performance expectations. Ex ante performance standards may be created by reference to efficiency or effectiveness criteria for any measurable data.

However, having these is not sufficient. There must be a way of using the data, comparing outputs with standards and using the resulting variance information to change the inputs or process to ensure that performance standards will be met in the future. Thus, the second ingredient is a feedback channel coupled with an understanding of how adjustments to input and process are likely to influence outcomes.

Feedback is the return of variance information form the output of a process to the input or process stages so that adjustments can be made to maintain desired levels of performance or control the stability of a system.

#### 2.2.2 The choice of what to control

The choice between gathering information on input process, or outputs is fundamental to the performance-control process.

As a starting point, we can state that information about inputs is necessary, but rarely sufficient, for control. To ensure that these valuable inputs are transformed into high-quality output, managers must focus their performance measurement and control activities on either the transformation process itself or the outputs being produced.

There are four criteria that must be considered in making this choice: technical feasibility of monitoring and measurement, understand of cause and effect, cost and desired level of innovation.

#### 1. Technical feasibility of monitoring and measurement:

Managers must determine whether it is even possible to monitor a process directly or, alternatively, to measure its outcomes: in some cases, it is possible to observe processes; in other it is not.

A manager can choose to monitor directly only if it is possible to observe production or service processes in action.

In the other part, instead, a manager can choose to monitor outcomes only if it is possible to measure production or service output accurately.

In some instances, managers may not have a choice about what types of information to receive. They may be forced to focus on either processes or outputs because information on the other variable is simply unavailable.

#### 2. Understanding of cause and effect

Even if it is possible to monitor processes directly a manager may not understand the actions that lead to the desired outcomes. If a manager does not understand the cause-and-effect relationship between the transformation process and desired outcomes, monitoring processes is not feasible in the primary means of control.

For instance, the cause-and-effect relationship between the researcher's effort and the discovery of new products is not well defined and so cannot be modelled or predicted with any degree of accuracy.

### 3.Cost

Cost important to analyse are the relative cost of generating information about processes or outputs. Cost in this instance has two components: the costs of generating and processing information and lost opportunity or damages resulting from not generating information. The latter cost depends on the importance of securing the desired outcomes.

In some instances, however, the important cost is not in the cost of monitoring; it is related to the cost of not monitoring a critical process.

As a general principle, whenever safety or quality is a critical criterion of effectiveness, managers will choose to gather information about, and monitor directly, the transformation process itself.

#### 4.Desired level of innovation

If managers desire to limit innovation, they will choose to control processes carefully by standardizing work procedures.

For developing the desired level of innovation, it's important to understand what is crucial for the enterprises. When quality is an important consideration, there is always the risk that employees introduce poor quality inputs, or service is not conducted at the target performance. Similarly, when time is crucial for enterprises, it is desirable the standardization of the process to drive efficiency. Finally, the control of process becomes important when safety is critical and the cost of failure are high.

It can be summarized that the more competitive and fast moving the market place, the more the more important it becomes to give employees the freedom to experiment: for maximum innovation managers do not focus on process, but instead focus on monitoring outputs.

#### 5. When all fails

In rare circumstances, it may not be possible to obtain reliable information on either process or outputs. In these rare instances, managers have no choice but to rely primarily on the control of inputs, coupled with a high degree of training and indoctrination.

CONTROL INPUTS WHEN:	CONTROL PROCESS WHEN:	CONTROL OUTPUT WHEN:
It is possible to monitor process or outputs	Processes can be observed and/or measured	Outputs can be observed and/or measured
Cost of input is high compared to value of outputs	Cost of measuring/monito- ring process is low	Cost of measuring/monitoring outputs is low
Quality and/or safety is important	Standardization is critical for safety and/or quality	Cause-and-effect relationship may not be well understood
	Cause-and-effect relationship are understood	Freedom to innovate is desired
	Proprietary processes or process enhancements can result in strategic advantage	

Figure 2.2.1 When and what to control

## 2.2.3 Uses of information

Managers information can be used for a variety of purposes, planning, coordination, motivation, evaluation, and education. These differing uses can be categorized into five broad categories. Information for:

- o Decision making;
- o Control;
- o Signalling;
- Education and learning;
- External communication.

In this case, the first two type of information are discussed:

#### Information for decision making

Managers use information for decision making in two broad categories: information for planning and information for coordination. Planning is the process setting aspiration through performance goals and ensuring an adequate level and mix of resources to achieve those goals. Performance measurement and control systems play a central role in mapping future direction by giving managers quantitative information for setting goals and the ability to price out their plans.

Coordination refers to the ongoing ability to integrate disparate parts of a business to achieve objectives. The outputs of one unit are the inputs to another unit. Information on inputs, processes, and outputs for many different work units and functions is critical to line up and coordinated these resources. [16]

Information for control

Managers use information for control when they use feedback to ensure that inputs, processes, and outputs are aligned to achieve organizational goals. Managers most commonly use feedback information for control purposes to motivate and evaluate employees.

Profit plans and variance information play a critical role in the ex post evaluation of performance by comparing actual effort and outcomes against expectations. Profit plans and performance goals often provide important benchmarks of accomplishment. Income statements and performance reports provide the actual data in performance. These feedbacks can be used to evaluate the performance of individuals and the businesses for which they work.

Information in the form of output goals can be a powerful tool to motivate employees to adjust inputs, processes and outputs to achieve organizational goals. Such motivation may be either extrinsic (tangible reward) or intrinsic (feeling as personal accomplishment). Both extrinsic and intrinsic motivation are influenced directly by performance measurement and control techniques.

#### 2.3 PROCESS MAPPING

The macro process mapping is a company administration and management analysis tool. It identifies the business processes and its key elements, through the representation of the process through the construction of models. [17]

The main goals of this activity are the comprehension and the documentation of the company's process. It's useful to map the process when some activities must be accomplished:

- Business planning
- Business restructuring
- o Re design process
- Development of IT system. [17]

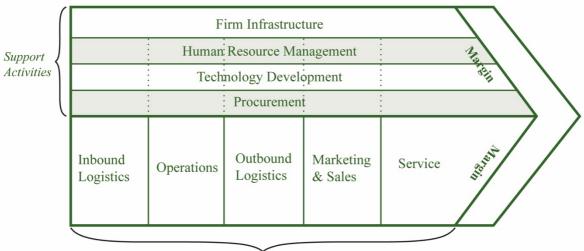
The case of Banco Alimentare includes the first three motivations, how was explained in the research question chapter (*Chapter III*)

The different phases of the process mapping are:

- 1. Identification of the business processes
- 2. Identification of the mapping and modeling target
- 3. Collection of information about the processes
- 4. Construction of the process models
- 5. Validation of the models

### 1. Identification of the business processes

In order to identify the key business process, an important tool is useful: Porter's Value Chain [18]. The value chain is a model that allows the description of an organization as a limited set of processes. According to this model, an organization is a set of 9 processes, 5 of primary activities and 4 of support [18]



Primary Activities

Figure 2.3.1 Porter's Value Chain model

- The primary activities are the activities involved in the physical creation of the product and its sale and transfer to the buyer, as well as after-sale assistance. [18]
- Support activities, instead, support the primary activities and each other by providing purchased inputs, technology, human resource and various company-wide functions. [18]

It is important to underlying how the value chain has to be examined in relation to the type of competitive advantage that the company wants to pursue.

The original version of the model is mainly adapted to large organization focus on the the production of goods. For different organization, however, the model can be used as a valid starting point for process analysis, adapting to the organization analyzed.

2. Identification of the mapping and modeling target

To identify the process, different approach can be used:

- Exhaustive
- Key processes
- Problem analysis

In order to do this, some keys elements have to be understood. For example, important should be the centrality of the process to the business strategy, the economic relevance of the process or its culture and leadership.

3. Collection of information about the process

Source of information:

- Organizational chart;
- Document, procedures;
- Interview. [17]

## Methodology

- Collection of documentation;
- Interview with the process owner;
- Interview with the actors of the process (information gathering and comments)
- Interview with process customers
- Passive observation [17]

## 4. Construction of the process models

To build the process model, it necessary to define both a point of view and an criteria for reducing complexity.

The required features are: formal and substantial correctness, ease of interpretation and functionality with respect to objectives. [17]

Doing these different steps, it possible to achieve some benefits, as integration of different information, a unique business documentation or the instruction of rigor and method. It also allows to highlight the activities according to the perception of different actors and support also the possible process of validation and testing.

## 5. Validation of the models

The validation of the models can be of two types: formal accuracy validation and consistency of the logical levels of representation.

The first one has the scope to control the representation of the process and allows to avoid duplication of objects, loops trigger and closing events.

The other one, instead, it is about the validation of substantial correctness and the checking with interviewed people.

## 2.4 THE FOUR PRINCIPLES OF MANAGEMENT: PLANNING, ORGANIZING, LEADING, CONTROLLING

In order to allocate adequately the different competence in the management of the process, an important tool was used. These divides the process in four different steps, according to the Management principles of Carpenter. [17]

- 1. Planning phase
- 2. Organizational phase
- 3. Executional phase
- 4. Control phase.

### Planning phase

This stage responds to the question: *"Who is the actors that propose the initiative or the project?"*. It is the function of management that involves setting objectives and determine a course of action for achieving those objectives. [17]

Is a phase that requires also a prevision of future conditions which an organization has to face. As Carpenter explained, the planning is a process consisting of several steps:

- Environmental scanning [17]: analysis the critical external contingencies which an organization has to face to in terms of economic condition, competitors and customers;
- Strategic planning [17]: process that analyses strength, weaknesses, threats and opportunities of the organization and that determine how position the organization to compete effectively in its environment;
- Tactical planning [17]: design to develop specific means to implement the plan;
- Operational planning [17]: the phase that assumes the existence of goals and objectives and specific ways to achieve them.

#### Organizational phase

The person in charge in the organization of the initiative, activity or project, prepares the objectives to be achieved, the times and the allocation of resources (both material and human), for its implementation and prepares a system for measuring performance.

Organizing also involves the design of individual jobs within the organization. Decision must be made about the duties and responsibilities of individual jobs, as well as way the duties should be carried out [17].

#### Executional Phase

The subject deals with all the operational aspects for the implementation of initiative, activity or project in line with the objective defined by the previous steps, and takes charge of measurement of performance.

In the Carpenter model, this phase is absent and substituted by the Leading phase: leading involves the social and informal sources of influence that you see to inspire action taken by others [17]. In this case, it is preferable using the executional one, because taes into account all the operational activities required to accomplish the specific project.

# Controlling Phase

The controller subject is responsible for monitoring and evaluating performance and guarantee compliance with the regulation and standards of the organization.

In the Carpenter model, controlling means ensuring that the process doesn't deviate from the standard.

Controlling consist of three steps [17]:

- 1. Establish performance standards
- 2. Comparing actual performance against standards
- 3. Taking corrective action when necessary

The key fact is that controlling requires a clear understanding of where responsibility for deviations from standards [17].

To conclude, it useful to underling which are the limits of this process: Carpenter understood that this model might be ideal and doesn't deal with the day-to-day actions in an organization.

However, this method still provides a useful tool for classifying the activities required to achieve management goals.

? A The four principles of management: Dlanning organizing leading controlling

# CHAPTER III - <u>RESEARCH QUESTIONS AND</u> <u>METHODOLOGY</u>

# **3.1 RESEARCH QUESTIONS**

The goal in this study is to analyze the current organizational structure of Banco Alimentare and identify areas of improvement with the aim of implementing a framework able to provide guidelines to the identification of improvements 'area.

Before starting with the description of the methodology used to achieve the scope of the document, it is important to underlying the status quo of literature about the topic.

Different articles provide description and explanation of food banks. The first one was created in 1966 in the USA, while in Europe the first one appeared in Paris in 1984: food banks were the fastest-growing charitable industries in developed countries. [6]

About the activities of food banks, there are some studies focused on this topic: some analyses the increasing consolidation of food banks as their role against food waste, and other focusing the organization of food donation process, their relationship with food safety and the implications on food banks.

Gonzales at al. found that previous work on food bank is quite scarce, and can be grouped under four different topics: volunteering, beneficiary institutions, recipients of help and food collected [6]. in this article, the presence of a huge divergence in the conceptualization of food security emerges: on the one hand, some researchers have analysed the problem based on stakeholder involved and, on the other hand, some authors have studied policies and practices as a problem or a solution [6].

Gonzales at al. tries to provide relevant efficiency of the European Food Bank and to understand which factors can have influence on their performance.

It is evident that frameworks related to for-profit organization and to the analysis of centralization/decentralization has hardly ever been applied to structures as Food Banks (or not-for-profit organizations in general).

Starting from this literature gap, this research try to address the topic, giving a framework useful to analysis the level of centralization/decentralization of processes of a not-for-profit organization, as the case of Banco Alimentare ONLUS.

In conclusions, the objectives of this study can be summarized as follow:

- 1. Definition of key variables: description of the key actors, of their roles and competences as the analysis as the identification of processes, with the aim to understand the complexity of an organizational structures as Banco Alimentare ONLUS.
- 2. Diagnosis of As-Is situation: mapping all macro-processes of the organizations to identify the level of centralization/decentralization of that process.
- 3. Identification of the most relevant dimension and indicators of performance for every process and sub-process.
- 4. Identification of a possible link between the level of centralization/decentralization of the competences with the performance of the process.

# **3.2 METHODOLOGY**

1. Definition of key variables and the identification of process

In order to address the first objective of the study, first of all, relevant documents were analyzed to understand the composition and the structure of the organizations. These primary sources include documentation of Banco Alimentare ONLUS about the Governance, Statute, regulations and financial statements.

Then, secondary sources of information were analyzed to gather more data: web pages of the organizations, journal articles, reports and cases studies.

Furthermore, groups meeting with the directive of FBAO was useful to go in deep with the description of each single process and to have a clear vision of the main functions: President Banco Alimentare Andrea Giussani, Vice president Banco Alimentare Antonio Oliva and Member of the Board of Directors Giovanni Bruno took part of that group meetings.

Later, Heads of functions were involved in the meeting through semi-structured interviews (the questions can be found in <u>Appendix</u>) that allow also the creation of new ideas, differently to the structured one. The responsible involved are the follow one.

FUNCTION	ROLE	NAME
Communication and fundraising	Function's responsible	Paolo Cattini
Procurement	Function's responsible Function's responsible	Giulia Malaguti Vittore Mescia
Administration and control	Function's responsible	Sabrina Granata

Figure 3.2.1 Responsible involved in the first research question

From the literature point of view, the Porter Value Chain Mapping was used: through the group meeting was possible to fulfill the value chain and to find the relevant processes of the organization. The value chain is a model that allows the description of an organization as a limited set of processes.

The original version of the model is mainly adapted to large organization focus on the production of goods. For different organization, however, the model can be used as a valid starting point for process analysis, adapting to the organization analyzed. For this reason, the model was adopted to a not-for-profit organization and through it 6 main processes were individuated: Procurement, Logistics, Communication, Fundraising, Administration and control, Relation with Charitable Structures.

2. Diagnosis of As-Is situation: mapping all macro-processes of the organizations to identify the level of centralization/decentralization of that process.

Going always more in deep in the analysis of the process also trying to answer to the second research question, interviews to presidents of 4 regions was developed.

The four regions can be representative of the Italian situation: the banks involved are of different dimension and with different number of employees and volunteers. Moreover, two of them are more structured, then the other one.

The different regions and each president are the follow one.

REGION	ROLE	NAME
Lombardia	President General manager	Roberto Vassena Marco Magnelli
Toscana	General manager	Marco Tommasi
Piemonte	General manager	Vilma Soncin
Puglia	President	Gigi Riso

Figure 3.2.2 Managers involved in the second research question

These interviews were developed to cover four main topics about the process previous identified: general description and composition of the organizations, allocation of responsibilities to each process, definition of dimensions and indicators for performance and critical issues and areas for improvement. The question related to the interview are shown in *Appendix*.

In this case, each process was analyzed using the data gathered from the previous step. It means that per each of them was identified both the allocation of responsibilities of the actor involved and the common points across the different realities.

In order to do this, several models were used Planning, Organizing, Execution and Control model, which allows to divide a single process into several steps and the definition of span of attention to understand the allocation of responsibilities for every activity needed for the realization of the process.

3. Identification of the most relevant dimension and indicators of performance for every process and sub-process.

Later, to achieve the third objective of the study and so to identify the relevant dimension and indicators for every process and sub-process, firstly an analysis of the information collected in the previous interviews was developed.

Then, other meetings were organized to assess the most adequate approach for the identification of the dimension and the relative indicators. A framework, which combines the allocation of responsibilities, the relevant dimension and the actors involved was proposed and accepted. The framework was developed to be applied to every sub-process and activity of the key organizational process found in the previous steps.

For every phase, the most relevant dimension for performance was identified and consequently also the indicators that, in a more completely way, represent the corresponding dimension. The main output of this phase is a dashboard of indicators useful to monitor and measure the performance of each sub process.

At the end, in order to accomplish the last question, the case of the procurement was analyzed.

Also in this case, group meeting and brainstorming with the head of function were crucial for the collection of the necessary information.

The phase of recognition of the indicators permits the analysis of the As-Is situation and to understand if a change in the allocation of responsibilities could have an impact in the performance of every subprocess.

With the aim to have a complete and clear vision of the methodologies and the tools used, the figure 4.2.3 is proposed:

Objectives	Methodologies
Definition of key variables: key actors, role and competences Identification of process	<i>Methodologies:</i> Review and meeting with function's responsibles of communication and fundraising, procurement and administration and control. Analysis of Banco Alimentare's documentation. <i>Literature's models:</i> Mapping process and Porter Value Chain
As-is status of the allocation of responsibilities	Methodologies: Reviews and meetings with general manager of 4 OBAs. Literature's models: Carpenter Model: Planning, Organizing, Executing and Control Definition of Span of attention and centralized / decentralized process
Identification of the most relevant dimension and performance indicators	<i>Methodologies:</i> Reviews and meetings with president and general managers of the Foundation. Proposal of a framework

Figure 3.2.3 Methodologies and literature's model adopted in the study

# CHAPTER IV - **RESULTS**

# 4.1 DEFINITION AND ANALYSIS OF KEY VARIABLES: GOVERNANCE AND MAIN PROCESSES

For the description of the as-is situation, the process is carried out through three different activities:

- o Description of key actors, role and competence
- Process mapping
- Analysis of the centralization and decentralization. For this activity, the analysis was done only for two processes, procurement and fundraising.

### 4.1.1 Description of key actors, role and competence

Before starting with the deeply description of the macro-processes and the analysis of as-is situation, it's important to focus on the key actors involved in the organizations.

This analysis is carried out through the different entities of the network.

# FBAO

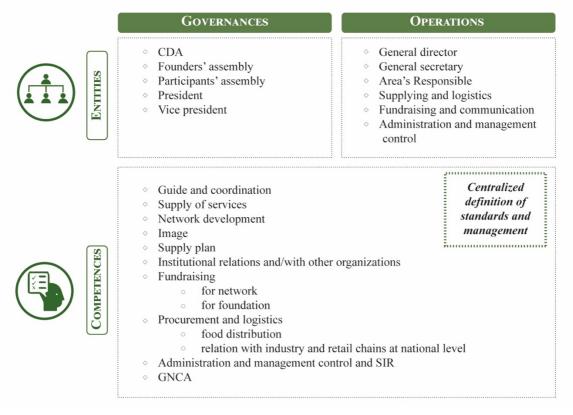


Figure 4.1.1 Structure of FBAO

### **OBA**:

	Governances	Operations		
ENTITLES	<ul> <li>CDA</li> <li>President</li> <li>Vice president</li> <li>Partners' assembly</li> </ul>	<ul> <li>Operational director</li> <li>Area's Responsible</li> <li>Supplying and logistics</li> <li>Fundraising and communication</li> <li>Administration and management control</li> </ul>		
COMPETENCES	<ul> <li>Relationship with local charitable org</li> <li>Fundraising</li> <li>Siticibo</li> <li>Supplying and logistic</li> <li>Industry and local GDO</li> <li>Administration, management control</li> </ul>			

Figure 4.1.2 Structure of OBA

# 4.1.2 Process mapping

Starting from the definition of the Porter Value chain and thanks to the different interview to Fondazione and OBA, it was possible to build another value chain on the case of Banco Alimentare.

Immediately, the important role of the procurement of food surplus appears to be relevant. The other primary activity, crucial for the goal of the organization, are the logistic process and the support and assistance to the charitable structures.

Administration and control, fundraising and communication are key process but support activities due to their sustaining function: as explained follow, their role is to make the organization sustainable in the long time.

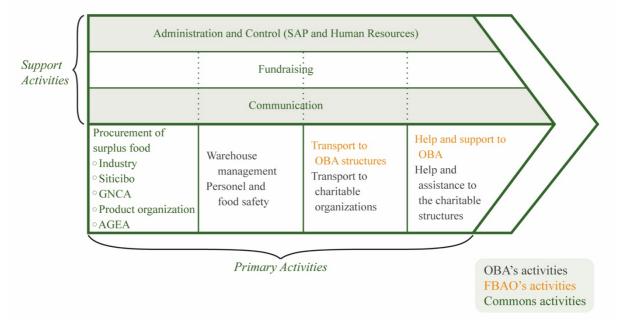


Figure 4.1.3 Porter's value chain applied to Banco Alimentare case

Taking in consideration the Porter's Value Chain of Banco Alimentare, the description of each single term follows.

# 4.1.2.1 Procurement

The process of supplying represents the institutional activity of Fondazione Banco Alimentare ONLUS, meaning all the procedures that bring the surplus of food from several channels into the network. In the process, variables of time, quality and quantity are mandatory for the achievement of the mission of Banco Alimentare: the failure to comply with these variables can occurs problem in the whole network. The supplying process can be characterized by two key elements:

- Amount of food surplus per each category of food (meaning the quantity collected for pasta, for dry food or for other kind). Each category of food has diverse characteristics and for this reason it has to be managed with specific criteria.
- Channel of collection means the different entities that provide food to the network. They can be:
  - o Industry;
  - Producer organization;
  - o Siticibo;
  - Colletta Alimentare (GNCA);
  - o AGEA.

#### 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 a weekly notification to Fondazione of the surplus generated. Consequently, Fondazione decides the quantities to allocate to the regional banks, considering several factors for this allocation: the amount of surplus and donations from the companies, the quantities per category of food, the needs for every regional bank, the rotation index of the products in the warehouse, the economic sustainability and distance of the bank. With this approach, not only the closest banks are assigned with the surplus, but a more even distribution of the products is achieved for the national territory.

In this sense, the preparation activities, the planning and coordination are performed by Fondazione, but the operational activities are carried on by the regional banks, the companies and the charitable structures.

On the other hand, there are smaller companies being closer to the regional banks for which the communication and relational processes are not managed through Fondazione, but are directly done with the banks. There are companies with a reactive approach that contact the banks whenever they have surplus and request for their reallocation, while there are other companies more structured with constant communication with Banco Alimentare for the donations of products.

#### **Producer Organizations**

This is the channel related to the supplying of fruits and vegetables to the network Banco Alimentare from producer organizations having surplus with this type of products. For the cession, the European Community decides the quantity of the donation, related to food in market crisis, such as the fruits that cannot be exported. The European Community subsides to the producer organization the products and all the cost sustained for transportation. Then they can either contact the regional banks to request for the withdrawal of the products or they can contact a central office in Fondazione, which serves as a representative of all the regional banks to manage the distribution and allocation of the surplus, taking into consideration a proper rotation of the products and the needs of the OBA.

#### Siticibo

Siticibo is related to two different channels: Siticibo Catering, where the products are cooked meals not consumed in company canteens, and Siticibo LSRT (Large scale retailer trade), where fresh food products, which was not sold in their points of sale, are collected. This last channel is available just in three cities: Turin, Milan and Rome.

For this channel, the planning and coordination activities are performed with the support of Fondazione when the regional banks are not properly structured or capable of doing, consequently volunteers of the regional banks and, in some cases, of the same charitable structures, collect the products in the restaurants and points of sale for the further delivery to the charitable structures.

# GNCA

The day of "Colletta Alimentare", for 20 years is the event of solidarity with more participation in Italy. In 2017, [19] the total amount of people involved was 5.500.00 through the help of 145.000 volunteers. With this structure, Banco Alimentare was able to collect 8.200 tons of food to donate to charitable organizations.

In this case, through the presence of volunteers in the involved wholesalers, people can decide which products to buy and donate them immediately to Banco Alimentare.

# AGEA

The European Union supports the agricultural production of community's countries through the donation to producer of contributions, prizes and aids [20]

These contributions are managed by each country through the presence of the Paying Agencies. In this context, the presence of AGEA supports the activities of the Paying Agencies and, especially in Italy, it is responsible for the distribution of aid, contributions, community awards and interventions, as well as for the management of public funds, program to improve the quality of agricultural products allocated to food assistance and to economic cooperation with other countries.

Banco Alimentare is accredited to AGEA and for this reason it benefits from the donation of food offered for needy people from the European Fund for indigents.

#### **Evidences in the territory**

It is important to highlight particularities in the management of this process for the different realities of the OBA in the territory. For instance, OBA Lombardia being a well-structured organization is somewhat independence from Fondazione in the sense that it can develop by itself the relationships with industry, companies and caritative structures for the realization of the activities; moreover, it has developed projects that have spread into the network with the collaboration of Fondazione.

OBA Piemonte has a peculiar organization because it is not composed by a single warehouse as OBA Lombardia, instead it has several warehouses in the region to be closer to the charitable structures; this organization entails that for supplying purposes, the small warehouses are replenished once a month from a central warehouse and then, the charitable structures can withdraw from the correspondent warehouse.

Other reality like OBA Toscana have tried before this model of having small warehouses in their region but this experience was not successful for them, therefore nowadays they replenish the charitable structures from a single warehouse or there are ones that are closer that can withdraw with their own vehicles.

Lastly, there are other realities in the south of the country such as OBA Puglia, where there are not a lot of food industries and sources of supplying, therefore they are greatly dependent on the surplus that Fondazione can assigned to them.

# 4.1.2.2 Logistics

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 charitable structures. This process is comprised by the following activities:

#### **Inbound transportation**

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

#### Warehouse management

It consists of the handling of the products within the warehouse such as quality control, classification, picking and rotation.

#### Delivery planning to charitable structures and outbound transportation

Comprises the set of decisions to deliver products to the caritative structures whether if it is from the regional warehouses of Banco Alimentare or from the points of sale of retailers, wholesalers and restaurants of schools and companies.

#### **Personnel and Food Safety**

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

#### **Maintenance and Vehicle Management**

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 recovery of the food and its distribution to the charitable structures.

#### **Evidence in the territory**

Fondazione does not have a considerable responsibility with respect to the operational activities in the logistic process, given that its main roles are to be a facilitator, a coordinator for the OBA in the realization of their activities. Besides, considering that Fondazione receives notifications of all the food surplus and donations from different sources (big companies and producer organizations) and knowing the needs of every OBA, it is responsible for the allocation of a vast majority of product to Banco Alimentare, meaning the inbound flow of the regional warehouses.

Fondazione has also the responsibility of developing the procedures and spreading the best practices for the warehouse management, as well as performing training activities to new personnel to guarantee a proper introduction in the process and avoid disruptions in the operations.

What concerns the transportation of the food from the different sources into the regional warehouse is responsibility of the OBA and in some cases the same companies deliver the products to the OBA respecting previous agreements and coordination. There are cases where the food surplus does not go through the OBA but are directly picked by the caritative structures to facilitate the recovery in company canteens, school restaurants or wholesaler's points of sale.

The handling of the food is responsibility of the OBA as well as the consequent distribution to the caritative structures or outbound transportation.

On the other side, the supporting activities of the process such as personnel and food safety, maintenance and vehicle management are performed by the respective OBA, but following the guidelines of the procedures provided by Fondazione.

Being the coordinator of the network, Fondazione also has the duty to control the activities of the OBA using the management control systems, gathering the data of their operations and being able to generate reports.

In the following chart is showed a general representation of the logistic process and the responsible for carrying on the activity, without considering the case when the caritative structures personally collect the donations from the sources and not from the OBA

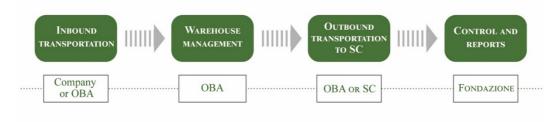


Figure 4.1.4 Logistic process

# 4.1.2.3 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, being for instance 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.

#### **General Accounting Management**

This activity is decentralized considering that every OBA is juridical and economically independent, therefore they are responsible to keep track of their operations. There are differences in the software used to perform this activity being that several OBA use SAP but the rest of them use Excel.

#### **Payment Management**

This activity is decentralized since both Fondazione and every OBA are responsible for the compensation of their own personnel.

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

This activity is decentralized given that every entity is responsible for its own personnel; but there are differences between Fondazione and the OBAs. In Fondazione and certain OBAs there is a team of employees and volunteers responsible for the administration process while there are other realities where this whole process falls under the responsibility of the general manager.

#### **Budgeting and elaboration of Financial Statements**

These activities are decentralized due to the legal and economic independence of every OBA with Fondazione, meaning that each of them are supposed to draft the documents and deliver them to Fondazione for the revision by the Collegio dei Revisori and further approval by the Consiglio di Amministrazione. Nevertheless, Fondazione provides support to the OBA with the elaboration of this documents because these administrative responsibilities are sort of like a burden for them different than the institutional activity of Banco Alimentare.

Fondazione also elaborated its budget and financial statements for further revision and approval by the same organs previously mentioned.



Figure 4.1.5 Budgeting process

# Legal and Contractual Support

This activity is centralized and on behalf of Fondazione that coordinates and guides all the OBA with respect to the fulfillment of the mission and all the related activities.

# **Management Control System**

The management of the system is centralized because Fondazione oversees its use in all the network and provides support to the OBA with issues regarding the registration of the donations. But operationally speaking the use of SAP is centralized, given that all the OBA except one use it for the logistic activities and a small group uses also the managerial and financial modules for accounting purposes.

# Evidences in the territory

Taking in consideration the inputs coming from the OBA interview, it could be important the clarification of some points. Firstly, as Fondazione being the center of the whole organization, it makes sense that it performs all its administrative activities but also provides supports and guidance to the OBA on their duties, always in the light of the fulfillment of the mission but also for reasons of coordination, capabilities and use of resources.

On the other hand, considering the OBAs, they are greatly heterogeneous due to their geographical location and intrinsic characteristics such as amount of resources, workforce and culture; therefore, even though they share the same mission there are differences in the way they manage the processes. For instances the case of OBA Lombardia: they have a whole team responsible for Administration and Management Control, and they consider that this team needs to be in constant communication with the directives of the OBA for the elaboration of the documents; this leads to the idea that having a single team to centralize the process for the whole network will be difficult and complex.

Another example is the OBA Piemonte, which also have a dedicated team for the process mainly for the general accountability and elaboration of reports and documents, but other activities such as budgeting and administrative management of the personnel is on behalf of the general manager.

There are other realities where the OBA does not have a specific team for the process, meaning that the activities are performed sometimes by an external agent or a volunteer responsible for a different area, as the case of OBA Toscana, where the budgeting is elaborated by someone in Fundraising, or the general accountability being outsourced or elaborated by a volunteer in the organization who does not use SAP for this activity as happens in OBA Puglia.

### 4.1.2.4 Fundraising

Fundraising is one of the most important process in any non-profit organization: it is needed for the economic sustainability of the organization. In more detail, it is the action to collect money from both companies and public entities, in order to support or finance some cause or project, in most of the cases for social purposes.

Other reason of the strategical importance of fundraising is the is a key to increase awareness, to create relations and to be visible.

In some regional food banks, this process is absent due to the small dimension of the organizations. In Banco Alimentare ONLUS, the team is composed to 9 people: 6 employees and 3 volunteers. There are different sources of fundraising:

The fundraising process can be characterized by two key elements:

- Amount of money collected.
  - This gives also an indication of a possible market share, especially of the position of the brand of Banco Alimentare over other no profit organizations.
- Channel of collection means the different entities that provide money to the network. They can be:
  - o 5x1000
  - o CSR
  - o Calls
  - Local Initiatives
  - o Big Donors
  - o Private

#### 5x1000

This term indicates a share of the IRPEF tax, which the Italian state allocates to provide support to entities that carry out social relevant activities (for example no-profit organization). The payment is a discretion of the citizen together with its own declaration of income.

Everyone who makes this choice, assigns 5% of his effective taxes to his chosen organization: in this system, the contribution of a high-income tax payer is more different from the contribution of a lower income tax payer. [21]

Banco Alimentare Onlus is can to collect 3000 tons of foods equivalent to 408.902 €.

### CSR

This stream includes all the relationships with important and big companies, which want to increase their visibility and credibility by cooperating with Fondazione. Some examples are Kellogg's and P&G, which create 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 donates 7 cents for every euro of product sold.

### Calls

Both Fondazione and the regional banks take part in calls issued by different entities: they can be philanthropic banks or national or local public bodies.

For instance the case of Cariplo Foundations donates to Banco Alimentare  $360.000 \notin$  for a special project called "Food poverty lab" which aims at building and improving the ability of the whole supply chain to collect food surplus. This is just one of the different examples of calls where Banco Alimentare decides to participate for getting the funding for a specific project.

### Local initiatives

They are events organized by the local banks with the territory, helpful to raise awareness, visibility and to collect money.

Examples of events can be beneficiary events for the promotion of the organization, dinners and others.

#### **Big donors**

This channel is related with the relation of retailers, wholesalers and companies in the food industry who provide funds to Banco Alimentare with the purpose of helping the organization to reach its mission.

# Private

Through the function of "Donate Now", which is accessible directly from the web site or from the newsletter, private citizens can donate a sum of money to FBAO or to a specific regional bank.

# 4.1.2.5 Communication

This is another important process for the survival of Fondazione, consisting in the constant communication and notification of the results of the whole organization to the interested stakeholders, as well as the fulfilment of the mission. There are different channels that Fondazione Banco Alimentare ONLUS can use for this purpose:

#### **Public relations**

It is a channel used to spread information about Fondazione Banco Alimentare between and the public. The main purpose is to support the brand's reputation, contributing to the creation of values. PR can also be used to achieve specific objectives, something like create consensus around a initiative, supporting its goals, increasing the awareness.

PR, concluding, are a "branding tool" and contribute to the business consciousness.

#### **Corporate branding**

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

#### Web and Social Media

Fondazione Banco Alimentare and every OBA have their web pages that can be managed with autonomy. It is an important tool for spreading the knowledge about Banco Alimentare's mission.

#### **News** letter

It includes Direct Mailing, Communication and Fundraising. In Fondazione, an investment was done to build a database of 200.000 people to send relevant communications, this was not possible to do for 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, figure out the percentage of recurrent donors in the network or the growth of the donor's database.

#### 4.1.2.6 Relationship with charitable organizations

Relationship with charitable organizations is a crucial point for the wellbeing of any Banks. In most of the cases, it is based on mutual trust and with a common goal: share the needs and fight against hunger. These relationships are carried out in four steps:

#### 1. Request of collaboration

In most of the cases, the request of collaboration begins with a non-profit organization (caritative structure) that wants to receive donations from Banco Alimentare to distribute to people in need. Only

in sporadic cases Fondazione decides to collaborate with important non-profit organizations to enlarge its network and to increase its visibility and achieve its mission rapidly.

# 2. Requirements to be satisfied

The requirements needed are provided by two entities: AGEA (Agenzia per le Erogazioni in Agricoltura) and Fondazione Banco Alimentare ONLUS. The first is an Italian entity with coordination and payment tasks, meaning that it has responsibilities of 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, Banco Alimentare gives less constraints, but in this case, they can cooperate with charitable organization only with food surplus not coming from the European community.

# 3. Approval

In this step, each OBA is independent and autonomous. They have all the capabilities and required know how to control the satisfaction of the requirements.

### 4. Management of relations

In this step, every OBA can regulate autonomously the relationship with the caritative structure: they can decide how to control the performance of these non-profits entities to understand how the food is used and donated to people in need and take corrective measure in cases of misconduct.

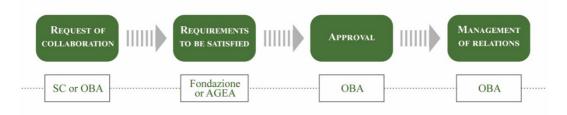


Figure 4.1.6 Relation of charitable structures schema

### Evidences in the territory

Regarding the behaviour of the different OBA, an interesting case is OBA Piemonte: it builds strong relationship with non-profit organization based on mutual trust. It is important to underline the use of dedicated newsletters and reports, with the specific aim to force the relations and to control possible wrong behaviour of the charitable organizations.

Other interesting case is OBA Puglia. This regional bank bases the relationship on the economic and managerial assistance to the non-profit structures; in fact, during specific periods of the year, charitable structures should be controlled, and they need the support of Banco Alimentare to be accomplish the

controls. This has also a return in terms of mutual trust and greater collaboration during the realization of the "Giornata Nazionale della Colletta Alimentare".

# 4.2 DIAGNOSIS OF THE ACTUAL ALLOCATION OF RESPONSABILITIES: LEVEL OF CENTRALIZATION AND DECENTRALIZATION OF MAIN PROCESSES

#### PROCUREMENT

After having a general description of the process and the principal channels of supplying, is worth to describe the allocation of responsibilities by channel between Fondazione and the OBA having in mind the different realities and characteristics in the territory.

#### Industry

Considering this channel there are two perspectives for the allocation of responsibilities.

The **first perspective** is when the industries or companies have such magnitude or dimension that cover the national territory and therefore their relationship with Banco Alimentare is at a national level. In this case, there is a communication between the interested company and Fondazione to report the amount of surplus available, consequently Fondazione is responsible for the preparation, coordination of the cession and control of the process while the OBA or the same company can deliver the product to the warehouse of Banco Alimentare.

Planning phase:



Organizational phase:

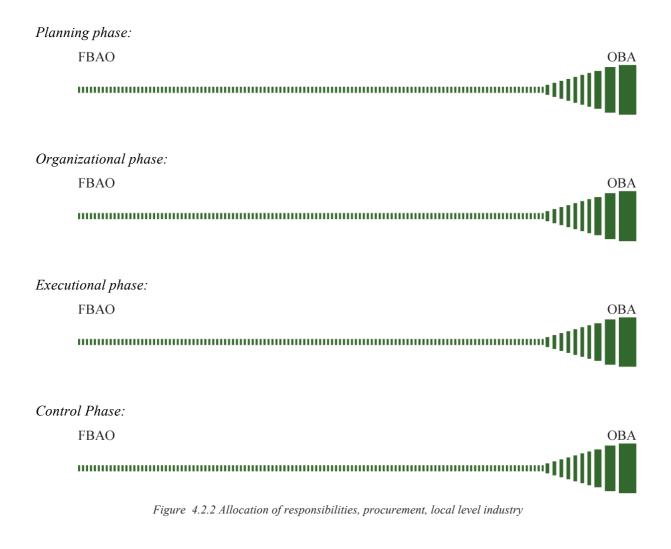
FBAO OBA



# Control Phase: FBAO OBA



The **second perspective** involves the small/medium companies that have a relation with Banco Alimentare at a regional level, in this case Fondazione does not operate in the preparations and coordination activities but only keeps control of the process by means of the management control system when the respective OBA register its activities. The general process and responsible can be as follows:



# **Producer Organizations**

As was mentioned before, this channel is referred as the donations of fruits and vegetables to the network and is managed in a similar way like the AGEA channel. Consequently, the operational activities are realized in most of the case by the Producer organization and the quantity donated are decided by the European Commission. Therefore, Banco Alimentare can't take decisions on this process, but it could work only on the ability of the organization to absorb the donated surplus food.

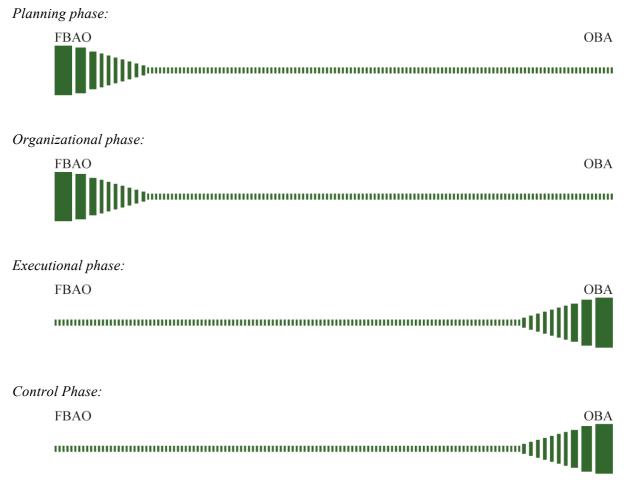


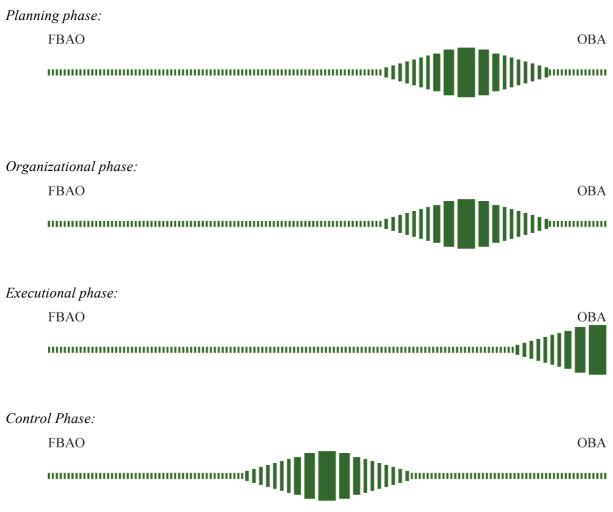
Figure 4.2.3 Allocation of responsibilities, procurement, producer organizations

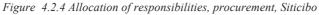
#### Siticibo

The guidelines and initial stages of this project that has gained a national coverage for Banco Alimentare have been a responsibility of Fondazione, developing relationships with companies, retailers and wholesalers that are potential donors of cooked meals. The operational activities of the project are realized by the volunteer of the OBA that recover the products from the restaurants, canteens and points of sale of wholesalers to take them to the regional warehouses.

There is another alternative when the regional banks plan the recovery of the products, they communicate to the charitable structures with the closest point of sale or restaurant to recover the meals, which are distributed to the persons in need. Both the Fondazione and the OBA perform training and control activities to the volunteers and the charitable structures to ensure the compliance with the regulations of food safety.

It is important to mention that in Fondazione the supplying process not only performs coordination and support activities for the network, but they also do administrative activities in the sense that they keep control with SAP off all the operations of the OBA; moreover, they generate reports for an internal communication in the network with the purpose of keeping full transparency of the criteria they use to provide services to the OBA. Finally, they are responsible for the elaboration of the procedures supporting the supplying in the network and they represent externally Banco Alimentare with projects related to this process.



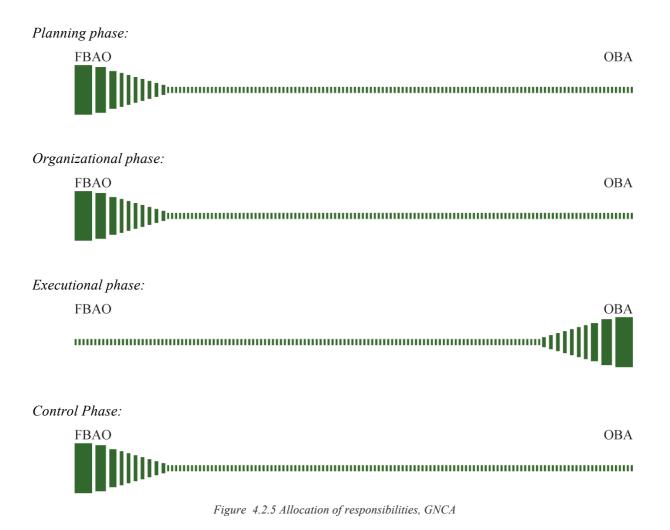


# GNCA

This event has a national scope and for this reason it is managed by the Foundation, which organizes is planning at a centralized level.

The OBAs, instead, have autonomy in managing the relationship with the participating companies and are independent in organizing both the recovery and the transportation of food at local level. The GNCA is considered a key process especially for the regional reality.

The monitoring and measurement of performance at the network level are carried out by FBAO, through the periodic sharing of data from the regional banks.



# **FUNDRAISING**

# 5x1000

This channel is planned by Fondazione, even if the quantity of money donated is at the discretion of the citizen at the same time of the income declaration.

The activities of promotion and communication are managed both from Fondazione and Local Bank, clarifying that the code of IBAN is unique for the whole network.

Control activities, as the monitoring of the performance is managed by FBAO.

Planning phase:



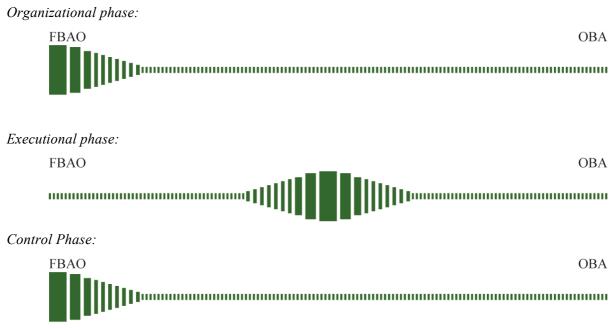


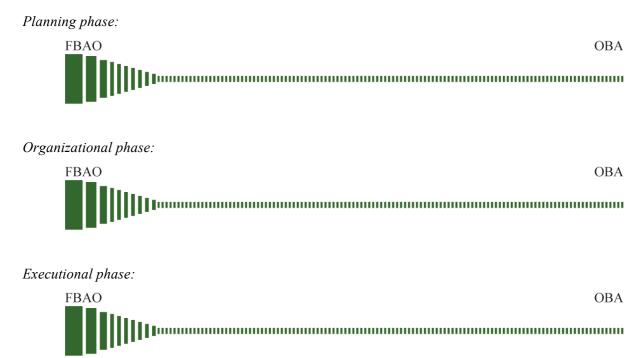
Figure 4.2.6 Allocation of responsibilities, fundraising, 5x1000

# CSR

That initiatives are created through the meeting between large national companies and Fondazione. Especially for the importance and the visibility of the projects in the territory, this phase is a prerogative of FBAO.

So, both the organizational and operational phases are managed by FBAO, which works also on the methods, the timing of the implementation. Therefore, the operational part will be carried out by the two entities involved in the projects.

In conclusion, the control and measuring activities are dealt by Fondazione.



46 4.2 Diagnosis of the actual allocation of responsabilities: level of centralization and decentralization of

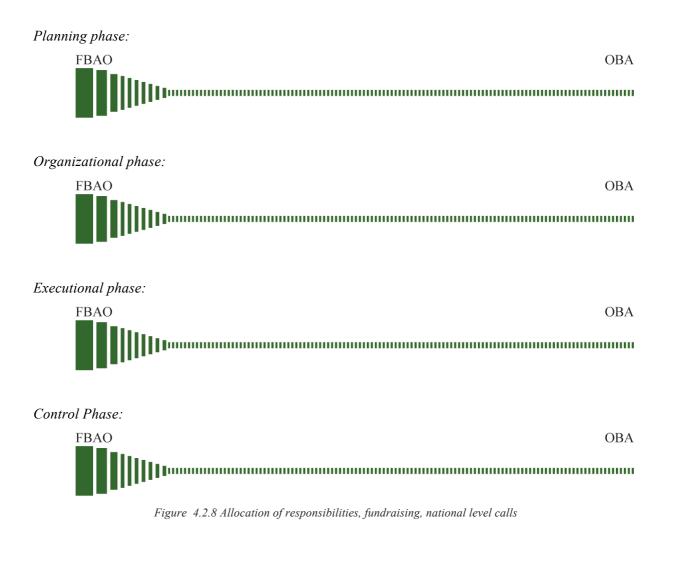


### Calls

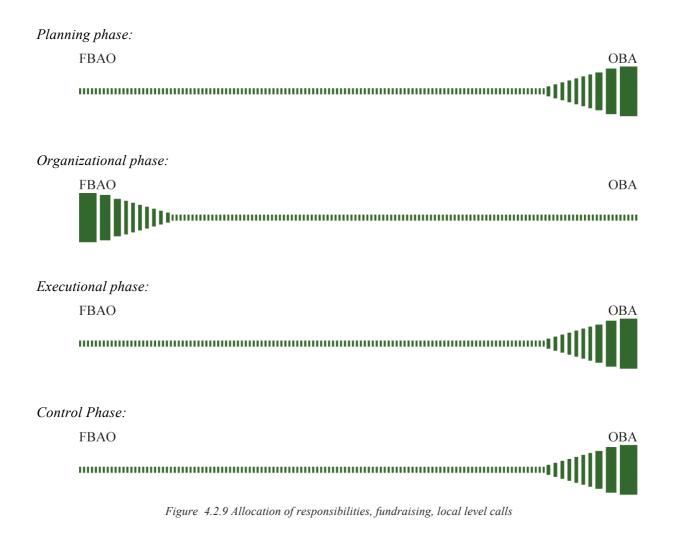
Considering this channel there are two perspectives for the allocation of responsibilities.

The **first perspective** is when the calls are issued by both public administration or philanthropic companies with a national scope. In this case is the entity of Fondazione involved in the process. Always FBAO manages the organizational phase with also the creation of different standardized formats, helpful also for the OBA.

At the end, Fondazione manages also operational and control phases.



In the **second prospective**, focused on OBA, the process is decentralized even if there is dependence on the local presence of calls or philanthropic banks. Some realities, in fact, does not take any advantages from this stream, due to the absence of some organizations in the local area. In this case, all the previous activities are managed exclusively by the OBA.



### Local initiatives

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 like the management of the logo, template and procedures.



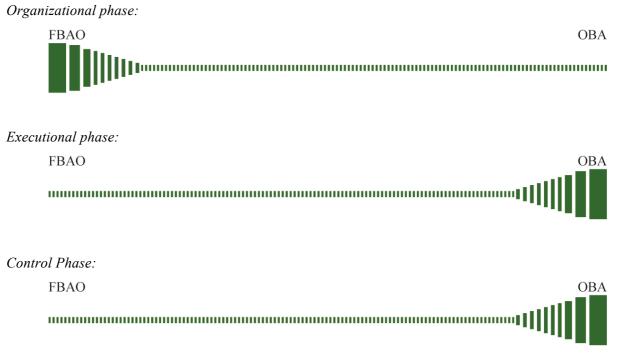


Figure 4.2.10 Allocation of responsibilities, fundraising, local initiatives

#### **Big donors**

This channel is related with the relation of retailers, wholesalers and companies in the food industry who provide funds to Banco Alimentare with the purpose of helping the organization to reach its mission. The relationship with Big donors is centralized and under the control of Fondazione because it has the required capabilities and know-how to manage this relation of collaboration.



Organizational phase:



Executional phase:





Figure 4.2.11 Allocation of responsibilities, fundraising, big donors

# Private

Concerning the **web site**, Fondazione has it owns with its functions *Donate Now*. Throughout single bank have been incentivized to open a Paypal account and then activated their personal function.

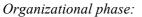
After that creation, each OBA is independent in the collection of money from citizens. In fact, it is the single citizen that decides the quantity of money to donate and to which donate: can be both FBAO or BAO.

For the control activities, they can be carried out consequently by both Fondazione or the regional banks. So, for the graphical analysis of the process, it's helpful to split it focusing on the beneficiary of the donation.

# Consequently, for Fondazione:

Planning phase:



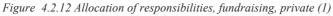




### Executional phase:







# For the local bank:

Planning phase:



Organizational phase: FBAO	
Executional phase:	
FBAO	OBA



Figure 4.2.13 Allocation of responsibilities, fundraising, private (2)

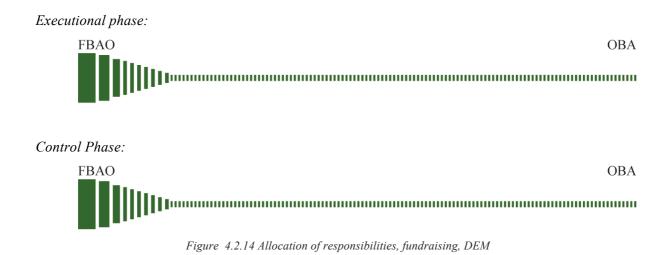
The other process concerns the use of the **DEM**: direct mailing.

This process of fundraising is managed by Fondazione due to the use of the required capabilities and it tools. It is FBAO that takes decision on the modalities of this activity with also the contribution of the single OBA which share their contacts.

The control and the measurement of the performance is managed by Fondazione.





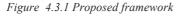


# 4.3 Identification of key performance dimensions and measurement indicators: framework proposal

With the aim of proposing a set of indicators useful to measure the performance of a process, a framework has been proposed.

The framework is shown in figure 4.3.1:

Sub-process	Planning	Organizing	Executing	Controlling
Dimension(s)				
Indicator(s)				
Actor As-is				



This model was developed in order to be applied to each sub process of Banco Alimentare Onlus. For each of them, the most relevant dimension was identified. It means that for each activity the most important dimension was identified according to which measure and assess the performance of the process (potentially a comparison could be done between the performance of different OBA). Consequently, the identification of a key performance indicators becomes crucial: it needed an

indication of performance of the single sub-process dimension.

In the last row, the actor of the as-is situation is the people involved in the process, across the 4 dimensions explained before, and tries to explain the possible dissonances between the ideal situation and the real one.

# 4.3.1 A case of example: the identification of indicators in the procurement process

Starting from the explanation of the framework, the goal of this section is to apply the schema to the sub process of suppling.

Firstly, in order to make a synthesis of the work, an important differentiation has to be done: industry at national level and industry at local level.

For the first type of organization includes all that structures that have a national importance and presence; conversely, the second one consists of all that companies that work on local or regional level. This distinction is crucial for the definition of the dimension because influence the actor involved in the process: easily, for the national level the actor involved will be FBAO and vice versa for the local level will be OBA.

National Level Industry	Planning	Organizing	Executing	Controlling
Dimensions	Volume of donation Balance product mix Growth of supply base	Level of formalization of the recovery process of surplus food	Time Cost	Continuity of donors
Indicators	Kg of food collected # of donors Kg of X category of food Kg of food collected # industries year (t) # industries year (t-1)	Frequency of donation	Average days to recover surplus Cost of recovering Kg recovered	Kg of food collected # of donors
Actor As-is	OBA	OBA	OBA	OBA

# 4.3.1.1 National level industry:

Figure 4.3.2 Framework for national level industry

Regarding the planning phase, the most important dimension identifies are: volume of donation and the balance of product mix as the growth of supply base.

The first two give an indication of how much the organization is able to achieve its purpose: give food to needed. In fact, for the mission of Banco Alimentare, the volume of donations guarantees a continuously donation of food and the balance of product mix guarantees an adequate portion of collected (and donated) food: a perfect mix of fruits, vegetables, fresh products as frozen one.

At the end, the growth of supply base is a dimension that try to reduce the risk of absence of surplus food (and the consequently absence of donation to charitable structures). It means that more the base of supplier grows and more this is diversified, less is the risk of no donation.

For the organizing phase, instead, it appears that the most important dimension is the level of formalization of the recovery process of surplus food. This regards the way how the companies communicate the quantity of surplus food as the time of delivery with Banco Alimentare. If the communication happens periodically, Banco Alimentare can take some advantages: for instance, the organization all the inbound and outbound activities as the planning of the transportation to/from the OBA.

It is the reason why this dimension is crucial for the company: because in this way Banco Alimentare can save money, time and resources also in the phase of organizations. Now this methodology is implemented whit something like half of the donors' companies.

About the executing phase, the relevant dimensions are time and cost related to the type of product collected. Time is crucial for fresh products which are less time to be transported and donated to charitable organizations: faster is the transport, better is the quality of donated product.

Cost, vice versa, is related to not fresh products, like pasta, that can be stored for longer period of time. Here, Banco Alimentare takes advantage from agreement with important logic providers: in this way, thanks to the longer duration of the product and the lower risk of expiration, the Onlus can save money. Finally, the dimension involved in the control phase is the continuity of donors: it important to ensure that the quantity of donated product products remain stable in time in order to guarantee always the achievement of the mission.

The resulting indicators are:

Planning phase

Kg of food collected # of donors Through this relation, it is possible to understand the behaviour of the volume of donation. In order to guarantee a distribution of a certain quantity of food, in the planning phase it is important to have an idea of the average donation.

Kg of X category of food Tot Kg of food collected This indicator must be computed for each category of food. The calculation allows to have a clear vision of the "skinny" one in the planning phase and consequently helps to understand which are the categories to which concentrate the effort.

 $\frac{\# \text{ industries}}{\text{year (t)}} \text{-1}$  In the planning phase, the percentage of increasing number of industries makes possible considerations about the growth of the supplier base and about possible correction's actions.

## Organizing phase

Frequency of

donation

More an industry structures its process of donation more is simple to manage the collection of food for Banco Alimentare. For this reason, it's important to make agreement with the industry in order to formalize the process of collection.

#### *Executing phase*

Average days to recover surplus Cost of recovering Kg recovered During the execution, two are the key drivers: cost and time. The days and the cost of recovering are indicators that allows the monitoring of the phase in order to always guarantee the delivery of quality food with a sustainable process.

#### Controlling phase

Kg of food collected # of donors Through this relation, it is possible to understand the behaviour of the volume of donation. In order to guarantee a distribution of a certain quantity of food, in the controlling phase, could be useful to measure how the behaviour of industries changes during the year, to make prompt action in a not good situation.

## 4.3.1.2 Local level industry

Local Level Industry	Planning	Organizing	Executing	Controlling
Dimensions	Volume of donation Balance product mix Growth of supply base	Level of formalization of the recovery process of surplus food	Time Cost	Continuity of donors
Indicators	Kg of food collected # of donors Kg of X category of food Kg of food collected # industries year (t) # industries year (t-1)	Frequency of donation	Average days to recover surplus Cost of recovering Kg recovered	Kg of food collected # of donors
Actor As-is	OBA	OBA	OBA	OBA

Figure 4.3.3 Framework for local level industry

The main difference between the company at local and national level is in the actors involved in the process.

How explained in the previous section, a smaller organization as a local company can take advantages in the relation with the regional banks: being closer to the territory and to the industry, they guarantee faster communication as transport and a stronger relationship.

Meanwhile, the structure of Fondazione provides to national level companies, visibility and availability of resources and capabilities.

Here, the explanation of indicators is proposed again:

Planning phase

Kg of food collected
# of donors

Through this relation, it is possible to understand the behaviour of the volume of donation. In order to guarantee a distribution of a certain quantity of food, in the planning phase it is important to have an idea of the average donation.

Kg of X category of food Tot Kg of food collected This indicator must be computed for each category of food. The calculation allows to have a clear vision of the "skinny" one in the planning phase and consequently helps to understand which are the categories to which concentrate the effort. # industries year (t) # industries year (t-1) In the planning phase, the percentage of increasing number of industries makes possible considerations about the growth of the supplier base and about possible correction's actions.

## Organizing phase

Frequency of donation

More an industry structures its process of donation more is simple to manage the collection of food for Banco Alimentare. For this reason, it's important to make agreement with the industry in order to formalize the process of collection.

## Executing phase

Average days to recover surplus <u>Cost of recovering</u> <u>Kg recovered</u> During the execution, two are the key drivers: cost and time. The days and the cost of recovering are indicators that allows the monitoring of the phase in order to always guarantee the delivery of quality food with a sustainable process.

#### Controlling phase

Kg of food collected # of donors Through this relation, it is possible to understand the behaviour of the volume of donation. In order to guarantee a distribution of a certain quantity of food, in the controlling phase, could be useful to measure how the behaviour of industries

changes during the year, to make prompt action in a not good situation.

## 4.3.1.3 Siticibo (LSRT)

Siticibo GDO	Planning	Organizing	Executing	Controlling
Dimensions	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
Indicators	# of problems with charitable institutions	# of problems with charitable institutions	Time to recover and distribute the surplus <u>Cost</u> Kg collected	# of problems with charitable institutions
Actor As-is	FBAO/OBA	OBA	OBA	FBAO/OBA

Figure 4.3.4 Framework for Siticibo (GDO)

Managing the complexity of this channel is a challenge for the organization. In the planning phase, the main dimension is to reduce the complexity of the process and improve coordination for the withdrawal of products at the point of sale of retailers and wholesalers. This process is more difficult to manage than the other, because the charitable institutions can independently recover the products directly from those points of sale, although Banco Alimentare remains responsible for the coordination of charitable institutions.

In the second phase, the same relevant dimensions are taken in consideration.

To cope with the complexity of this process, Banco Alimentare must consider several factors such as: an adequate number of vehicles with appropriate isolation and refrigeration capacity, a large number of volunteers for the management of fresh products, which should have also special certification.

The executing phase considers time and cost as key dimensions. Time, especially, is crucial: most of the products transported and recovered are fresh (fresh chees, products close to the expiration date, dairy products and derivate), so they need a fast, prompt and careful management. Cost, on the other hand, is a critical element especially for the amount of resources that the management of this process requires. Assuming that most of the transport and storage activities are charged to the charitable organizations, Banco Alimentare has the task of checking and supporting, where required, the material resources of the structures to perform the transport

Now, the explanation of the indicators:

## Planning phase:

# of problems with charitable institutions Such as delays, duplication of activities, misalignments in documentation. More the number of problems continues to increase, more Banco Alimentare should put more efforts in the planning of the process.

## Organizing phase:

# of problems with charitable institutions Such as delays, duplication of activities, misalignments in documentation. More the number of problems continues to increase, more Banco Alimentare should put more efforts in the organizing of the process.

## Executing phase

Time to recover and distribute the surplus Cost Kg collected During the execution, two are the key drivers: cost and time. The days and the cost of recovering are indicators that allows the monitoring of the phase in order to always guarantee the delivery of quality food with a sustainable process *Controlling phase:* 

# of problems with charitable institutions Such as delays, duplication of activities, misalignments in documentation. This indicator should be useful in the controlling phase for a clear understanding of the problems of the process.

## 4.3.1.4 Siticibo (canteens and restaurants)

Siticibo (Canteens and Restaurants)	Planning	Organizing	Executing	Controlling
Dimensions	Growth of the supply base Awareness of the program	Efficient recovery of surplus	Time Cost	Compliance with sanitary regulations
Indicators	Increase # of canteens and restaurants	Cost Kg collected	Time to recover and distribute the surplus <u>Cost</u> Kg collected	Frequency of irregularity with sanitary regulations
Actor As-is	FBAO/OBA	OBA	OBA	FBAO/OBA

Figure 4.3.5 Framework for Siticibo (canteens and restaurants)

Siticibo is a program of Banco Alimentare ONLUS, born in Milan in 2003 thanks to the collaboration with Cecilia Canepa and Bianca Masserelli. It is the first Italian application of Law 155/2003 and aims to recover fresh and cooked food in excess of organized catering (hotels, company and hospital canteens, school refectories, retail stores) [22]

The planning phase considers the growth of the supplier base and the awareness of the program as significant dimensions. This program, nowadays, is present only in 3 OBAs of the 21, but that manage to recover more than 70% of the products coming from this channel

In the organizational phase, the sustainability of the process becomes relevant: 80% of the resources used in the recovery of these products are owned by Banco Alimentare ONLUS, which therefore sustain the majority of management costs.

The executing phase considers time and cost as key dimensions. Time, especially, is crucial: most of the products transported and recovered are fresh (cooked meals), so they need a fast, prompt and careful management. Cost, on the other hand, is a critical element especially for the amount and the type of resources that the management of this process requires.

The challenge for the controlling phase is the regulation with sanitary compliance: cooked meals, fresh products and fruits have high risk of damage and expirations so they need quality controls. For this reason, also the volunteers involved in this process are required to have HACCP (Hazard Analysis and

## Critical Control Points).

#### Planning phase:

Increase # of canteens and restaurants This indicator is useful in planning Siticibo: it shows how much the number of restaurants and canteens involved increases over the years

## Organizing phase:

Cost	
Kg collected	

This relation allows to have always a clear vision of the sustainability of the process. Important to underling that cost is a critical element especially for the amount and the type of resources that the management of this process requires.

#### Executing phase

Time to recover
and distribute the
surplus
Cost
Kg collected

During the execution, two are the key drivers: cost and time. The days and the cost of recovering are indicators that allows the monitoring of the phase in order to – always guarantee the delivery of quality food with a sustainable process

## Controlling phase:

Frequency of irregularity with sanitary regulations The challenge for the controlling phase is the regulation with sanitary compliance: so, this indicator is crucial for understanding how the process is performing and where there are problems.

## 4.3.1.5 **Producer organization**

Producer Organizations	Planning	Organizing	Executing	Controlling
Dimensions	Flexibility Growth of the supply base	Flexibility	Time Quality of products	Quality of products
Indicators	# PO year (t) # PO year (t-1) -1 Storage capacity available for fresh products # of vehicles available for fresh food distribution	Storage capacity available for fresh products # of vehicles available for fresh food distribution	Days from the collection of fresh foods to the donation to CS	Kg damaged (expired) Kg collected from PO
Actor As-is	FBAO	FBAO	OBA	FBAO

Figure 4.3.6 Framework for Producer Organizations

It is important to underline that the donation of surplus food from Producer Organizations is under the control of the European commission that decides also the quantity to be distributed.

For this reason, the power and the ownership of responsibilities of Banco Alimentare Onlus is minimal. Instead, the organization can act on the capacity of absorbing the quantity collected: in precedent years, Banco Alimentare had some difficult in the storage of apples during the winter seasons.

This phenomenon can be avoided, with an investment in flexibility and the consequently improvement of the capacity of storage and fast distribution to charitable structures.

The growth of the supply base is crucial for involving more the number of producer. If the producer organizations accept to participate to the European Commission program, they can donate their surplus of fruits and vegetable, which consequently allows Banco Alimentare to help more needed structures.

A similar reasoning can be done for the organizing phase were the capacity of the organization to absorb the surplus food is crucial.

For executing phase, instead, is relevant the dimension of time: fresh food has high probability to expiration in the short time and high risk of damage. For this reason, time is crucial for the distribution of fruits and vegetables to charitable structures.

Also, the controlling phase's dimension considers the quality of products: control the conditions of fruits and vegetables and that they are sufficient for being donated.

For all these reasons, the indicators used to measure the process are the follow one:

## Planning phase:

# PO year (t) # PO year (t-1)

This can help to understand how increase the supplier base and how is incisive the bargaining power of Banco Alimentare.

Storage capacity available for fresh products # of vehicles available for fresh

food distribution

Both indicators give a broader view of the flexibility and the consequent ability of the organizations to manage fresh and perishable food.

## Organizing phase

Storage capacity available for fresh products # of vehicles available for fresh food distribution

Both indicators give a broader view of the flexibility and the consequent ability of the organizations to manage fresh and perishable food.

### Executing phase

Days from the collection of fresh foods to the donation to CS The indicator quantifies the speed of the delivery in order to assure the quality of the products.

Kg damaged (expired) Kg collected

from PO

The relation gives a percentage of the quantity of food donated with an acceptable quantity and give a vision of the quality of products received from the structures.

## 4.3.1.6 GNCA

GNCA	Planning	Organizing	Executing	Controlling
Dimensions	Volume of donation Growth of supply base	Availability of resources	Time Cost	Continuity of donors
Indicators	Kg collected # points of sale # points of sale year (t) # points of sale -1 year (t-1)	# volunteers # points of sale	Kg collected # points of sale	# points of sale year (t) points of sale -1 year (t-1)
Actor As-is	FBAO	FBAO	FBAO / OBA	FBAO

Figure 4.3.7 Framework for GNCA

In the planning phase, the two-relevant aspect are the volume of products collected, meaning all the food collected adding all the point of sales and the growth of the supplier base, meaning all the points of sale registered to the event.

Availability of resources is incisive in the organizing phase, measuring the sustainability of the event. Given the huge amount of product collected during the GNCA, Banco Alimentare must ensure the availability of resources to manage those products. A fundamental part of the event, in fact, is the presence of volunteers that make possible and sustainable a realization of something too intensive.

The executing phase, aligned with the planning phase, considers the same size for the performance, the volume of donations. Guarantying enough volunteers for each points of sale is more important of the increasing of that supermarkets to make sustainable the realization of the events.

Continuity of points of sale, in the controlling phase, is a relevant dimension because by controlling how many supermarkets have stopped the relation with Banco Alimentare, the organization can guarantee continuity in the realization of the event.

Here, the explanation of indicators is proposed:

Planning phase

Kg collected # points of sale	Thanks to this indicator, it is possible to have an overview of the volume of the donation. The average, calculated on all the points of sale, gives a vision of how GNCA is a global and national initiative.
# points of sale year (t) # points of sale year (t-1)	This relation, calculated per each year, helps to get an idea of how the event is still attractive for stores and how strong is the bargaining power of Banco Alimentare.
Organizing phase	
	Measuring this indicator, every year, it is possible to understand whether the event
# volunteers	is sustainable in term of resources. Keeping in mind that thanks to this event Banco
# points of sale	Alimentare manages about 80000 ton, the quantification of presence of volunteers
	is crucial in the organizational phase.

## Executing phase

Kg collected # points of sale Thanks to this indicator, it is possible to have an overview of the volume of the donation. The average, calculated on all the points of sale, gives a vision of how GNCA is a global and national initiative.

## Controlling phase

# points of sale year (t) # points of sale -1 year (t-1)

Through this relation, it is possible to understand the behaviour of the points of sales and to control, every year, the attractiveness of the events.

4.3.1.7	AGEA

AGEA	Planning	Organizing	Executing	Controlling
Dimensions	Compliance with requirement and regulations Volume of products	Coordination of the delivery of product to the OBA	Control of document	Compliance with requirement and regulations
Indicators	Kg of products year	Cost of coordination Kg of products	# sanctions due to wrong documentation	# sanctions due to wrong documentation
Actor As-is	FBAO	FBAO	FBAO	FBAO

Figure 4.3.8 Framework for AGEA

As for the case of producer organizations, AGEA is under the control of the European Commissions, which directly produced the products to be donated.

For this reason, in the planning phase it is more important the compliance with requirements and regulations in order to be part of the European program.

Also, the volume of products is a crucial dimension because, this process represents, in many cases, half of the products received and it is a condition of existence of many OBAs which are strongly dependent on this channel to accomplish their mission.

In the organizational phase, the main dimension is the coordination of the delivery of the delivery of products to the OBAs. Since most of the products realized by AGEA, is transported directly to the Parma warehouse, the organization will decide the best way to distribute the products to the regional warehouses. Alternatively, Banco Alimentare can coordinate with suppliers to deliver products directly to regional warehouses; in both of cases, coordination of deliveries must be more than efficient to avoid wasting resources.

Due to the strictly regulation imposed by the European commission, compliance with the documentation is fundamental in order to received products from AGEA. It is also the case of the controlling phase, where it is crucial the continuously control of documentation and requirements.

For all this reason, the indicators used to measure the process are the follow one:

### Planning phase:

Kg of productsThis indicator can help to understand how much this process is incisive on the<br/>totality of products collected by the organization.

## Organizing phase

Cost of
coordination
Kg of products

Thanks to this relation, the organization can measure its efficiency in the use of its resource in order to not waste.

### Executing phase

# sanctions due to wrong documentation Monitoring the number of sanctions can help to prevent penalties due to the malfunctioning of the system and control the whole process.

#### Controlling phase

# sanctions due to wrong documentation Monitoring the number of sanctions can help to prevent penalties due to the malfunctioning of the system and control the whole process.

## **CONCLUSIONS**

## 5.1 CONCLUSIONS AND FRAMEWORK PROPOSAL

The main purpose of this research is to understand the organizational structure of Banco Alimentare ONLUS in order to develop a pilot methodology or set of guidelines, applied to the Italian case but potentially useful to all actors in the sector, to analyze the performance of such difficult organizations. Specific output provided by the study are a definition of the key actors, their role and competences and the identification of the main processes; a diagnosis of As-is situation and the identification of the level of centralization and decentralization; an identification of the most relevant dimensions and performance indicators for every process and sub process; an identification of a possible link between the level of centralization / decentralization of the competences with the performance of the process.

The two key points of the analysis can be the organization and the measurement of the performance, which are achieved through a chain of increasingly deeply analysis.

Description of Banco Alimentare ONLUS: thanks to the support of different literature tools, it
was possible to achieve a clear comprehension of the structure of this organizations. The two
elements are: FBAO and OBAs.

The first one assume a planning and coordinating role, and, thanks to its national vision, performs more strategic activities. On other hand, OBAs, being closer to the different regional reality, guarantee the realization of the day by day activities and support charitable organizations. They are characterized in heterogeneous way in term of structure, number of volunteers and employees, tons of food managed and number of beneficiaries.

The whole organization can be considered as a process-based system, where all the processes can be classified through the Porter's Value Chain model, as explained in Figure 5.1.1 Each

process can be declined in those activities managed by Fondazione Banco Alimentare (FBAO), the ones in charge of the regional Organizzazioni Banco Alimentare (OBA) and the activities performed by both entities.

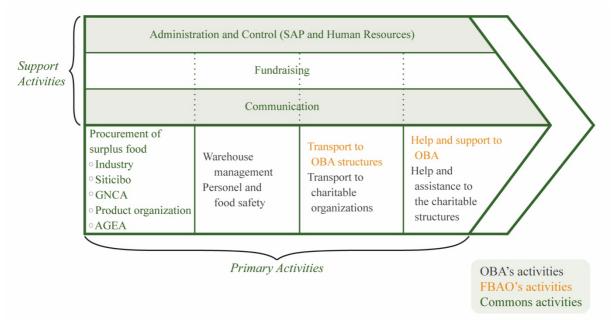


Figure 5.1.1 Porter's Value Chain applied to Banco Alimentare case

2. After the description of all the process, the following step of the analysis consisted of individualizing the allocation of responsibilities, per each process, across the four dimensions: planning, organizing, leading and control.

This diagnosis the As-Is situation of the level of centralization and decentralization, was achieved by several meetings with FBAO and OBAs.

Many consideration come out from this analysis: firstly, it becomes evident that FBAO assumes a planning and guiding role due to its strategic vision. It means that FBAO is responsible to contact companies, consolidate partnership and realize events with national level impact. Other important activity could be the development of formats and procedures that must be respected and followed by the regional food banks.

Vice versa, OBAs, due to their closer presence in the regional reality, perform more operational activities. However, planning and organizing are activities managed also by the regional banks: important to underling that each OBA is economically and legally independent, also as in the realization of some regional activities.

3. The third step of the research proposed a framework which should be applied to each sub process.

SUB-PROCESS	Planning	Organizing	Executing	Controlling
Dimension				
Indicator				
Actor As-is				

Figure 5.1.2 Proposed framework

For each of them, the most relevant dimension was identified. It means that for each activity was indicated the relevant dimension through which measures the performance of the process. Consequently, per each dimension, a set of key performance indicators was provided to make possible a feature measurement of the process.

In the last row, the actor of the as-is situation means the actors who takes the responsibilities of the process.

4. The last step considers the application of this framework to the procurement process.

The result is a tool, and a set of activities, which should be applied to each process and sub process in order to find the relevant area of improvements.

## **5.2 THEORETICAL AND MANAGERIAL IMPLICATIONS**

The scientific contribution of this study is ambivalent: on the one hand, it tries to cover the gaps in the literature regarding the organizational models applicable to the non-profit sector and especially to the food banks.

The difficulty lies in the fact that these types of organizations are influenced by both external and internal factors that make it almost impossible to model them and identify common factors.

The second contribution is the proposal of a framework or a methodology that helps Banco Alimentare organizations in the decision-making process.

In this case, the decisions regard the assessment of the allocation of competencies between FBAO and the OBA in order to bring benefits in terms of performance for the organization.

Moreover, it could be possible to find other managerial implications, from the prospective of Banco Alimentare itself: for instance, the implementation of 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.

## 5.3 LIMITATIONS AND OPPORTUNITIES FOR FURTHER RESEARCH

Regarding limits and considerations for further research there are several considerations to do. First of all, one of the most critical point of the research was the gathering of data: FBAO and the 21 OBAs: they are completely different structures, both in terms of resources, of employees and of regional reality. For the realization of the study, only 4 regional banks were interviewed, so here there could be an opportunity to enrich the analysis.

Then, other improvement could be achieved with the implementation of the framework to all the other sub process. Although the applied logic is the same, using the framework for the study of all other sub process, there could be found discrepancies, misalignments or opportunities for improvements.

Always about the framework used, another opportunity could be to learn how to measure the KPIs in a quantitative way. In the As is situation, the lack of current data didn't allow concrete measurement, but, further research could measure the performance through the use of the proposed KPIs.

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# **APPENDIX**

GENERAL DESCRIPTION AND COMPOSITION

Can you provide an overview of the main activities of the process?

How many people are involved in the process? Comprising volunteers and employees.

Are management and control standards currently applied in the process?

Do you use indicators to measure and monitor the performance in the process?

**REVIEW OF THE PROCESS AND ALLOCATION OF RESPONSIBILITIES** 

What is the current division of the process in sub-processes?

Would you make any modification on that division and why?

Can be identified the allocation of responsibilities between FBAO and OBA in this structure?

#### DEFINITION OF DIMENSIONS AND INDICATORS FOR PERFORMANCE

What are the most relevant dimensions for performance in the process?

In what dimensions is necessary to maximize the performance?

For each of these dimensions what indicators would you use whether if they are qualitative or quantitative?

#### CRITICAL ISSUES AND AREAS FOR IMPROVEMENT

Given the current organizational structure of Banco Alimentare, do you identify critical issues? If affirmative, what are those, what would you change and why?

According to you, are there any processes that should be more centralized or decentralized?

Are there any moments of sharing and confrontation between FBAO and OBA regarding the activities of your process?

Do you have in mind any case of failure or success that can be attributed either to FBAO or OBA?

Are there significant differences of performance between FBAO and OBA? And among the OBA themselves?

## SET OF OUESTIONS 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?

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