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Le rôle de la logistique dans le succès des opérations humanitaires: Une approche par les compétences

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Bogota, January 2013.

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Introduction

"We circle the capital for two hours, waiting for the control tower's permission to land. We finally start our descent. But at that moment, the pilot is told to pull the head around and head for small airport on the top of Santo Domingo. There is nothing we can do about it. We are pulling our hair out. We end up landing in Samana, in a small airport that wasn't remotely geared up to receive a plane like ours. A departure is announced for that evening. But once again, landing permission in Port-au-Prince is refused. So everyone jump into action, the Dominicans are incredibly helpful. We offload the 25 tons of supplies from the plane and transfer them on to 5 trucks. On Sunday, at 6pm, we are on the road, heading for Port-au-Prince" [1].

Context

Thousands of people suffering, millions of goods needing to be delivered, reduced or inexistent communications infrastructure, major disruption of physical infrastructure and a general destabilized environment are some of the characteristics common to mostly every humanitarian crisis. Over the past years, the number of natural disasters reported has suffered a frightening increase all around the world. The Centre for Research on the Epidemology of Disasters (CRED) have shown through its Emergency Event Database (EM–DAT), that even though the number of people reported killed has decreased in the last few years (from >500.000 in 1920's to <100.000 from 1980), the number of people reported affected has increased (>200.000.000 from 2000)[2] (see Figure 1), having a great impact in the relief operations undertaken. For instance, after the relatively moderate

[1] Dr. Philippe Touchard, MSF Anesthetist, comment on the Haiti Earthquake response, Jan. 16^{th} 2010.

[2] Source: http://www.emdat.be

year of 2009, the extent of the impact of natural disasters took a turn for the worse in 2010. A total of 385 natural disasters killed more than 297 000 people worldwide, affected over 217 million others and caused USD 123.9 billion of economic damages (CRED, 2010). One of the mayor disasters that occurred in 2010 was the Haiti Earthquake on January 12, which caused 222 570 fatalities and affected over 39.1% of its population − or a total of 3.9 million victims −.

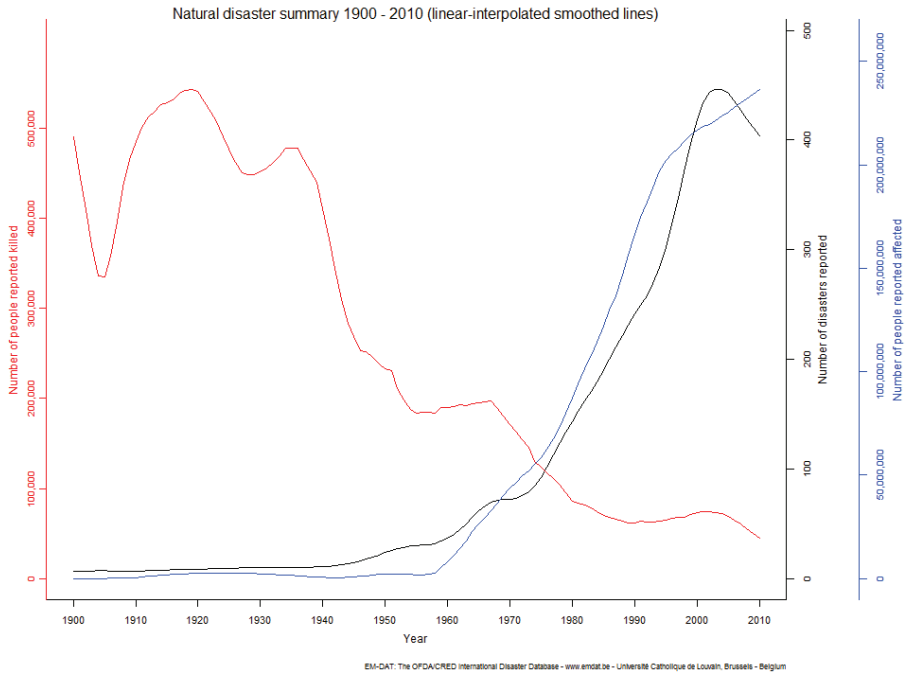


Figure 1: Natural disaster summary 1900 - 2010 (EM-DAT)

Kent (2004, p. 10) states that, "as well as increasing in number, UN operations had also expanded in scope and complexity, and in the variety of contexts in which they were deployed, from 'classic' peacekeeping to operations in highly unstable environments". Moreover, "over the past decade, humanitarian operations have become increasingly complex, with multiple actors, new roles for the military, new and evolving standards and guidelines, new terminologies, new products, a variety of coordination platforms, changing donor roles, challenges in accessing populations in need and chronic conflicts and

anomalous climate patterns leaving communities more vulnerable than ever" (Elsharkawi et al., 2010, p. 45). Other issues such as population displacement, the breakdown of health services, lack of housing, clean water and sanitation, reveal the complex nature of an emergency (Balasegaram, 2005).

Disaster can be broadly defined as "a serious disruption of the functioning of society, posing a significant, widespread threat to human life, health, property or the environment, whether caused by accident, nature or human activity, and whether developing suddenly or as the result of complex, long-term processes" (UN, 2006, p. 3). A relief operation is defined as "those activities designed to reduce loss of life, human suffering and damage to property and/or the environment caused by a disaster" (ICET, 1998, p. 8). A basic differentiation of humanitarian relief activities can be made between continuous aid work (i.e. famine relief, region development or running a refugee camp) and disaster relief (Kovacs and Spens, 2007a). In these unique interventions, planning and preparation are very different (Long, 1997), and humanitarian logistics defined as "the process of planning, implementing and controlling the efficient, cost-effective flow and storage of goods and materials as well as related information, from the point of origin to the point of consumption for the purpose of meeting the end beneficiary's requirements" (Thomas and Mizushima, 2005, p. 60) needs to be adapted to each situation.

Humanitarian relief comprises a myriad of actors which include donors, aid agencies, Non-Governmental Organizations (NGOs), governments and logistics providers (Kovacs and Spens, 2007a), each one having its own goals and way to operate and thus, coordination becomes a challenge to the relief rather than a source of support (Long and Wood, 1995). Together, these organizations create supply chains or networks that manage physical, information and financial flows from suppliers to end customers (van Wassenhove, 2006). Logistics intervenes in all aspects of humanitarian supply chains, such as the effectiveness of suppliers and transportation providers, the cost and timeliness of relief efforts, the

appropriateness of donated goods and information flows between the field, headquarters and donors, and has the potential to enhance the success of programmes and increase the effectiveness of operations (Thomas, 2003). Disaster relief is often considered as a three phase process, i.e. preparation, response and recovery (Lee and Zbinden, 2003; Kovacs and Spens, 2007a), and therefore, three different types of supply chains, are found in this context (Jahre and Heigh, 2008): the *permanent supply chain*, a stable and generally predictable supply chain, where activities and processes are standardized in order to achieve responsiveness, the *emergency supply chain*, a temporary, unpredictable and unstable supply chain that is set up in days by specialist teams to respond to a crisis, and the *project supply chain*, a temporary–locally managed set of resources, usually set in the recovery phase of a disaster or for prevention purposes.

Research question

The role of logistics as a source of competitive advantage for firms has been largely issued in the strategic management literature (e.g Porter, 1985; Stalk et al., 1992; Day, 1994; Olavarrieta and Ellinger, 1997; Fabbe-Costes and Colin, 2007). This is supported by the idea that firms are a bundle of resources (Wernerfelt, 1984) and that a firm's performance is related to its special competences in deploying and combining its human, physical and reputational capital (Conner, 1991). If resources are defined as stocks of available factors that are owned or controlled by the firm, and capabilities as a firm's capacity to deploy resources (Amit and Schoemaker, 1993), firm–specific logistics resources and capabilities can thus explain the differences in performance among firms in the same industry (Olavarrieta and Ellinger, 1997). Moreover, if we consider that organizations 'know how to do things', organizational knowledge accounts for the organization's ability to perform an action, i.e. an organizational capability (Dosi et al., 2000). Therefore, logistics can be considered as a know-how that enables organizations to perform any given

activity. Moving this to the humanitarian context, one can think that critical resources and the organization's capacity of deploying them can make the difference between a successful response operation, project or programme, and a unsuccessful one, and thus, logistics could be regarded as both, a distinctive competence, i.e. a critical functional activity through which a strategy is implemented (Hitt and Ireland, 1985) and that allows an organization to be distinguished from its competitors, and a core competence, i.e. the combination of technologies and production skills that underlie a company's myriad product lines (Prahalad and Hamel, 1990). Nevertheless, due to the specific circumstances under which the activities are developed, characterized by an environment with destabilized infrastructures and an unpredictable demand of goods (Cassidy, 2003), it is possible to think that each intervention is unique and thus, the resources needed and/or deployed in each operation could vary depending on the type of the intervention, meaning that different capabilities would be needed. For this, the identification of organizational capabilities that permit to effectively respond to an emergency is required.

If a supply chain is defined as "a set of three or more entities (organizations or individuals) directly involved in the upstream and downstream flows of products, services, finances and/or information from a source to a customer" (Mentzer et al., 2001, p. 4), humanitarian relief operations can be explained in terms of temporary supply chains or networks, created to respond to a particular crisis and ensure the achievement of the *raison d'être* of the organization, in the same vein of Jahre and Fabbe-Costes's (2005) work on semi–integrated supply chains. Accordingly, resources are seen as "lego–bricks", designed in modular ways so they can change forms and functions when connected to other bricks. Therefore, temporary supply chains would work under the "plug, play and unplug" concept (Ibid.), linking a specific set of actors that mobilize a specific set of resources in order to fulfill the operation's requirements and ensure its success. Assuming that each relief operation has a specific set of characteristics, goals and success criteria, one can also think that a

specific set of logistics resources need to be deployed in order to achieve these goals and ensure success by coping with the characteristics of the project. The research question (R.Q.) is thus,

'What are the organizational logistics competences and capabilities needed to ensure the success of humanitarian relief operations?'

The purpose of this research is to explore the role that logistics as an organizational competence plays in the success of humanitarian relief operations. For this, we adopt a competence-based approach, defending the thesis that **logistics goes beyond the boundaries of a support activity and can be regarded as both a core and a distinctive competence and thus, a source for strategy**. It is worth noting that one of our assumptions is that such logistics competences and capabilities are found within the boundaries of an organization, a intra-organizational vision that has an important impact in the development of this research. Another assumption used in this research is that, although humanitarian relief is a non-for-profit context, international NGOs compete for resources and thus, it is relevant to introduce the core and distinctive concepts. This research also aims to contribute to the ever growing body of knowledge of humanitarian logistics by identifying the organizational logistics competences and capabilities required to respond to any given humanitarian crisis and succeed in this context, a subject that is seldom found in humanitarian logistics literature. To date, most studies on humanitarian logistics competences and/or capabilities, both from academia (e.g. Tatham et al., 2010) and practice (e.g. CBHA, 2011), focus at the individual level, with no further interest in the organizational level. This thesis aims to fill that gap by identifying those competences and capabilities that enable an organization to respond to an emergency. To do so, it is necessary to define the scope of this research.

Scope

Procurement and delivery of adequate relief supplies are typically time-consuming and expensive (Balcik and Beamon, 2008). Over the past years, an important amount of research on humanitarian logistics has focused on determining whether local or global procurement is the best solution (e.g. Adinolfi et al., 2005; Beamon and Kotleba, 2006). Local procurement can sometimes be advantageous due to low transportation costs, prompt deliveries, and the support it provides to the local economy, not without risking availability and quality of the items, while global procurement offer the possibility of obtaining better quality and larger quantity of items, despite longer delivery times and higher transportation costs (PAHO, 2001). Taking this into account, it is possible to classify humanitarian organizations with regards to the type of procurement they use. In addition to this, as it was previously said, a differentiation is made between continuous aid work (i.e. development) and relief (i.e. emergency response). Therefore, humanitarian organizations can be classified following these two criteria (see Figure 2). As it can be seen in the figure below, most organizations are present in both development and emergency response, however, some specialize in one of the two activities (represented in capital letters). Moreover, the boundaries between development and emergency response as well as global and local procurement are rather blurry, this is why we chose to use a dotted line to differentiate the quadrants.

In the first quadrant (I), we can find the international NGOs which main activity is continuous aid and development programmes. Among these, the International Committee of the Red Cross (ICRC)[3] focuses on protecting civilians, reuniting families, ensuring economic security and the provision of health care, shelter and WatSan (Water, Sanitation & Hygiene), Oxfam[4] develops multiple campaigns on health and education, agriculture

[3]http://www.icrc.org/
[4]http://www.oxfam.org/

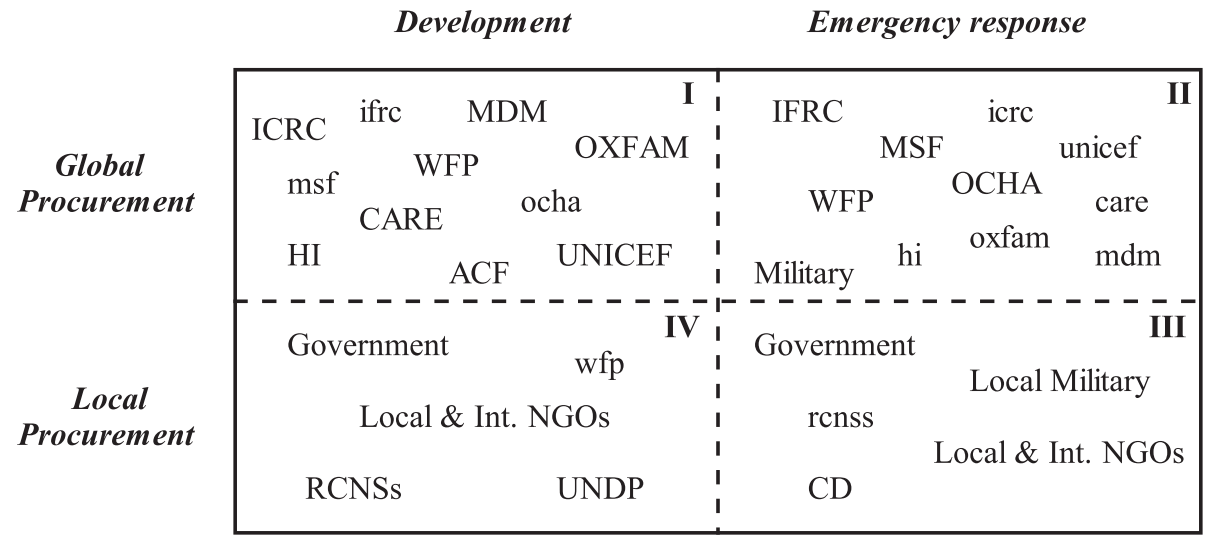


Figure 2: A humanitarian organizations classification

and climate change, Unicef[5] focuses on child survival, development, education, HIV/AIDS and protection, Action Against Hunger (ACF)[6] that works on nutrition, health and healthcare, food security and WASH (Water, Sanitation and Hygiene), and the World Food Programme (WFP)[7], the world's largest humanitarian agency fighting hunger worldwide. These organizations source mostly globally and deliver food, medicines and other relief items to the people in need. The second quadrant (II) reunites those international NGOs that are specialized in emergency response. These include the International Federation of the Red Cross (IFRC)[8] where disaster response represents the largest portion of the International Federation work, Médecins Sans Frontières (MSF)[9], an international medical humanitarian organization specialized in emergency response, and the World Food Programme. Not surprisingly, these three NGOs are recognized for their logistical capacity to respond to emergencies thanks to their strategic pre-positioned stocks sourced globally. Quadrants III and IV include governments, local NGOs as well as

[5]http://www.unicef.org/
[6]http://www.actioncontrelafaim.org/
[7]http://www.wfp.org/
[8]http://www.ifrc.org/
[9]http://www.msf.fr/

national offices of international NGOs such as the Red Cross National Societies (RCNS), through which the Red Cross Movement reaches local suppliers. These organizations aim to support local economies through local sourcing.

As previously said, the aim of this research is to identify the organizational competences and capabilities that enable an organization to respond any given humanitarian crisis. If we take into consideration the specific circumstances under which humanitarian operations are developed, one can infer that organizations possess a number of specific logistics competences that enable the effective deployment of resources to the field. This thesis thus focuses on the logistics competences and capabilities of those international humanitarian organizations that have shown, throughout the years, an important expertise in responding to emergencies (Quadrant II). Nevertheless, as shown in Figure 2, most organizations are present both during emergencies (response) and between emergencies (development). Taking this into account, this research enfolds both dimensions of logistics in order to gain a full understanding of this activity and the required competences and capabilities. For this, a number of theoretical and methodological choices were done in the pursue of our quest.

Theoretical frame of reference

With the purpose of answering our research question, a theoretical frame of reference was built based on three existent literatures at three different levels (see Figure 3). In the figure, the three literatures are presented in circles belonging to a specific level. It is important to notice that for this thesis, logistics and SCM are considered to be in the management level, which is found 'in between' the theoretical and contextual levels, as "logistics research has its roots in theories borrowed from the more established disciplines", and compared to other disciplines "does not have as rich a heritage of theory development and empirical research" (Stock, 1997, p. 515). Moreover, the links between these three

literatures are shown in the intersection of the circles, revealing an 'empty space' where the research question (R.Q.) is found.

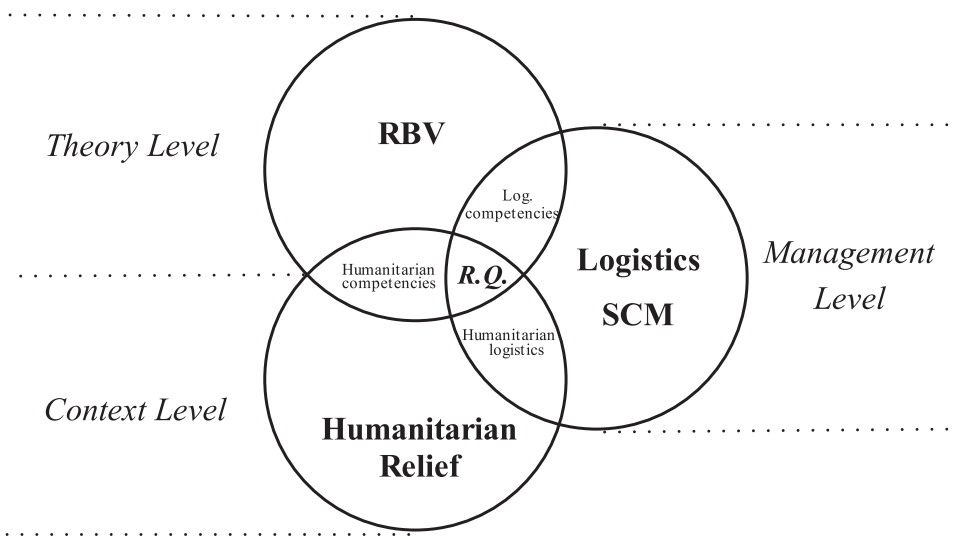


Figure 3: Theoretical frame of reference

Theory level - RBV of the firm

In economic theory, the nature of the firm has been the subject of a great amount of research streams including a shareholder perspective (Berle and Means, 1932), a transaction cost perspective (Williamson, 1975), and a behavioral approach (Cyert and March, 1963), among others. One stream of research, the Resource Based View of the firm, proposes that the basis for a competitive advantage of a firm lies primarily in the application of the bundle of valuable resources at the firm's disposal (Wernerfelt, 1984). Moreover, taken together, "superior skills and resources represent the ability of a business to do more or do better than others" (Day and Wensley, 1988, p.2). If we consider that humanitarian organizations differ one to another in the way they respond to a crisis and thus, the way they manage their resources to achieve their goals, the RBV theory will allow us to understand how resources and superior skills are defined and how can these be a key element for the success of humanitarian relief operations.

Management level - Logistics and SCM

One of the main elements of this research, as it is put forward in the thesis, is the strategic role of logistics. When considered as "the process of planning, implementing, and controlling procedures for the efficient and effective transportation and storage of goods including services, and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements" (CSCMP, 2010), logistics serves to link and synchronize the overall supply chain as a continuous process and is essential for effective supply chain connectivity (Bowersox et al., 2002). However, a part of the literature presents logistics as a part of Supply Chain Management that "encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities... includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers... and integrates supply and demand management within and across companies" (CSCMP, 2010). The proposed theoretical framework will permit us to define the boundaries of logistics and SCM and to identify the capabilities and competences presented in the literature as key element for the success of organizations.

Context level – Humanitarian relief

Humanitarian action is defined as the "assistance provided by one or a group of actors, implicated at different levels in an international aid system, governed by a number of principles, and carried out (under a number of values considered as universals) in favor of the populations whose living conditions, by nature (disasters) or by human action (internal or international armed conflict), are shattered, whose physical integrity is threatened or even survival is jeopardized" (Ryfman, 1999, p. 17). This context, unlike industry and commercial sectors, is characterized by a number of factors that make humanitarian relief unique, pushing organizations to find new ways to cope with uncertainty and to implement

new strategies in order to meet the end beneficiary's requirements. An overview of this context will allow us to identify the stakes that organizations must face and to understand how humanitarian relief works and what is the strategic role of logistics.

The intersections

Between the Resource-Based View and the logistics/SCM literature, the concept of **logistics competence**, i.e. superior internal routines and management activities that provide an important source of sustainable competitive advantage (Bolumole et al., 2007), is found. In this stream of research, several logistics competence models are presented based on empirical evidence. A literature review on logistics competences and capabilities will allow us to identify which are those competences and capabilities that suit the characteristics of the humanitarian context. Between the logistics/SCM and the humanitarian literature, the characteristics of **humanitarian logistics** and relief supply chains found in academic and practitioner literature, will contribute to our understanding of the circumstances in which humanitarian operations are carried out. The current state of development on **humanitarian competences** will be revealed in the intersection between the Resource-Based View and the humanitarian literature. Although literature in this stream is almost inexistent, a deep analysis of the humanitarian context will allows us to determine which of the activities performed can be considered as competences. Finally, enclosed by the literatures presented above, the research question of this thesis is found. In order to give answer to this question, we attempt to grasp from each literature the notions of ***humanitarian***, ***logistics*** and ***competence***, setting a basis for a better understanding of the empirical study.

Methodological considerations

As stated by Halldorsson and Aastrup (2003, p. 321), "at the core of every research effort is the notion of methodological soundness and rigor". Since the recognition of

logistics as a scientific discipline in late 60s, research has been strongly influenced by business disciplines from marketing, management and even engineering (Stock, 1997). Different methods have been used in logistics research going from mathematical modeling and simulation to survey research or from case studies to interview methods (Mentzer and Kahn, 1995). However, before choosing a method, a number of considerations must be taken into account, including the foundation (i.e., paradigm) on which one builds knowledge (Frankel et al., 2005).

Research paradigm

In management sciences, a research paradigm is a general perspective or way of thinking that reflects fundamental beliefs and assumptions about the nature of organizations (Gioia and Pitre, 1990), and it includes two elements: epistemology and ontology. Defined as the science of the methods of knowledge (Burrell and Morgan, 1985), epistemology deals with how we see the world, and the relationship between the researcher and the known (Frankel et al., 2005). On the other hand, ontology, defined as the science of being (Burrell and Morgan, 1985), refers to assumptions that a particular approach to social inquiry makes about the nature of social reality; what exists, what it looks like, what units make it up and how these units interact with each other (Frankel et al., 2005). Different research paradigms in which we find, positivism, post-positivism, and hermeneutics (Arlbjorn and Halldorsson, 2002); interpretivism, radical humanism, radical structuralism and functionalism (Gioia and Pitre, 1990); positivism and interpretivism (Mentzer and Kahn, 1995), positivism, critical realism and interpretivism (Solem, 2003); among others, have been proposed, used or identified by different authors in logistics literature.

The positivist paradigm emphasizes on the accumulation of knowledge and discrete steps that follow a consistent pattern and try to explain and predict reality, considered objective,

tangible and fragmentable (Mentzer and Kahn, 1995). Findings under this paradigm are considered value–free, time–free and context–independent (Sashan and Datta, 2005). In contrast, an interpretative paradigm seeks to generate descriptions and insights of events and understand a phenomenon, but not to explain or predict (Gioia and Pitre, 1990). In this paradigm, reality is defined as a "collective of multiple socially constructed realities" (Mentzer and Kahn, 1995, p. 232). The outcomes of this paradigm are considered time-specific and contextual (Sashan and Datta, 2005). In between these two research paradigms, lies the scientific realism paradigm, that for Hunt (1993) is a term that holds different versions of realism from social to critical.

As it is the case for most research in social sciences, humanitarian relief can be perceived as deeply context–rooted and, as a researcher, it is necessary to make an effort to understand the phenomenon and create descriptions based on the experiences that the researcher can endure during the study and those of the people involved. Moreover, the humanitarian context is in constant evolution and consequently, the characteristics found during a specific time period and at a specific region will certainly change. Therefore, for this research the chosen paradigm is the **interpretative**, as the purpose of this research is to explore a phenomenon without trying, at this stage of the research paradigm, to explain or predict future outcomes.

Research approach

Another important consideration is what research approach needs to be adopted. A research approach is defined as conscious scientific reasoning (Kovacs and Spens, 2005). Two classic research approaches are found in research literature (see Figure 4). The *deductive research approach* follows the path from logical conclusions derived from theory, presented in form of hypothesis or propositions, to empirical testing and presentation of general conclusions based on corroboration or falsification of the propositions (Kovacs and

Spens, 2007b). The research process is thus, from theory (rule) to field (case) to result (Kovacs and Spens, 2005). In contrast, *the inductive research approach* follows the path from empirical evidence, that leads to propositions with no necessary previous theoretical knowledge, to a theoretical frame (Kovacs and Spens, 2007b). Research process is, in this approach, from field (case) to theory (rule) to result (Kovacs and Spens, 2005). In line with the positivist paradigm, the hypothetico–deductive research approach seems to be predominant in logistics research (Arlbjorn and Halldorsson, 2002), which is more suitable for testing theories and not creating new science (Ibid.), a surprising fact in a relatively new field of research such as logistics (Kovacs and Spens, 2005).

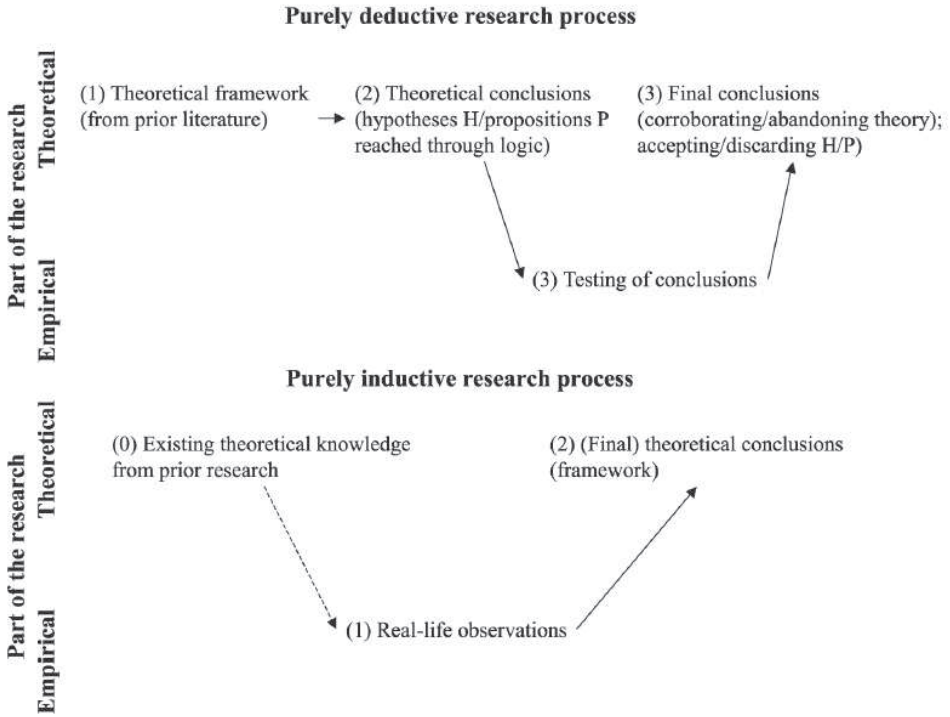


Figure 4: Purely deductive and inductive research processes (Kovacs and Spens, 2005, p. 137)

Nevertheless, great advances in science had neither followed a pure deductive nor pure inductive research approach (Taylor et al., 2002). Instead, a 'back and forth' between theory and reality was used. This research approach is called *abductive* (Kovacs and

Spens, 2005), and emphasizes the search for suitable theories to an empirical observation (see Figure 5). The abductive research approach aims to understand a new phenomenon and suggest new theory, in form of new hypothesis or propositions (Kovacs and Spens, 2007b), or refine existing ones (Dubois and Gadde, 2002). The path of abductive research begins with an empirical observation (Kovacs and Spens, 2005), that deviates from a theoretical framework and that does not match these prior theories (see, for example, Dubois and Gadde, 2002). An iterative process of 'theory matching' begins, modifying the prior framework or extending theory as the case evolves (Ibid.). The approach concludes with the suggestion and further application of hypothesis or propositions. The research process is thus, from theory (rule) to result to field (case) (Kovacs and Spens, 2005).

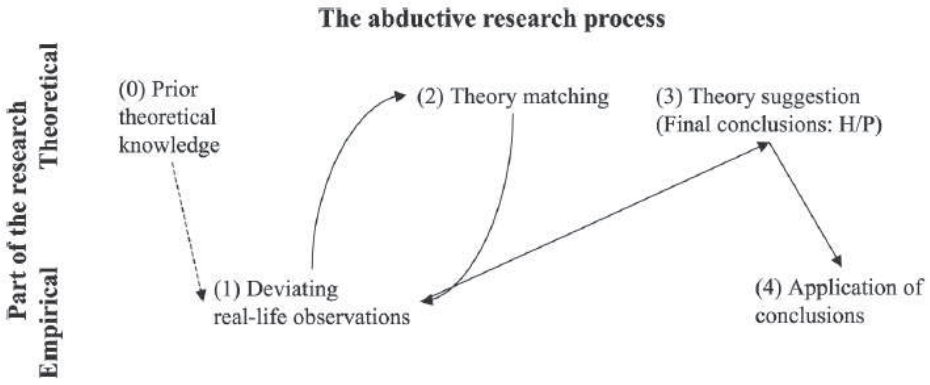


Figure 5: The abductive research process (Kovacs and Spens, 2005, p. 139)

This research process is also called 'systematic combining' (Dubois and Gadde, 2002), defined as a "process where theoretical framework, empirical fieldwork, and case analysis evolve simultaneously, and it is particularly useful for development of new theories" (Ibid. p. 554). The authors describe systematic combining in terms of two processes: a first process that focuses on matching theory and reality, while the second deals with direction and redirection (see Figure 6). The matching process consist on going back and forth between framework, data sources, and analysis, enabling the researcher to expand his understanding of both theory and empirical phenomena. Direction and redirection, on

the other hand, deals with combining multiple sources of evidence, that may contribute to revealing aspects unknown to the researcher, i.e., to discover new dimensions of the research problem and thus, the redirection of the study.

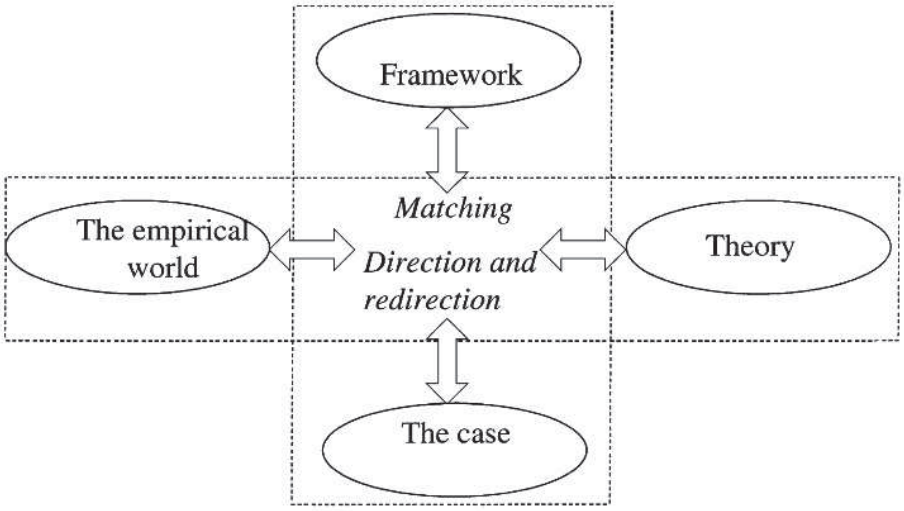


Figure 6: Systematic combining (Dubois and Gadde, 2002)

For this research we chose to adopt an **abductive** research approach given the characteristics of our research process. In order to respond to our research question, we have deliberately performed a back and forth between reality and theory, seeking for explanations of what the empirical world had to offer. This process led us to exploit different sources of evidence by using different research methods, and exploring new theories that contributed to the evolution of the theoretical framework. Consequently, through this research we aim to contribute to theory development by proposing research perspectives that will be developed after the defense of the PhD.

Research design

Defined as the "overall configuration of a piece of research" (Easterby-Smith et al., 1991, p. 21) , research design allows the researcher to "build, revise and choreograph the overall research study" (Miles and Huberman, 1994, p. 16). It also drives the choices of methodology and methods (Frankel et al., 2005).

Methodology

The Merriam Webster dictionary defines *methodology* as "a body of methods, rules, and postulates employed by a discipline". In Frankel et al.'s (2005, p. 187) words, "methodology deals with how we gain knowledge about the world... [and] is the rationale or basis for the selection of methods used to gather data, and for determining the sequence and samples of data to be collected". Different criteria are presented for choosing the research method. Some of these are: the type of research question posed – i.e. who, what, how, why, etc. – (Yin, 2009), the nature of the phenomenon – i.e. contemporary Vs. historical – (Eisenhardt, 1989) and the researcher's philosophical stance (Tsoukas, 1989).

Research methodologies range from objective, scientific (quantitative) research styles to subjective, interpretive (qualitative) styles (Frankel et al., 2005). Qualitative research is often referred to as field research, due to "an intense and/or prolonged contact with a field or situation" (Miles and Huberman, 1994, p. 6). Here, the role of the researcher is to gain an holistic overview of the context under study, capturing data on the perceptions of local actors 'from the inside' (Ibid.). On the other hand, quantitative research is "designed to quantify the extent to which certain phenomena behave/respond to stimuli in specified ways" (Frankel et al., 2005, p. 188), and "seeks general laws as well trying to explain and predict by searching for regularities".

Through this thesis, we seek to understand the strategic role that logistics can play in the success of humanitarian relief operations by establishing a contact with the humanitarian context. This choice allows us, as researchers, to be integrated at a certain degree into this field, in order to capture the personal perception of the actors of the study. Taken this into account, a **qualitative methodology** seems appropriate for this thesis.

Research method

Finally, the question about which research method to use arises. Defined by Frankel et al. (2005, p. 188), "research methods are the data collection techniques which refer to the specific, fact-finding procedures that yield information about the research phenomenon". Ellram (1996) states that most empirical research in logistics is based on quantitative methods, such as simulations and model building as well as statistical testing of survey data. However, logistics as a discipline, is experiencing a movement towards more qualitative methods (Halldorsson and Aastrup, 2003). As in the case of research methodology, a number of factors can influence the choice of a research method. Meredith et al. (1989) develop a framework for research methods based on two continuum (kind of information used Vs. nature of truth), that enables the categorization of research through the underlying tenets of its methodology (see Figure 7). The first dimension, the kind of information used, distinguishes between *natural* in one extreme, deriving explanation from concrete (empiricism), and *artificial* in the other extreme, deriving explanation from interpretation (subjectivism). The second dimension, the nature of truth, presents *rationalism* at one extreme, which uses a formal structure and pure logic as the ultimate measure of truth, and *existentialism* in the other extreme, that interprets knowledge as acquired through the human process of interacting with the environment. In this dimension, four perspectives that structure the research by different degrees of formalism from rational to existentialism, are presented.

The framework is used by Dunn et al. (1994) to classify logistics research papers of five journals for the years 1986-1990, and later by Sashan and Datta (2005) who performed the study based on three high ranked journals for the years 1999-2003. The results from this study were further compared with Dunn et al.'s (1994) work, Mentzer and Kahn's (1995) review on the papers published in the *Journal of Business Logistics* (JBL) between 1978 and 1993, and Samuel's (1997) comparison on dominating paradigms and methods used in

KIND OF INFORMATION USED

NATURAL ⟷ ARTIFICIAL

NATURE OF TRUTH: RATIONAL ↑ EXISTENTIAL

	Direct Observation of Object Reality	Peoples preceptions of Object Reality	Artificial Reconstruction of Object Reality
Axiomatic			Reason/Logic/Theorems, Normative Modelling and Descriptive Modelling
Logical Positivist/ Empiricist	Field Experiments and Field Studies	Structured Interviewing and Survey Research	Prototyping, Simulation, Laboratory Experiments
Interpretive	Action Research and Case Studies	Historical Analysis, Expert Panels, Delphi and intensive interviewing	Conceptual Modelling and Hermeneutics
Critical Theory		Introspective Reflection	

Figure 7: Framework for research methods (Meredith et al., 1989)

three logistics/SCM journals. Findings confirm the domination of a positive paradigm and quantitative research methods such as surveys, mathematical modeling and simulation in logistics research. Later, Ellram (1996) proposes the researcher's goal and the nature of the research question as the two main criteria for choosing between different research methods (see Table 1). Moreover, in Handfield and Melnyk's (1998) work a number of research methods and techniques associated are proposed depending on the researcher's purpose and the research questions he might be interested in answering (see Table 2). Finally, Yin (2009) proposes (1) the type of research question posed, (2) the extent of control an investigator has over actual behavioral events, and (3) the degree of focus on contemporary as opposed to historical events, as main criteria for choosing between methods.

As stated earlier, the purpose of this thesis is to *explore* and *understand* a phenomenon, i.e. the strategic role that logistics plays in achieving success of humanitarian relief operations. For this, the research inquiries on *what* are the required logistics resources and capabilities to achieve this success. In accordance to Handfield and Melnyk's (1998) framework,

the research structure to adopt can be either an in-depth case study or a longitudinal field study. The proposed techniques are observation, interviews and documentation among others. Moreover, following Ellram's (1996) classification, and based on the choice of research methodology, the suitable methods are case study, experiment, grounded theory, participant observation, ethnography andcase survey. Consistent with the research paradigm choice, Meredith et al.'s (1989) framework allows us to identify a number of methods depending on the kind of information used. Objective reality refers to *direct observation* by the researcher of the phenomenon, assuming that there is an objective reality and human senses can detect it. On the other hand, an *artificial reconstruction* of objective reality recasts reality into another form that is more appropriate for testing and experimentation. Moreover, *people's perception* of objective reality relates to the perception or abstract representation of the reality. In order to better understand the phenomenon, the researcher should be as close as possible to the context in which such phenomenon occurs. Therefore, the analysis of the perspective of the actors involved on humanitarian relief appears to be the suitable type of information used. Therefore, the proposed choices are case study and action research. Between the possible research methods found in both Ellram's and Meredith's et al. frameworks, **case study** arises as a relevant research method given that "it provides depth and insight into a little known phenomenon" (Ellram, 1996, p. 97).

Table 1: Match research strategy with theory-building activities (Handfield and Melnyk ,1998)

Purpose	Research question	Research structure	Examples of data collection techniques	Examples of data analysis procedures
1a. *Discovery*	* What is going on here?	* In-depth case studies	* Observation	* Insight
Uncover areas for research and theory development	* Is it interesting enough to research?	* Unfocused, longitudinal field study	* Interviews	* Categorization
			* Documents	* Expert Opinion
			* Elite Interviewing	* Descriptions
1a. *Description*	* What is there?	* In-depth case studies	* Observation interviews	* Insight
Explore territory	* What are the key issues?	* Unfocused, longitudinal field study	* Documents	* Categorization
	* What is happening?		* Elite Interviewing	* Expert Opinion
			* Critical Incident	* Descriptions
			* Technique	* Content analysis
2. *Mapping*	* What are the key variables?	* Few focused case studies	* Observation	* Verbal protocol
Identify/describe key variables	* What are the key themes, patterns, categories?	* In-depth field studies	* In-depth interviews	* Analysis
Draw maps of territory		* Multi-site case studies	* Diaries Survey questionnaires	* Cognitive mapping
3. *Relationship Building*	* What are the linkages between variables?	* Few focused case studies	* Observation	* Verbal protocol
Identify the linkages between variables/casual understanding	* Can an order be identified?	* In-depth field studies	* In-depth interviews	* Analysis
	* Why should these relationships exist?	* Multi-site case studies	* Diaries Survey questionnaires	* Cognitive mapping

Table 1: Match research strategy with theory-building activities (continued)

4. *Theory validation*	* Are the theories we have generated able to survive the test of empirical data?	* Experiment	* Structured interviews	* Triangulation
Test the theories developed in the previous stages	* Did we get the behavior that was predicted by the theory or did we observe another unanticipated behavior?	* Quasi-experiment	* Documents	* Analysis of variance
Predict future outcomes		* Large scale sample of population	* Open and closed-ended questionnaires	* Regression
			* Lab experiments	* Analysis
			* Field experiments	* Path Analysis
			* Quasi-experiments	* Survival Analysis
			* Surveys	* Multiple comparison procedures
5. *Theory extension / refinement*	* How widely applicable/generalizable are the theories that we have developed?	* Experiment	* Structured interviews	* Triangulation
To expand the map of theory	* Where do these theories apply?	* Quasi-experiment	* Documents	* Analysis of variance
To better structure the theories in light of the observed results	* Where don't these theories apply?	* Large scale sample of population	* Open and closed-ended questionnaires	* Regression
			* Lab experiments	* Analysis
			* Field experiments	* Path Analysis
			* Quasi-experiments	* Survival Analysis
			* Documentation	* Nonparametric statistics
			* Archival Research	* Meta Analysis

Table 2: Classification of research methods (Ellram, 1996)

Objective	Question	Examples of Appropriate Methodologies
Exploration	how, why	Qualitative
		* Experiment
		* Case study
		* Participant observation
	how often, how much, how	Quantitative
	many, who, what, where	* Survey
		* Secondary data analysis
Explanation	how, why	Qualitative
		* Experiment
		* Case study
		* Grounded theory
		* Participant observation
		* Ethnography
		* Case survey
Description	who, what, where, how	Quantitative
	many, how much	* Survey
		* Longitudinal
		* Secondary data analysis
	who, what, where	Qualitative
		* Case study
		* Experiment
		* Grounded theory
		* Participant observation
		* Ethnography
		* Case survey
Prediction	who, what, where, how	Quantitative
	many, how much	* Survey
		* Longitudinal
		* Secondary data analysis
	who, what, where	Qualitative
		* Case study
		* Experiment
		* Grounded theory
		* Participant observation
		* Ethnography
		* Case survey

Instrumentation

Nowadays, data analysis in most qualitative research is done using Computer Aided Qualitative Data Analysis Softwares (CAQDAS) as AQUAD, ATLAS.ti, MAXQDA, NUD*IST or NVivo, among others. These programs allow researchers to write or transcribe field notes, to edit (correct, extend and revise) field notes, to code (attach tags or key words) segments of text for further retrieval, to store data, to search and retrieve text segments for their inspection, to link different segments of data, to perform content analysis (frequency, location or sequence counting of words or sentences), to map the data and to display the data, among others (Miles and Huberman, 1994). Most programs are similar to one another and facilitate the execution of the same analysis, however, each CAQDAS has its own features (Leech and Onwuegbuzie, 2011). One of the most used softwares specially among young researchers is NVivo (Dean and Sharp, 2006), a CAQDAS developed by QSR International[10]. The main features of this program are the ability to organize and analyze literature reviews, to conduct second hand data analysis, and to record, collect, analyze and report data (ibid).

Moreover, NVivo offers an important number of qualitative data analysis types. Leech and Onwuegbuzie (2011) outline seven types of qualitative data analysis, i.e. constant comparison analysis, classical content analysis, keyword-in-context, word count, domain analysis, taxonomic analysis, and componential analysis, that can be performed by the program, albeit when conducting qualitative research, the researcher is the main tool for analysis (Denzin and Lincoln, 2005). Based on these characteristics, for this thesis we have chosen to use NVivo 8, and we performed some of the data analysis types depending on the goal of the query.

[10]For more information, visit http://www.qsrinternational.com

Expected results

As previously stated, this research attempts to contribute to the body of knowledge of humanitarian logistics, by revealing the strategic role that logistics plays in humanitarian relief. Through the case study, we expect to find evidence that support the idea that logistics is not an activity but rather, a strategic competence through which humanitarian organizations can deploy a strategy. The identification of these competences and capabilities will enable the organization in which the case study was performed, to understand its logistics capacities and to implement a process of continuous improvement of these competences and capabilities to increase its performance and ensure the success of its operations. Moreover, from the analysis of academic and practitioner literature, as well as the evidence from the case study, we expect to propose a logistics competence and capability framework that reflect the competences required for ensuring the success of humanitarian relief operations. Finally, based on the results of this research, we expect to find some hints for further research that help us to continue our contribution to the humanitarian community, as well as the academic community.

Structure

To be able to answer our research question and defend our thesis, we have decided to structure this thesis in four parts, each one attempting to answer to specific questions. In line with an abductive reasoning process (Dubois and Gadde, 2002), this structure enables a back and forth between the empirical world and the theory (see Figure 8). This thesis is structured as follows. The first part, **Humanitarian relief operations: Facts and challenges**, aims to describe the characteristics of the humanitarian context and reveal the role that logistics plays in ensuring the success of humanitarian relief operations. Chapter 1 will attempt to answer the questions *what is humanitarian relief?, what are the activities performed in the humanitarian context?* and *how is success measured?*,

seeking to identify the role of logistics in this context. Chapter 2 will address the questions *What is humanitarian logistics? and what is a humanitarian supply chain?*, two questions that permit to delineate the core subject of this research. The second part, the **Theoretical frame of reference**, aims to further the understanding and stabilize the definitions of the different concepts used and mobilized in the first part. In Chapter 3 we first will intend to answer to the questions *what is logistics?, what is a supply chain?, what is supply chain management?* and afterwards, to identify *what are the competences and capabilities of logistics and SCM?*. This will be our first attempt to identify the organizational logistics competences and capabilities based on a literature review. Chapter 4 will further the understanding on competences and capabilities by answering to the questions *how 'resource' is defined?, what is a competence?* and *what is a capability?* based on strategic management literature. This analysis will permit us to develop a logistics competence and capability framework that integrates the results from these two chapters. This will also allow us to determine whether *logistics is a competence* and if so *what kind of competence?*.

The third part, **the MSF case study**, aims to identify from empirical evidence, the organizational logistics competences needed in humanitarian relief, the second important step towards the answer of our research question. Chapter 5 will explain the methodological choices that were done in order to conduct the case study, as well as the data collection, treatment and analysis process. In Chapter 6, we will present Médecins Sans Frontières, the international humanitarian organization that agreed to collaborate for this thesis and with whom, we established a two-year research agreement. The main characteristics of the organization as well as it functioning are presented. Chapter 7 takes us to the heart of this research, and presents MSF's organizational logistics competences and capabilities. The fourth and last part, *The strategic role of logistics for humanitarian relief*, aims to shed some light on the strategic role of logistics in humanitarian relief

based on the different analysis performed throughout this thesis. In Chapter 8, a logistics competence framework for humanitarian relief is proposed based on the results from the academic literature review on logistics competences, and the results from the MSF case study. Chapter 9 presents the analysis that allows us to attest that logistics competences and capabilities contribute to the success of humanitarian operations. Moreover, the analysis that lets us consider logistics as a strategic function for humanitarian relief organizations is presented, as well as the arguments that support the idea that logistics can be regarded as both, a distinctive and a core competence for humanitarian relief. We conclude with some final remarks, contributions and limits of this research as well as hints for further research.

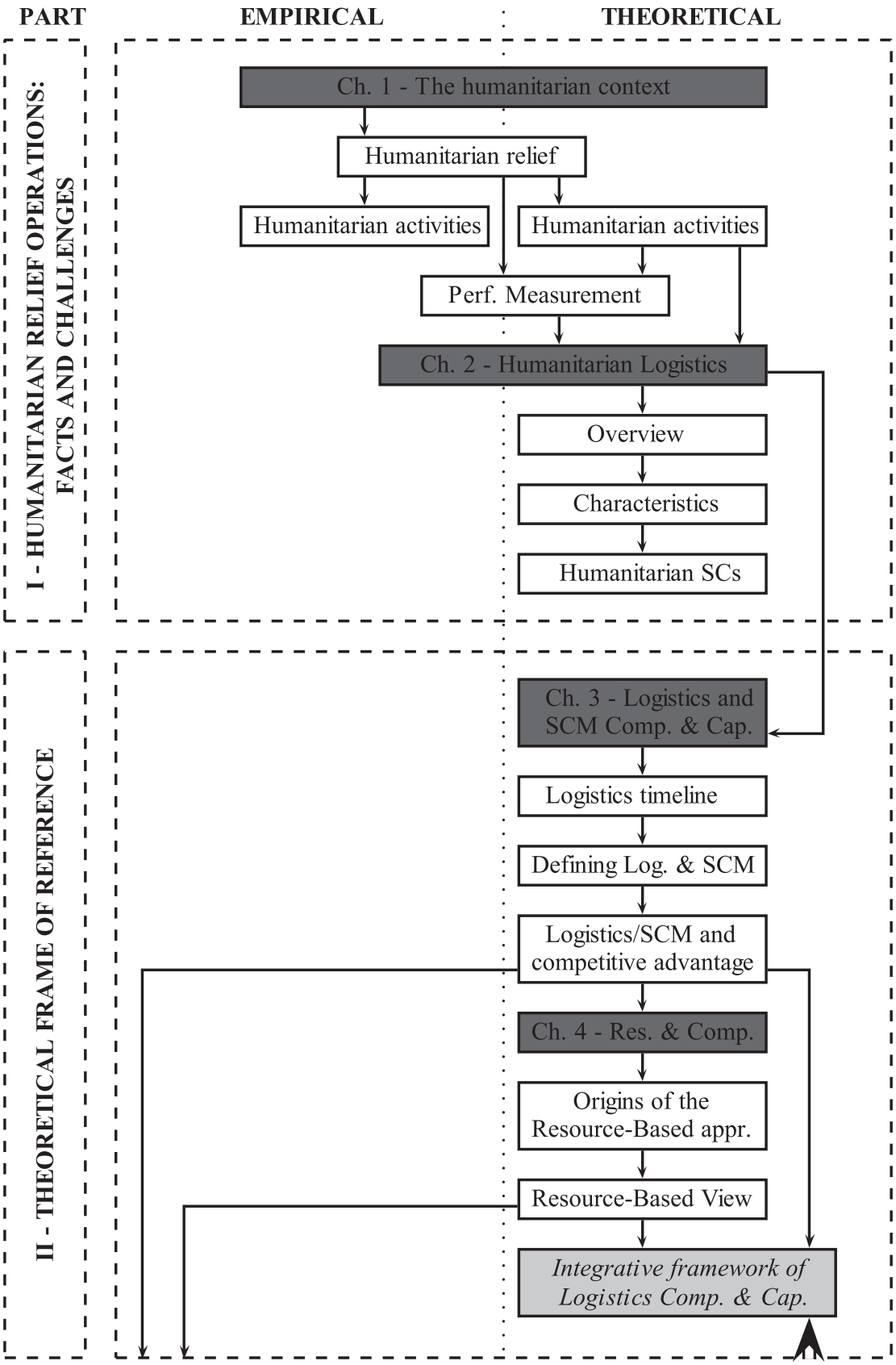


Figure 8: Thesis structure

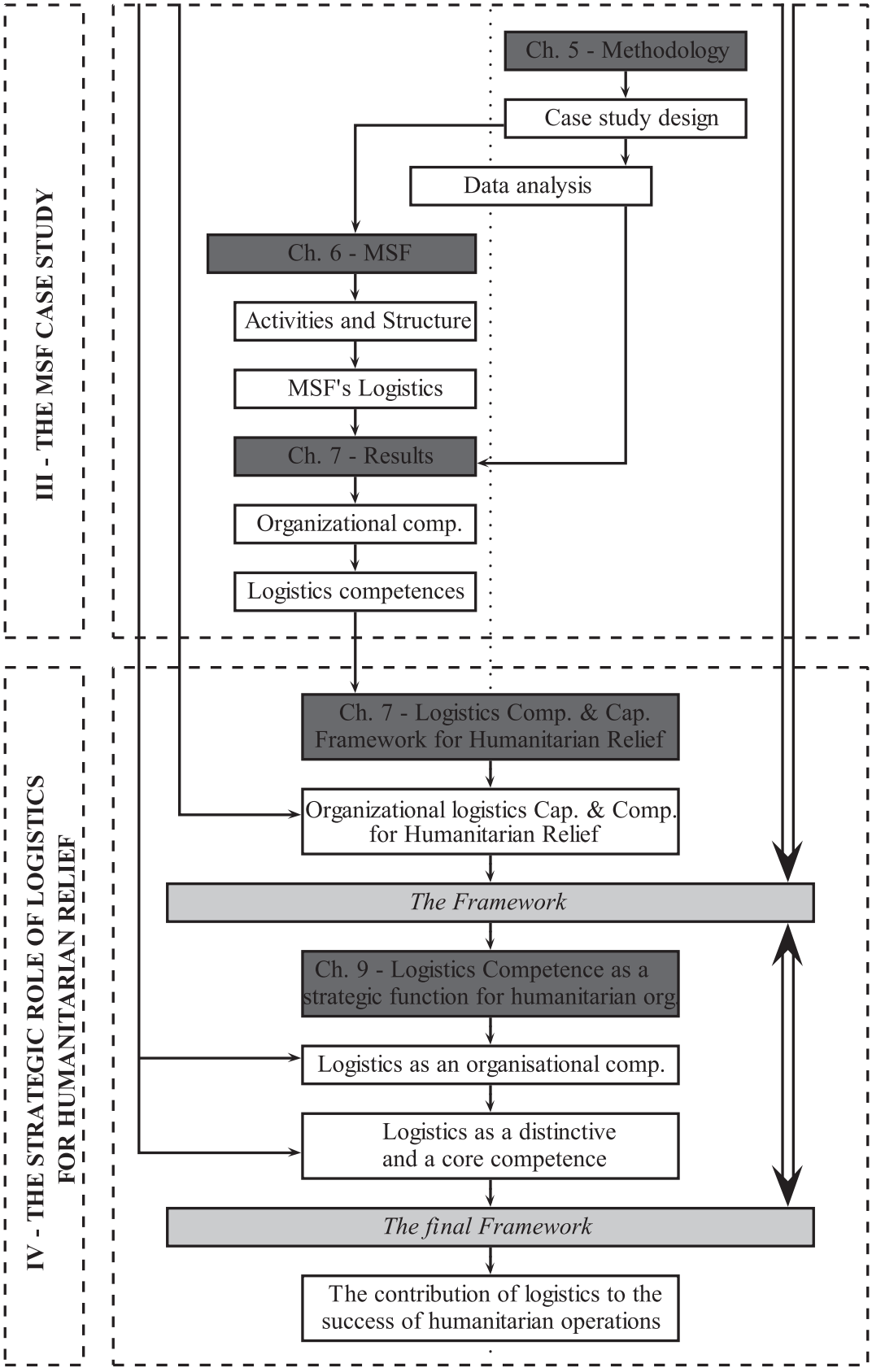


Figure 8: Thesis structure *(continued)*

About this thesis

This thesis was written using LaTeX 2_ε, a typesetting system that is very suitable for producing scientific and mathematical documents of high typographical quality (Oetiker et al., 2006). When producing a document, readability and understandability is much more important than the beautiful look of it. LaTeX 2_ε uses a 66-character length line in order to produce easy-to-read documents, ensure readability and avoid eyestrain. Throughout the document different fonts (e.g. **bold** and *emphasize*) were used to provide dynamism to the reading. Moreover, each chapter includes a table of contents to help the reader to identify the subjects that are addressed in each section. The chosen bibliography style for this thesis is the Harvard (author-date) style, using the BibTeX bibliographic database management system. Graphics were produced, whenever possible, with vector graphic tools. Vector graphics behave well for scaling and rotation without loss of quality, features that are not possible when using bitmap graphics. Each graphic and table include a caption specifying the source of the element. When the source is missing, the writer of this document is to be considered as the author of the element. Both graphics and tables are enumerated following the chapter where these are found. Thus Table 4.3, for example, will be the third table found in chapter 4.

Finally, two languages are used in this manuscript: English and French. English is used as the main language in order to facilitate the communication between the supervisors and the PhD candidate, and to reach the international research and practitioner communities. However, as this thesis is undertaken in a French research center (CReT-Log) and our partner for this research is a French NGO, the case study was written in French so as to provide a case study report to both, the research center and the NGO.

Part I

Humanitarian relief operations: facts and challenges

Chapter 1

The humanitarian context

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1.1 Introduction

During the past years, the word "humanitarian" has gained great popularity in the media and common language, sometimes even at the risk of loosing its substance in the multitude of uses and abuses that are made of this concept. The *Oxford English Dictionary* defines it as an adjective referring to something or someone "concerned with or seeking to promote human welfare", but is also used for "denoting an event or situation which causes or involves widespread human suffering, especially one which requires the large-scale provision of aid". The Larousse Dictionary (2003, p. 519) gives a similar signification for the adjective *"humanitaire"*, but includes a noun signification referring to "all humanitarian organizations and the work they do". Moreover, the Robert Dictionary (2003, p. 1288) places the word aside "philantropique", and defines it as "who intervenes

to save human lives in a situation of emergency (conflict, disaster)". However, despite the fact that it has become a common used word, the different definitions found in the dictionaries, both as a way of being or an actor, only show the difficulty of defining what humanitarian really means.

As it was presented in the introduction of this thesis, the objective of this chapter is to answer to the questions *what is humanitarian relief?*, *what are the activities performed in the humanitarian context?* and *how is success measured?*, seeking to identify the role/ importance of logistics in humanitarian relief The answer to these questions will further our understanding about the factors that characterize this context and will shed a light on the required competences for ensuring the success of humanitarian operations. In the following sections, the main characteristics of the humanitarian context will be described based on a literature review from practitioner and academic literature. First, we offer a panorama of what humanitarian relief is from its beginnings in the XIX$^{\text{th}}$ century (§ 1.2), followed by a description of each phase of the humanitarian relief cycle (§ 1.2.2) and concluding with the complexity of humanitarian relief operations (§ 1.2.3). Later on, the activities undertaken in the humanitarian context are presented from a practitioner (§ 1.3.2) and an academic (§ 1.3.3) perspective. A short discussion on measuring success of humanitarian operations is done (§ 1.4) before concluding the chapter (§ 1.5).

1.2 Humanitarian relief

Through time, the concept of humanitarian relief has evolved following historical events that have attempted against human welfare. This evolution can be seen, for instance, in the aim of each Geneva Convention since 1864. The first Convention was established "for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field" in 1864 as a result of the horrors of war witnessed by Henry Dunant, co-founder of the International Committee of the Red Cross (ICRC) , during the Battle of

Solferino (June 24, 1859) (cf. Dunant, 1986). The Second Geneva Convention, "for the Amelioration of the Condition of Wounded, Sick and Shipwrecked Members of Armed Forces at Sea", was adopted in 1906 after the Russo-Japanese War (8 February 1904 - 5 September 1905). The third Geneva Convention "relative to the Treatment of Prisoners of War" was signed in 1929 as a result of the atrocities committed during World War I (28 July 1914 – 11 November 1918). Finally, in 1949 the fourth Geneva Convention "relative to the Protection of Civilian Persons in Time of War" was adopted in the aftermath of the Second World War (1 September 1939 – 8 May 1945). After this, three more protocols were adopted "relating to the Protection of Victims of International Armed Conflicts" (Protocol I – 1977), "relating to the Protection of Victims of Non-International Armed Conflicts" (Protocol II – 1977), and "relating to the Adoption of an Additional Distinctive Emblem" (Protocol III – 2005). Nowadays, a wider definition is given to humanitarian assistance, defined as "aid that seeks to save lives and alleviate suffering of a crisis-affected population. Humanitarian assistance must be provided in accordance with the basic humanitarian principles of humanity, impartiality and neutrality" (OCHA, 2004, p. 13). Beyond its evolution and the different definitions of what humanitarian means, it is important to state what humanitarian is: **an action**. For Rony Brauman, former president of MSF, humanitarian action is the one that aims, without discrimination and with peaceful means, to preserve life in dignity, to restore the human being in its capacities to choose (Brauman, 1995). For Jacques Lebas, former president of Médecins Du Monde (MDM), it is defined as the very act of rescuing, of going towards the other, of helping him (Lebas et al., 1994). Although these two definitions are precise, it is nonetheless difficult to 'satisfy' with a whole-embracing definition those who work in the field for whom the given definitions can be only a part of their day-to-day and that of their organizations, having perhaps a reductive approach. In his 1999 book, Philippe Ryfman suggest a definition that, for the author, might be more evocative about the reality of aid/the end of the century.

> "Humanitarian action is the assistance provided by one or a group of actors, implicated at different levels in an international aid system, governed by a number of principles, and carried out (under a number of values considered as universals) in favor of the populations whose living conditions, by nature (disasters) or by human action (internal or international armed conflict), are shattered, whose physical integrity is threatened or even survival is jeopardized" (Ryfman, 1999, p. 17).

In addition to this definition, the author refers to a number of concepts that complement the term *humanitarian*, without a particular hierarchy, and that must be explained:

Movement: To move from one place where "normality" prevails in terms of living conditions, to another where a "crisis" (natural or man-made) occurs and eventually endures;

Actor: The one that acts in response to a 'crisis" but that at the same time protects himself in the intervention space on the field, considered not only as an organization, government or agency, but also as individual that represents any of the latter;

Operator: An actor mostly physically present on the field[1];

Time: The need to be present and to act either in a short period of time qualified by the word "emergency", for a longer duration, or in both successively;

Humanitarian space: The field where aid is going to be deployed: the public opinion's reaction and its potential support, or its total indifference, as well as the attitude of governments; the response from the population and local authorities; the geopolitical configuration; the constraints; the degree of protection[2];

[1]The author makes this distinction necessary, as some actors can only be related to fund raising.

[2]In a recent publication, Collinson and Elhawary (2012) point out the changing nature of the humanitarian system and the need of rethinking the concept of 'humanitarian space'.

Beneficiary: The vulnerable / victim / in danger population for whom we act;

Assistance and it nature: The aid system, its logistics, the assigned missions;

Reference to values and ideals in the nature of moral necessity, considered as universal: not to abandon men, women and children belonging to a common humanity to their fate; not to let take place without reacting at least providing assistance to the victims; not to accept natural disasters as a misfortune without trying to save those who can be saved; in one word refuse the unacceptable;

Respect of deontological principles and ethical rules in the provision of aid: impartiality, non discrimination, absence of proselytism, non militarization, search of efficiency...

From the above definitions, it becomes clear that "humanitarian" is more than an adjective or a noun to qualify the people who work in this context. The concept of humanitarian denotes an action taken to save human lives regardless of gender, religion, nationality or ethnicity, and in respect of humanity, neutrality, impartiality and independence. However, humanitarian action is not limited to saving human lives; in these days humanitarian assistance accounts also for the recovery of a population welfare, the development of prevention strategies and even education and training for future threats. These interrelated activities can be found in a continuum that begins with the response to a disaster and ends the the preparation for a future one.

1.2.1 The disaster relief cycle

Disaster can be broadly defined as "a serious disruption of the functioning of society, posing a significant, widespread threat to human life, health, property or the environment, whether caused by accident, nature or human activity, and whether developing suddenly or as the result of complex, long-term processes" (UN, 2006, p. 3). Since the 1990s, there

are approximately 450 natural disasters and 300 technological disasters reported every year, affecting almost 3 million people and killing about 100 000 people. Disasters often occur in less developed regions with a usually inadequate infrastructure and difficult access to major traffic lines (Long and Wood, 1995), and can be explained according to its cause and the warning time of the disaster (see Table 1.1). Relief, in the other hand, is defined as "a foreign intervention into a society with the intention of helping local citizens" (Long and Wood, 1995, p. 213). Humanitarian organizations that undertake relief operations are forced to struggle with a number of circumstances such as destabilized structures (Long and Wood, 1995; Pettit and Beresford, 2005; Oloruntuba and Gray, 2006), unpredictable demand (Beamon and Kotleba, 2006; Kovacs and Spens, 2007a; Jahre and Heigh, 2008), uncertainty in supply (Oloruntuba and Gray, 2006; van Wassenhove, 2006; Balcik et al., 2010) and lack of control (Pettit and Beresford, 2005; van Wassenhove, 2006; Kovacs and Spens, 2007a), among others.

Table 1.1: Explaining disasters (van Wassenhove, 2006, p. 476)

	Natural	**Man-made**
Sudden-onset	Earthquake Hurricane Tornadoes	Terrorist Attack Coup d'état Chemical leak
Slow-onset	Famine Drough Poverty	Political Crisis Refugee Crisis

Regardless to the cause of the disaster, relief can be seen as a continuum of inter-linked activities (Pettit and Beresford, 2005) and is considered as a process of different phases. The number of phases and the description of each one can vary. One of the first works on disaster management is that of Haas et al. (1977), proposing a four stage model:

emergency, restoration, reconstruction and rebuilding, but focusing only on the aftermath of the disaster. On the other hand, Long (1997, p. 27) distinguishes a first phase (strategic planning) that is "done to prepare for emergency projects", and an actual project planning (tactical planning) "when disaster strikes and relief work is activated". Further, Ludema and Roos (2000) categorize relief operations into emergency relief, elementary relief, rehabilitation relief, and development relief. Lee and Zbinden (2003) distinguish three phases: preparedness, during operations and post operations. Based on Haas et al. (1977), Pettit and Beresford (2005) suggest a model for emergency recovery which includes Haas et al.'s four stages but incorporates military and non-military activity (see Figure 1.1). Later on, van Wassenhove (2006) proposes preparedness, response and rehabilitation as disaster relief phases and suggests a pre-preparedness phase (mitigation). Finally, Kovacs and Spens (2007a) classify disaster relief into three phases, namely, preparation, immediate response and reconstruction.

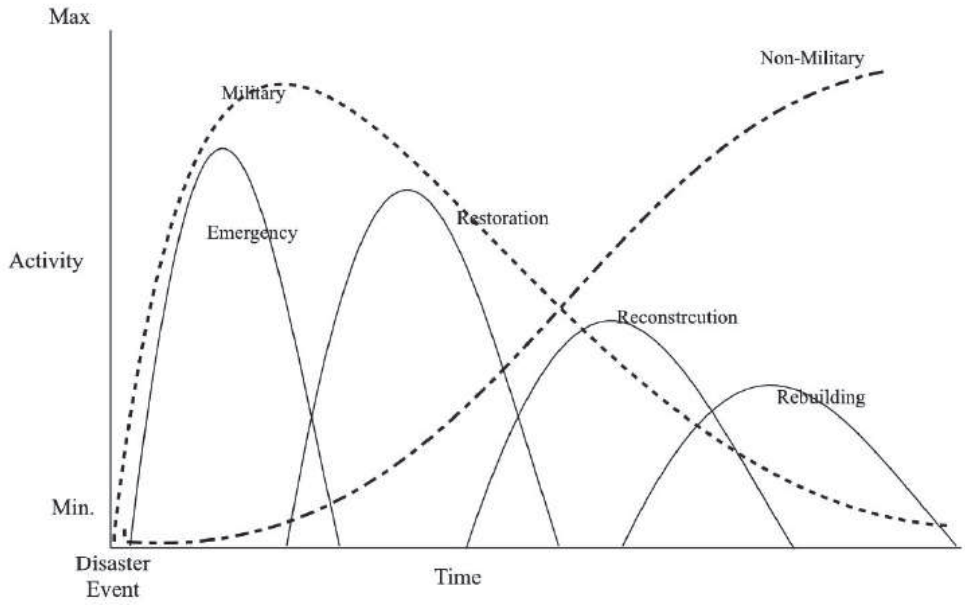


Figure 1.1: A suggested model for emergency recovery (Pettit and Beresford, 2005)

Yet, more than a sequence of discrete events, disaster relief can be seen as a cycle, as the recovery phase essentially needs to link to a new preparation and prevention phase for future potential disasters (Houghton, 2006). In this perspective, Carter (1999, pp. 52 - 58) proposes a basic disaster management cycle, composed of a number of segments, pointing out that "disaster and its management is not a series of events which start and stop with each disaster occurrence" (see Figure 1.2).

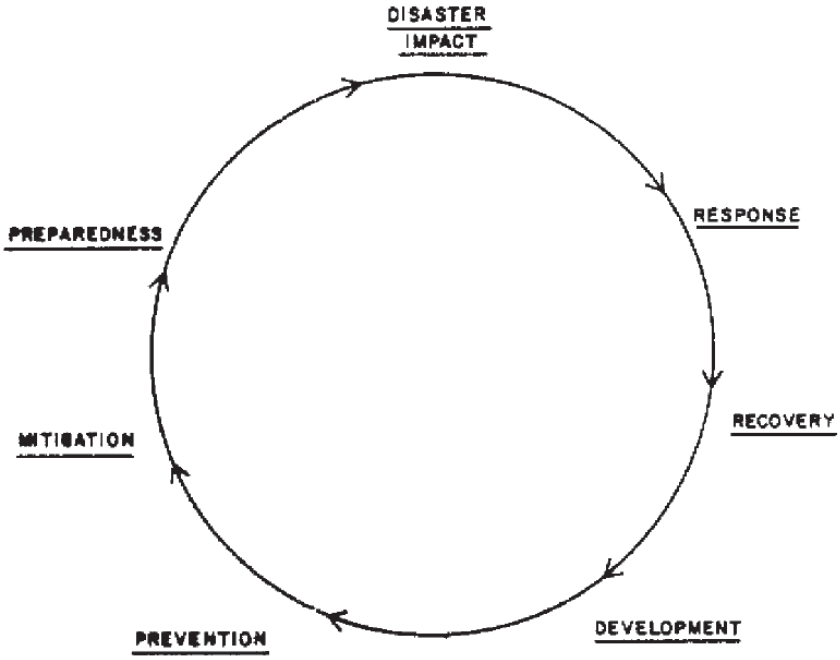


Figure 1.2: Basic format of the disaster management cycle (Carter, 1999, p. 52)

These segments are:

Prevention: Designed to impede the occurrence of a disaster event or to prevent such occurrence that might have harmful effects on the population or infrastructures (e.g. the construction of a dam, controlled burning-off in a bush-prone area, land-use regulations).

Mitigation: Specific programs intended to reduce the effects of disaster on a region or a community (e.g. enforcement of building codes, safety regulations, developments in infrastructure).

Preparedness: Measures that enable governments, organizations, communities and individuals to respond rapidly and effectively to disaster situations (e.g. formulation ans maintenance of disaster plans, warning systems, public education, training).

Disaster impact: The point of the disaster cycle in which disaster events occur.

Response: Measures that are undertaken immediately prior to and following disaster impact (e.g. implementation of plans, evacuation measures, search and rescue, provision of emergency food, shelter, medical assistance, etc.).

Recovery: Process by which communities and nations are assisted in returning to their proper level of functioning following disaster (e.g. restoration of essential services, provision of temporary housing, long-term measures of reconstruction).

Development: Link between disaster-related activities and national development.

Further, the author presents an alternative format of the disaster management cycle (see Figure 1.3), which gathers main activities into 'outer segments' that relate to segments of the basic management cycle. Based on Carter's and other previous work, Beresford and Pettit (2009) distinguish three main elements of disaster management: *preparedness, response and recovery*. For this thesis, this three phase approach as well as Beresford and Pettit's (2009) terminology will be used.

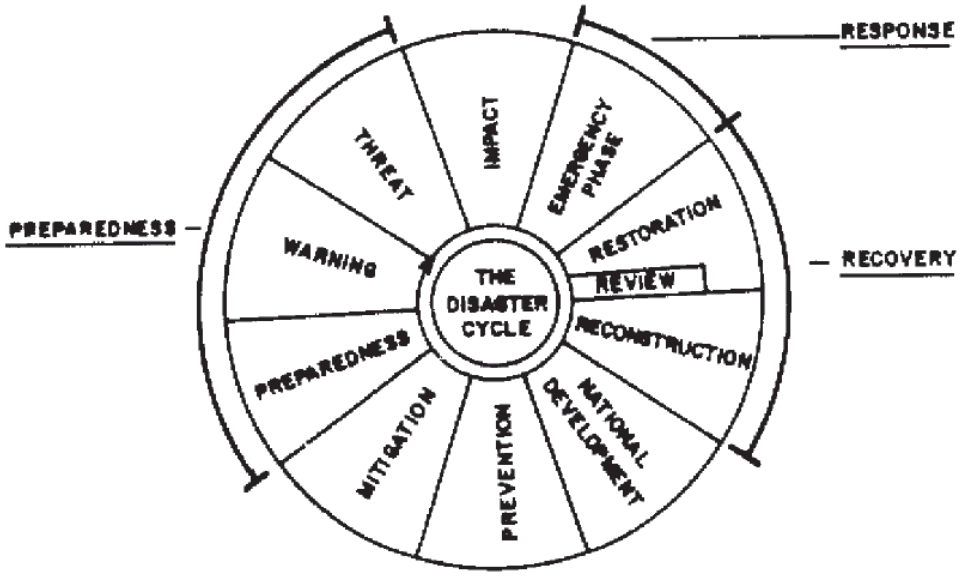


Figure 1.3: Alternative format of the disaster management cycle (Carter, 1999, p. 52)

1.2.1.1 Preparedness

From the three key phases of the disaster relief cycle, preparedness is the focus of many studies in disaster relief literature (Kovacs and Spens, 2007a). However, preparation strategies and training are often neglected by donors, as the focus of humanitarian operations is short–term direct relief, discouraging investments for long–term effectiveness (Thomas and Kopczak, 2005). Despite this, there is no doubt that being *better prepared* leads to *better response* (van Wassenhove, 2006) and to produce effective results, human resource, knowledge management, process management, resources and community must be involved during this phase (Ibid.). Most natural disasters cannot be anticipated, but some regions that are more exposed to this threats than others, can be prepared to specific risks. Earthquakes, hurricanes, floods, avalanches, volcano eruptions and many other catastrophes have specific characteristics and thus, measures can be taken to reduce the impact of these disasters. The main characteristics of this phase are presented in Table 1.2.

Table 1.2: Disaster management – *Preparation.* Beresford and Pettit (2009, p. 11) *adapted from* Carter (1999)

Disaster policy	Involves governments and NGOs
Organizational structure	Clear and workable structures required for effective response
Assessment of need	Accurate assessments of need required, covering casualties, damage to infrastructure, crops, services, the national infrastructure and disease
Planning	Preparedness measures should be set out in plans, devolving responsibilities and resources to appropriate groups and organizations
Co–ordination	A system for is required for achieving co-ordinated effort
Facilities and systems	Facilities for response operations include communications, information technology and emergency relief arrangements as required
Equipment and supplies	Designated and stockpiled where appropriate. Inventory management
Training	Important for effective and adaptable response

1.2.1.2 Response

Immediately after a disaster strikes, relief operations are activated and preparedness plans come into action. But often, these operations are carried out under an environment where "nothing is" (Cassidy, 2003). Physical structures such as roads, bridges or airports are mostly damaged, communications can be inexistent, knowledge of the situation is very limited, local entities, through which co-ordination is done, may be also impacted and still, NGOs and other actors must provide humanitarian aid to the affected community. The response phase of a disaster begins with little or no prior warning and within a time bound where cost of delay can be counted in lives rather than lost profits (Tatham and Kovacs, 2007). Activities in this phase are presented in Table 1.3.

Table 1.3: Disaster management – *Response*. Beresford and Pettit (2009, p. 12) *adapted from* Carter (1999)

Assessment	Assessment of overall requirements in the disaster/crisis area. Determination of initial logistics requirements
Appeals management	Preliminary appeals launch for donations to underpin the relief effort
Operations planning	Co–ordination of relief supplies with other activities and accounting for factors such as politics, safety and weather
Mobilization	Mobilization of international and local transport and the establishment of an effective supply chain
In–country operations	Management of inbond supplies and fine–tuning of distribution involving multi–party co-operation
Co–ordination of agencies' activities	Organization of competitive tendering for, for example, transport capacity, local commodities and services
Reporting	Monitoring of the effectiveness of the response and the establishment of feedback mechanisms to improve pipeline reliability and performance

1.2.1.3 Recovery

As presented earlier, recovery is the process by which communities and the nation are assisted in returning to their proper level of functioning following a disaster (Carter, 1999). This process usually takes years and the point of transition from response phase is mostly blurry (Pettit and Beresford, 2005). The focus of the recovery phase is social and economic reconstruction (Chia, 2007). While economic reconstruction includes the "hard" aspects of the recovery such as re–building infrastructures and the economy to support human needs, the social reconstruction deals with the "heart" aspects of recovery, providing moral support and counseling to the affected population (Ibid.). The characteristics of this phase are presented in Table 1.4.

Table 1.4: Disaster management – *Recovery*. Beresford and Pettit (2009, p. 13) *adapted from* Carter (1999)

Logistics	Integrated into recovery programmes with increasing reliability
Recovery programmes and projects	Reduction in emergency projects and movement toward long–term development of diverse, integrated programmes
Decision–making and project implementation	Less emphasis on urgency. Move towards medium– and long–term planning and project implementation
Management of commodities and suppliers	Changing profile of commodities required and review of supplier and capacity requirements
Maintenance of transport and transport systems	Ongoing improvement and development of transport infrastructure and systems oriented towards commercial criteria
Personnel resources	Reduction in emergency personnel and movement towards development of skills required in the long term

As it can be seen in the above descriptions of each phase of the disaster management cycle, the environment in which relief operations are undertaken and the management of such operations can be quite challenging and yet, humanitarian professionals must respond as quickly as possible to the needs of the affected population, managing and ensuring the effectiveness of the response. Often referred to as 'tough' and 'overwhelming', humanitarian relief is considered as complex (Vega and Fabbe-Costes, 2011). To further understand the humanitarian context, it is necessary to identify the factors that lead to this complexity.

1.2.2 Complexity of humanitarian relief operations

Over the past years, a number of factors have increased the complexity of humanitarian operations. As Kent (2004, p. 10) states, "as well as increasing in number, UN operations had also expanded in scope and complexity, and in the variety of contexts in which they were deployed, from 'classic' peacekeeping to operations in highly unstable environments". Moreover, "over the past decade, humanitarian operations have become increasingly complex, with multiple actors, new roles for the military, new and evolving

standards and guidelines, new terminologies, new products, a variety of coordination platforms, changing donor roles, challenges in accessing populations in need and chronic conflicts and anomalous climate patterns leaving communities more vulnerable than ever" (Elsharkawi et al., 2010, p. 45). Other issues such as population displacement, the breakdown of health services, lack of housing, clean water and sanitation, reveal the complex nature of an emergency (Balasegaram, 2005). Academic research on the management of humanitarian operations confirm this complexity (e.g. Beamon and Kotleba, 2006; van Wassenhove, 2006; Jahre and Jensen, 2010), pointing out the context that is: unpredictable (Beamon, 2004), destabilized (Kovacs and Spens, 2007a), turbulent (Oloruntuba and Gray, 2006) and uncertain (Tatham and Kovacs, 2010). However, it would seem that the perception of complexity from humanitarian professional differs from the perception of complexity from an academic point of view, particularly in the disaster management literature[3].

1.2.2.1 A practitioner's perception of complexity

Most references to complexity in humanitarian literature are related to 'complex emergencies' and 'complex political emergencies', referring to the situation of the country in which operations are undertaken. Famine emergencies and internal displacement are typical examples of complex emergencies (see Box 1.1). For Buchanan-Smith and Christopolos (2004, p. 36), "there is a sharp operational and conceptual distinction between natural disasters and complex political emergencies (CPEs). Yet this is often inappropriate: natural disasters are rarely truly 'natural', while many areas suffering from complex political emergencies are also subject to periodic natural hazards. In the last five years, at least 140 'natural' disasters have occurred in countries experiencing complex political emergencies". Therefore, whether the origin of the emergency is political or not,

[3]The following sections as well as § 1.3, present a part of the results included in Vega, D. and Fabbe-Costes, N. (2011), The relevance of a multiple view to embrace complexity of humanitarian relief operations, *23rd NOFOMA Proceedings*, Harstad, Norway. The paper and the data analysis exhibits can be found in the appendix section

this factor plays an important role in the response from the humanitarian community. In the 2005 Pakistan earthquake, for instance, NGOs found themselves in an ongoing political realignment, compelled to work closely with a military–led government and consequently being dependent on the logistical capacity and local knowledge of the military, undermining both the effectiveness of relief and the neutrality of 'humanitarian space' (Bamforth, 2006).

Box 1.1 : Complex Emergencies (Hallam, 1998, p. 21)

The term 'complex emergency' was coined in Mozambique in the late 1980's as a way for aid agencies to acknowledge that humanitarian assistance needs were being generated by armed conflict as well as by periodic 'natural disaster' events, such as cyclones and droughts, while avoiding the use of terms such as 'civil war' and 'conflict' which were sensitive terms in the Mozambican context at the time. Since then, the term 'complex emergency' has entered widespread usage as a way of differentiating those situations where armed conflict and political instability are the principal causes of humanitarian needs from those where natural hazards are the principal cause of such needs.

While some consider the use of the term 'complex emergency' unhelpful, as it implies that some disasters are not 'complex', the term is useful in that highlights the fact that situations involving political instability and armed conflict do make a difference to the way in which humanitarian problems can be tackled. These differences, in turn, have implications for the evaluation process.

A 'typical' complex emergency is characterized by:

- a collapse of state functions
- intra–state rather than inter–state conflict
- difficulty in differentiating between combatants and civilians
- violence directed towards civilians and civil structures
- fluidity of the situation on the ground
- a lack or absence of normal accountability mechanisms
- the potential and actual development of war economies
- the potential for humanitarian assistance to prolong the conflict
- a multiplicity of actors

Another factor of complexity in the humanitarian context, other than the situation, is the financial aspect. For instance, during the Rwanda genocide, "managers were not prepared to handle the sudden arrival of massive amounts of aid funds, and NGOs were generally

not up to the complex negotiations and advocacy that the crisis demanded" (Byombuka, 2004, p. 12). Other operational factors such as coordination, decision making, needs assessment and resource allocation, information management and the delivery of goods are also considered as complex. In 2003, for example, a Needs Assessment Framework and Matrix was designed and tested in the 2005 Common Humanitarian Action Plan for Burundi and DRC. The pilot highlighted the difficulty of "assessing needs and developing estimates of the resources required to meet them" (Griekspoor, 2005, p. 19) due to a complex decisional process, involving many judgments at every stage, and not being a straightforward, rational process.

1.2.2.2 The academic perception of complexity

As presented earlier in this chapter, academic research on humanitarian relief qualifies the context as complex. However, the perception of this complexity seems to diverse from the way practitioners describe complexity of humanitarian relief. Table 1.5 present a number characteristics found in humanitarian literature that describe some of the main factors that contribute to complexity in the humanitarian context. Nonetheless, such characteristics appear to be mainly operational, reducing the scope and therefore presenting a simplistic vision of complexity. A further understanding of this concept in academic literature is needed.

From the systems theory perspective, the notion of complexity implies a possible and plausible yet unpredictable emergence of a new sense inside a phenomenon (Le Moigne, 1990) and can be explained through three concepts: inseparability (between mutually independent parts), imprevisibility (the evolution/future is radically/essentially unforeseeable) and irreversibility (never perfectly restoring some initial or previous state) (Le Moigne, 2007, p. 116). Moreover, complexity is defined by the way each one sees/understand a phenomenon and thus, "is the attributed quality that is deliberately considered by a subject's mind in its perception or conception of something that exercises

Table 1.5: Characteristics of the humanitarian context *adapted from* Everywhere et al. (2011)

Characteristic	**Sources**
Uncertainty in/Unpredictable demand	Balcik and Beamon (2008); Balcik et al. (2010); Beamon and Kotleba (2006); Day et al. (2009); Gatignon et al. (2010); Jahre and Heigh (2008); Kovacs and Spens (2007a); Kovacs and Spens (2010); Llodree and Taskin (2008); Majewski et al. (2010); Rawls and Turnquist (2010); Salmeron and Apte (2010); Stapleton et al. (2005); Tomasini and van Wassenhove (2009); van Wassenhove (2006)
Lack of resources	Balcik and Beamon (2008); Balcik et al. (2010); Jahre and Heigh (2008); Kovacs and Spens (2010); Pettit and Beresford (2005)
Destabilized infrastructure	Balcik et al. (2010); Kovacs and Spens (2007a); Kovacs and Spens (2010); Kovacs and Tatham (2009); Long and Wood (1995); Oloruntuba and Gray (2006); Pettit and Beresford (2005); Rawls and Turnquist (2010)
Many stakeholders	Balcik et al. (2010); Kovacs and Tatham (2009); Oloruntuba and Gray (2006); Stapleton et al. (2010); Thomas and Kopczak (2005); van Wassenhove (2006)
Uncertainty in supply	Balcik et al. (2010); Kovacs and Spens (2007); Majewski et al. (2010); Oloruntuba and Gray (2006); Stapleton et al. (2010); van Wassenhove (2006)
Information flow impediments and weak use of technology	Banomyong and Sopadang (2010); Day et al. (2009); Majewski et al. (2010); Oloruntuba and Gray (2006); Pettit and Beresford (2005); Thomas and Kopczak (2005)
Lack of control	Balcik et al. (2010); Kovacs and Spens (2007a); Kovacs and Spens (2010); Pettit and Beresford (2005); van Wassenhove (2006)
Volatile political climate	Balcik et al. (2010); Long and Wood (1995); van Wassenhove (2006)

unpredictable emergent behaviour" (Eriksson, 1997, p. 51). Taking into account these three facets of complexity, a parallel can be drawn between Le Moigne's conception of complexity and what can be considered as 'evidence' of complexity in the humanitarian context from both practitioners and academics. Based on the literature presented in Table 1.5, we offer an analysis of the characteristics of the complexity of humanitarian relief operations based on LeMoigne's definition of complexity (see Table 1.6). The uncertainty

and instability of the humanitarian context can be conceptualized under the *imprevisibility* facet, as it is almost impossible to predict with certitude the circumstances in which the catastrophe will be developed. The multiplicity of actors and the situation of chaos, among other factors, can be conceptualized under the *inseparability* facet, given that the emergency generates a response from the international community and it becomes difficult to refuse access to NGOs or to treat patients by cause of injuries (conflict or catastrophe). Finally, the constantly evolving context and the situation of the affected region can be conceptualized under the *irreversibility* facet, as after a catastrophe it is very unlikely to return to the initial state.

Table 1.6: Facets of complexity and their link to humanitarian operations (Vega and Fabbe-Costes, 2011, p. 1295)

Facets of complexity	**Characteristics of the complexity of humanitarian relief operations**
Imprevisibility	Unstable environment, unpredictable aid funds and required resources
Inseparability	Link between natural disasters and political emergencies, multiplicity of actors, variety of coordination platforms, link between operations and context
Irreversibility	Evolving guidelines, breakdown of infrastructures, new roles of the military

From the analysis above, we can deduce that the characteristics that describe complexity of humanitarian operations, found in both academic and practitioner literature, can result in extremely challenging circumstances to work in, going beyond the operational issues and yet, humanitarian practitioners must cope with and be able to provide assistance to the affected populations. For this, humanitarian organizations must succeed in the different types of activities they perform and, therefore, be competent in different areas. However, as it is the case for complexity, practitioners and academics seem to have different perspectives of which are the activities that humanitarians must perform.

1.3 Humanitarian activities

Humanitarian operations encompass an important number of activities that are designed to reduce loss of life, human suffering and damage to property and/or the environment caused by a disaster (ICET, 1998). In order to ensure the success of an operation (§ 1.4), practitioners must identify the activities and develop a particular knowledge linked to an activity that will lead to the achievement of the operation's goals. When these activities are well performed, it is possible to say that these are well 'handled' or managed and thus, that a 'management competence' is created related to each activity or group of activities. The following sections present both practitioner and academic perspectives of the activities performed by humanitarians and the related management competences needed to ensure the success of humanitarian operations.

1.3.1 Practitioners' experience

As mentioned earlier, an important number of activities are performed in the humanitarian context in order to assist the affected population after a disaster. Some of these include fund-raising and finances, needs assessment and organization, coordination, information exchange, procurement and logistics-related activities, recruitment, team building, training and risk assessment, among many others. Based on a practitioner literature analysis, Vega and Fabbe-Costes (2011) propose a number of management competences that reunite topic-related activities performed by humanitarian organizations (see Table 1.7). The accountability/finances competence refers to all activities that are related with the financial aspect of humanitarian assistance and that seek to ensure transparency for both the beneficiaries and the donors. Camp management competence deals with all operational camp-related activities, while disaster management deals with the overall inter- and intra-agency coordination of humanitarian assistance. Both information and logistics management competences refer to information and physical

flow management, respectively. The human resource management competence reunites activities that are related to the management of local and expatriate staff. Finally, project management competence deals with project-programme related activities such as time and budget, while security deals with the analysis of the levels of threats and vulnerability of the overall activity for both civilians and aid workers.

Table 1.7: Humanitarian activities (Vega and Fabbe-Costes, 2011, p. 1296)

Management competence	**Humanitarian activities**
Accountability/finances	Fund–raising, donorship, cash flow management, finances, resource allocation, evaluation
Camp management (engineering and support)	Location, organization, needs assessment, assistance, water, sanitation and health, security, waste management
Disaster management	Decision making, overall coordination (inter–agency), remote management, monitoring of activities, transparency
Information management	Assessment, information exchange, information dissemination and coordination, use of information, media management, support
Logistics management	Procurement, transportation, warehousing, tracking, distribution
Human resource management	Recruitment, competency/skill management and development, appropriateness, knowledge management, learning, support, follow-up, career development
Project/programme management	Budget/time management, coordination of tasks, team building, training, context knowledge, team work
Security management	Risk assessment, threat and vulnerability analysis, training, protection (civilian population and staff)

It is important to notice that most activities and thus management competencies found in the practitioner literature are inter-related, showing the importance of combining different perspectives to cope with the characteristics described in section 1.2.2. Figure 1.4 maps the interrelations found in the practitioner literature review, that are briefly described below. Assessments (1) are important to understand the number of people and their needs, and these have a direct link with logistics, as they "guide the appropriateness of the relief supplies, and are critical to the creation of effective supply chains" (Thomas, 2005, p. 5). Moreover, a great amount of relief supplies are donated (2) and thus, the sharing of

information can avoid duplication, saving time and money (Scott-Flynn, 1999). However, with inaccurate assessments, "relief delivery can be disproportionally influenced by the media" (Scott-Flynn, 1999, p. 4).

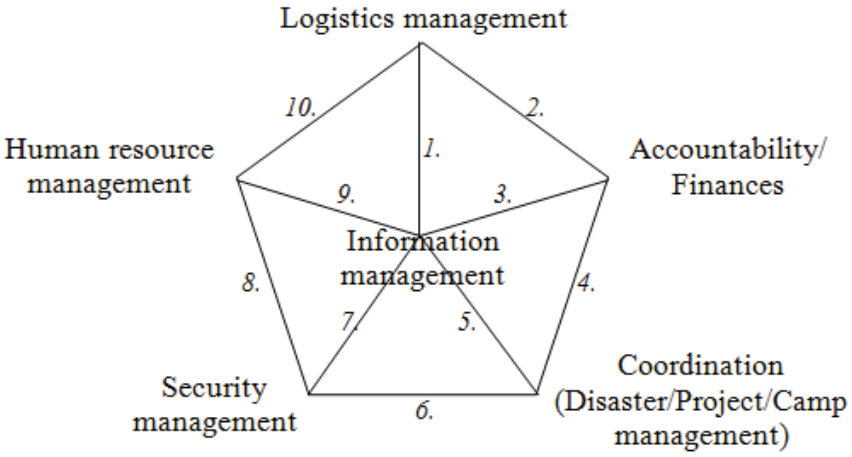


Figure 1.4: Humanitarian activities inter–relationship (Vega and Fabbe-Costes, 2011, p. 1297)

Media management plays an important role in funding (3) humanitarian operations. Venkateswaran (2005, p. 10) states that "the manner in which the media profiles and packages an emergency has a direct correlation with the scale and depth of public support, and hence the funds that are raised". The importance of accurate assessments and effective information management and sharing is also true with regards to coordination at every level: disaster response (overall), programmes and projects, and camps (5). In the first phase of an emergency, funds are allocated based on needs assumptions and possible volumes of such needs (Larose and Adams, 2002), and programmes are planned according to this first rough assessment. Disaster managers must effectively allocate the resources (4) addressing both, the needs from the field and the pressure from donors, as funds raised for one emergency cannot be used for another.

Another important aspect in the management of humanitarian operations is the use of data and information. International NGOs' main aim is to provide humanitarian aid,

but they are also 'bear witnesses' of the situation in the country where operations are undertaken (7). Organizations that engage in advocacy without understanding how to do so, may jeopardize the safety of beneficiaries and staff (Dubois, 2001). Therefore, security management must be integrated across the organization, "and not treated as an 'add–on' or a luxury" (Harmer, 2010, p. 3). This practice is implemented through good disaster/programme management (6), with the understanding of the operating environment and the impact of the presence/work of the organization in the territory, and through good personnel management of international and local staff and capacity development (Harmer, 2010).

In the recent years, aid agencies have worked in the professionalization of security management, mostly with the provision of trainings for staff in both headquarters and field, and the formalization of the risk management process (Behn and Kingston, 2010). This can only be achieved through personnel management (8). Human resource professionals are involved in each stage of the employment cycle, by the design and implementation of risk management practices and strategies (Williamson, 2010). Furthermore, today's challenges of the humanitarian sector show the importance of knowledge capitalization (9). In order to learn from past experiences, the institutionalization of best practices is required; "advanced training and recognized standards and policies are necessary to take full advantage of data and information for strategic analysis and operational applications" (King, 2010, p. 25). Finally, in some cases the shortage of logisticians on the field provoked the rupture of supply chains due to the incapability to anticipate and prepare for the reception of procured goods. Human resource training (10), particularly at the field level, "will help to build competency and skills, enabling logisticians to create common processes" (Thomas, 2005, p. 6) reducing the risk of chain rupture.

The practitioner perspective of the activities performed in humanitarian relief supports the idea in which the strength of a chain depends on the weakness of its links. From the humanitarian literature, it is possible to say that each activity is as important as the other, and that the success of an operation will depend on the integration of these activities rather than the good performance of a single one. Nevertheless, this perspective seem to differ from that of the academic community

1.3.2 Academics' perspective

Academic research on humanitarian relief is not new. A great number of publications on this subject have appeared since the mid 1900's from different disciplines such as medicine, social studies and law. However, in the last two decades, the humanitarian context has received special attention from the academic community in management sciences and the number of publications and trainings or courses has increased, showing a development towards a professionalization of the humanitarian staff. In order to identify, from an academic perspective, the activities performed by humanitarians and the related management competencies needed to ensure the success of humanitarian operations, Vega and Fabbe-Costes (2011) conducted a systematic analysis of 86 articles in which the main management topics were identified. Topics were considered as management competencies developed by humanitarians in order to ensure the success of an operation, in relation with the results of the practitioner literature (cf. Table 1.7). A description for each topic is presented in table 1.8.

Table 1.8: Academics perspective of humanitarian activities (Vega and Fabbe-Costes, 2011, p. 1298)

Management topic	Description
Logistics/OM/SCM	Focus on the management of flows of goods, transportation, warehousing, procurement, inventory management, last mile distribution, etc.
Information systems, communication	Focus on the information and communication systems that support preparedness and disaster response, information management, decision support systems, the management of media and press coverage.
Risk management	Focus on all types of activities that contribute to avoid (prevention), to limit (mitigation and preparedness) and to respond to risks linked to disaster
Planning/Mitigation	Focus on the activities and practices related to the prevention and preparation for the response to humanitarian crises.
Organizations management	Focus on the structure of organizations, e.g. networks, hastly formed organizations, temporary networks, flexible organizations, organizational culture, clusters, loosely coupled semiautonomous organizations.
Health, medicine	Focus on health emergency management, water treatment and sanitation, illness management and post-traumatic stress management.
International affairs, government and policy making	Focus on the role of the international community and governments in the management of a disaster (preparedness, emergency response and recovery) and policy making.
Strategy	Focus on the strategies that embrace the totality of the disaster cycle.
Environment	Focus on the environmental impact of disaster response, waste management, resource utilization, climate change.
Human resource	Focus on gender issues in the humanitarian context, volunteering, training.

Afterwards, on the basis of this management topic list, the authors counted the number of articles published under each management topic in order to identify which of these topics where of great importance for the humanitarian relief academic research community. The analysis allowed to identify that, unlike the results from practitioner literature, academic research focuses mostly on one management topic being Logistics the most important research topic for the academic community (see Table 1.9).

Table 1.9: Management topics in humanitarian relief research: importance and combination (Vega and Fabbe-Costes, 2011, p. 1299)

	Number of articles			TOTAL
Management topic	**1 topic**	**2 topics**	**3 topics**	
Logistics/OM/SCM	26 (61.9)	19 (52.8)	6 (75)	51 (59.6)
Information systems, communication	5 (11.9)	8 (22.9)	4 (50)	17 (19.8)
Disaster risk management	0	9 (25.7)	6 (75)	15 (17.4)
Planning/Mitigation	1 (2.4)	10 (27.8)	2 (25)	13 (15.1)
Organizations management	1 (2.4)	8 (22.8)	4 (50)	13 (15.1)
Health, medicine	3 (7.1)	4 (11.1)	1 (12.5)	8 (9.3)
International affairs, government and policy	2 (4.8)	7 (19.4)	0	9 (10.5)
Strategy	2 (4.8)	2 (5.6)	1 (12.5)	5 (5.8)
Environment	2 (4.8)	2 (5.6)	0	4 (4.7)
Human Resource	0	3 (8.3)	0	3 (3.5)
Total of articles per topic	42 (48.8)	36 (42)	8 (9.3)	

Note: The number of articles are the total of articles per number of topics studied. The numbers in parentheses represent the percentage calculated as share of total of articles per view. For the TOTAL column, this percentage is calculated as share of total of articles.

Based on the results from both practitioner and academic literature, it is possible to say that that both communities point out an important number of management competencies that are needed to ensure the success of humanitarian operations, however, as it is shown in Figure 1.4 it would seem that only the practitioner literature shows the inter-relatedness between these competencies compared to the results from Table 1.9. This gap between the two literatures can be probably explained by the bias of disciplines that lead academics to specialize in some particular areas and thus, taking the risk to over focus on specific topics and not properly addressing the issues raised by the complex 'big picture'. Despite this fact, a parallel between the competencies raised by academics and practitioners can be drawn.

Some competencies, e.g. risk management and information management, appear to be critical for both practitioners and academics, on the other hand, some areas such as logistics dominate academic papers, which is not the case in the practitioner literature. However, since the beginning of *Humanitarian Exchange* in the 90s, the humanitarian practice network magazine, logistics is mentioned as a support activity for expanding rapid response capacity mostly provided by the military (RNN, 1995). Moreover, *Forced Migration Review*, an international review that provides forum for the regular exchange of practical experience, information and ideas between researchers, refugees and internally displaced people, and those who work with them, published in September 2003 the issue *"Delivering the goods: Rethinking Humanitarian Logistics"* (Forced Migration Review No. 18), dedicated to humanitarian logistics which many academics refer to. This shows that logistics and SCM is of great value for both academic and practitioner communities, apparently at different levels. While for practitioners logistics appears as a common activity that is linked with others aspects of humanitarian action, academics consider this activity as key factor when responding to a humanitarian crisis, probably due to strategic aspect of this activity. Therefore, it appears to be a gap which is interesting for this research and that justifies the need of a deeper understanding of this context.

1.4 Measuring performance of humanitarian relief operations

As stated by Tomasini and Van Wassenhove (2004), a successful humanitarian operation is the one that mitigates the urgent needs of a population with a sustainable reduction of their vulnerability in the shortest amount of time and with the least amount of resources. However, due to the characteristics of the humanitarian context presented earlier, it becomes difficult to measure the success of an operation. For instance, when responding to an humanitarian crisis, can the simple fact of getting to the disaster area be considered

a success? Is providing the basic care a success knowing that in the months to come people may die from related diseases? These types of questions show how difficult it is to label humanitarian operations as successful or unsuccessful. One aspect that can help to answer to this questions is to measure the performance of such operations, which describes the effectiveness (the extent to which the system performs required objectives) and efficiency (the amount or number of resources the system uses to meet the required objectives) of the relief effort. Nevertheless, the challenge is 'what to measure' and 'how to measure it'.

Performance in the humanitarian context can be defined as the effective collective action of a complex system of international, national and locally-based organizations, that work to save lives, alleviate suffering and maintain human dignity both during and in the aftermath of man-made crises and natural disasters, as well working to prevent and strengthen preparedness for the occurrence of such situations (Schuemer-Cross and Taylor, 2009). Effective performance means undertaking work in ways that are consistent with humanitarian principles, mobilizing and deploying sufficient financial, material and human resources in ways that are relevant, well-managed, accountable, impartial, durable and ensure good quality (Ibid.). Nevertheless, as stated by Ramalingam et al. (2009), the humanitarian system is fragmented across multiple levels and actors, leading to multiple mechanisms and initiatives to measure performance of humanitarian relief. These levels include:

- Specific project or programme level (e.g. an NGO shelter programme during the Tsunami),
- Organizational within operations (e.g. all of an NGO's efforts in Mozambique) or across operations (e.g. UN agency efforts across the tsunami) or globally (e.g. donor efforts in humanitarian response over time around the world),

- Sectoral within an operation (e.g. emergency health work across all relevant agencies post-Pakistan earthquake),
- Multi-sectoral within an operation (e.g. health and nutrition in DRC) or across operations (e.g. food programmes in the Horn of Africa),
- System-wide within a particular operation (e.g. the entire relief system in Darfur) or across operations (e.g. overall response to the Great Lakes crisis),
- Sector at a global level (e.g. emergency water and sanitation globally),
- Key theme at an operational level (rights in Darfur), across operations (e.g. LRRD in the tsunami), or globally (e.g. donor performance, gender, rights or innovations across the system),
- System-wide, globally,
- Beyond the system: how actors outside the system influence or are influenced by the system

This fragmentation of the humanitarian context, which puts in evidence the complexity of measuring performance in this context, also highlights the lack of significant institutional or cross-institutional use of more rounded performance models. In a review conducted by Griekspoor and Sondorp (2001), gaps in quality and accountability tools were identified, pointing out the need of using holistic frameworks that could help to broaden perspectives on performance, from project level to organizational and system-wide. Some of these holistic performance measurement systems include Kaplan and Norton's (1996) balance scorecard and Neely et al.'s (2002) performance prism, which contain a number of measures that help organizations to evaluate and control the performance of the activity. However, these performance measurement systems are built to be applied in a commercial

setting and thus, the process of choosing appropriate measures for the humanitarian context becomes difficult. In recent years, a few number of studies have proposed different performance measurement systems for humanitarian relief, mostly focusing on metrics based on logistics and SCM, a fact that is not surprising given the importance of this topic (§ 1.3.3). Some of these include Beamon's (2004) model based on *resource*, *outputs* and *flexibility*; Davidson's (2006) framework based on *appeal coverage*, *donation-to-delivery time*, *financial efficiency* and *assessment accuracy*; and Schulz and Heigh's (2009) development indicator tool based on the SCOR model. These performance measurement systems are presented in table 1.10.

From a practitioner point of view, and in line with Tomasini and Van Wassenhove's (2004) definition, success can be measured with regards to the achievement of minimum standards when responding to an emergency. Virtually every NGO has its own success measurement based in internal KPIs, goals and/or targets. Nevertheless, in 1997 an initiative called "The Sphere Project" was launched by a group of humanitarian NGOs and the Red Cross and Red Crescent movement aiming to frame a Humanitarian Charter and identify Minimum Standards to be attained in disaster assistance, in four key sectors, namely water supply and sanitation, food aid and nutrition, shelter, and health services (See Fig. 1.5). This initiative led to the creation of the first Sphere Handbook in 2000, offering a number of *standards*, general statements that define the minimum level to be attained in a given context, and *indicators*, 'signals' that determine whether or not a standard has been attained (Sphere, 2011).

Nevertheless, with the exception of Schulz and Heigh's (2009) work, performance measurement systems for humanitarian relief found in academic literature are focused in the response, giving non or poor attention to the development phase of the disaster relief cycle. Humanitarian practitioners have dealt with this issue since the 1950s but rather using an 'impact' perspective, defined as "the positive and negative, primary

Table 1.10: Performance measurement systems for humanitarian relief

Author	Performance measure	Indicator
Beamon (2004)	Resource	Inventory levels Personnel requirements Equipment Utilization Energy usage Cost
	Output	Sales On-time deliveries Customer responsiveness Manufacturing lead time Backorder/stock out per cycle Quality of final product Quantity of final product
	Flexibility	Range flexibility Response flexibility System flexibility
Davidson (2006)	Appeal coverage	% of appeal coverage % of items delivered
	Donation-to-delivery time Financial efficiency Assessment accuracy	
Schulz and Heigh (2009)	Customer service	Delivery performance Orders with agreed delivery time in days Stock managed by SAs Monthly reports to customers on time
	Financial control	Deviation from unit budget Deviation from project budget Service turnover versus plan Service income versus plan Cost recovery
	Process adherence	Available stock capacity Relief stock turnover rate Procurement transactions Operational vehicles using fleet wave Average cost per activity

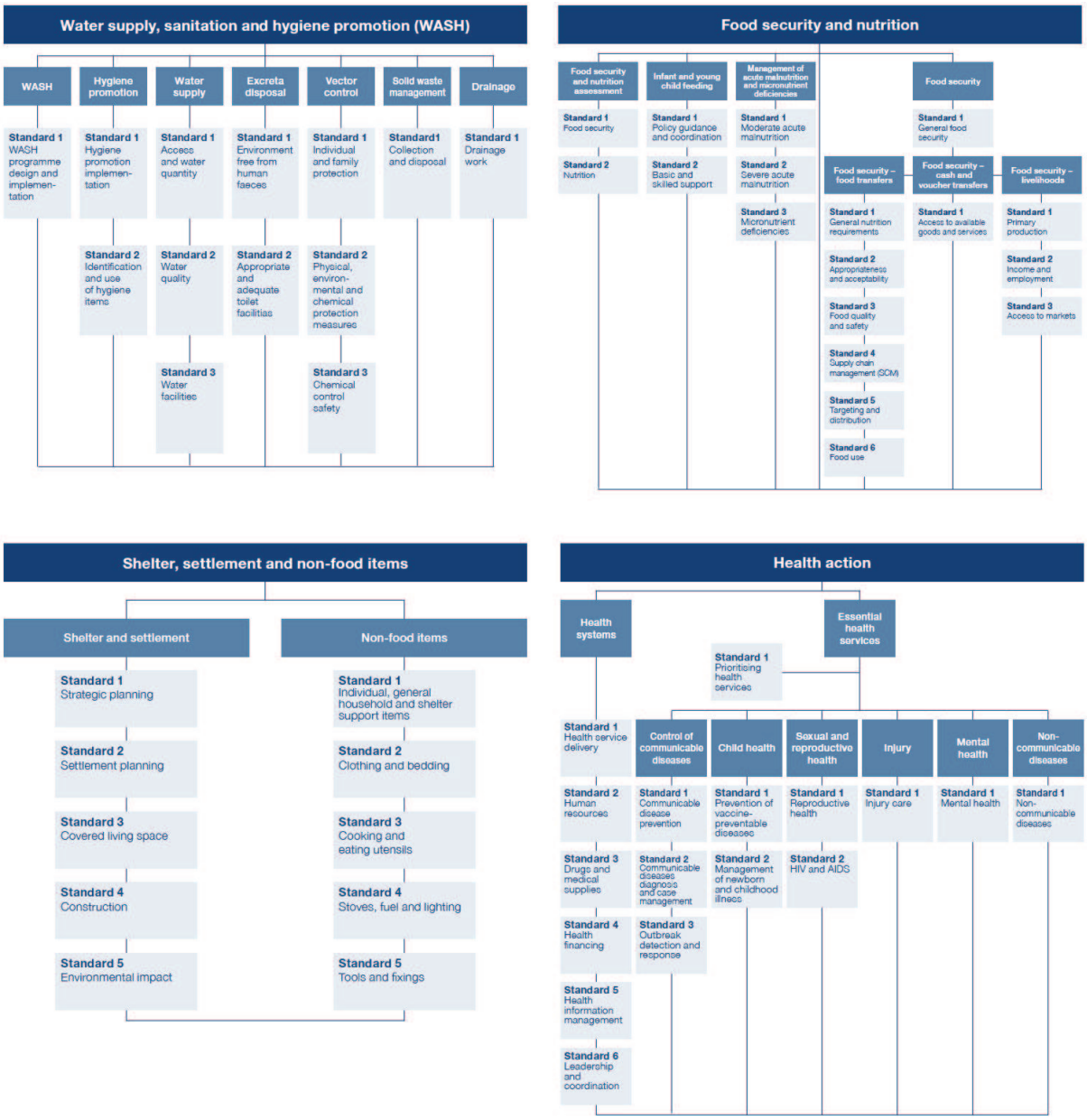


Figure 1.5: Minimum Humanitarian Standards (Sphere, 2011)

and secondary, long-term effects produced by a development intervention, directly or indirectly, intended or unintended" (OECD/DAC, 2002, p. 24). In line with Griekspoor and Sondorp (2001), the impact perspective of humanitarian relief uses a more holistic approach, taking into account 'wider dimensions' that include the complexity of the humanitarian aid system, and the multiplicity of factors that affect

this context (see Figure 1.6). Hofmann et al. (2004) state that these dimensions relate to the humanitarian agency itself (its level of resources, its technical competencies, the qualifications of its staff), to the humanitarian aid system (the degree of sectoral and inter-sectoral coordination), or more widely to the general environment. Performance refers thus, to the overall comprehension of internal and external factors as well as humanitarian action (processes), and the impact that these processes have in the affected population (impact).

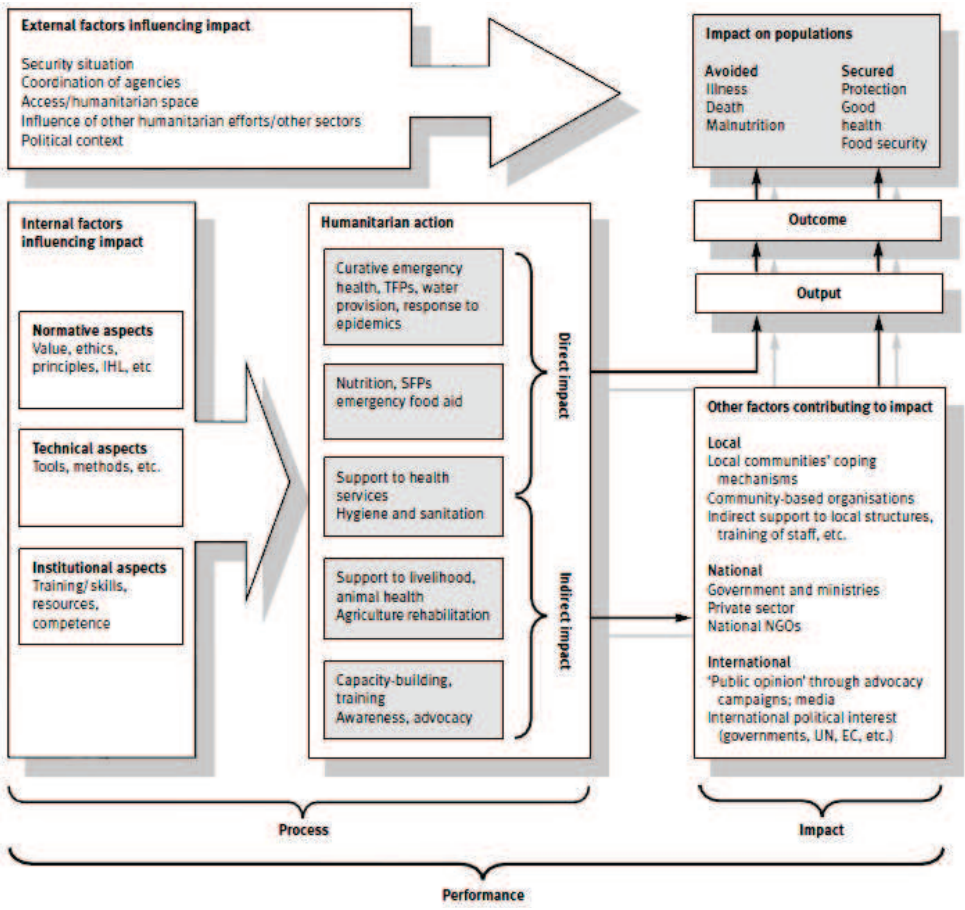


Figure 1.6: The wider dimensions of impact: A framework (Hofmann et al, 2004, p. 9)

A similar approach is proposed by van Wassenhove (2006), considering that good preparation for responding to disasters results in a better response and thus, the answer to a successful humanitarian operation probably lies in the preparedness/development phase

and the advances that can be made during this stage of the cycle. The author presents five key elements that have to be taken into account during the preparedness phase to create effective disaster management of an operation and ensure success, based on the development of capabilities (see Figure 1.7).

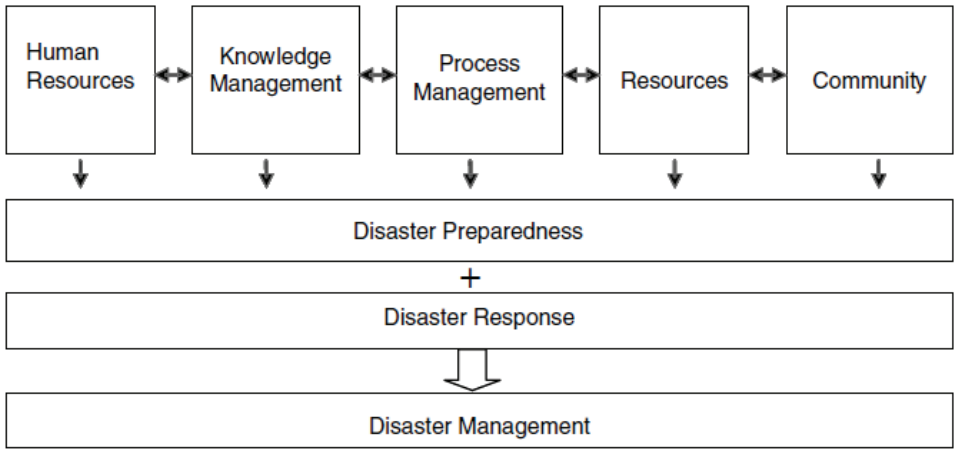


Figure 1.7: Creating effective disaster management (Samii et al., 2002 *in* Van Wassenhove, 2006)

These key elements are:

Human resource: Selecting and training people who are capable of planning, coordinating, acting and intervening where necessary.

Knowledge management: Learning from previous disasters by capturing, codifying and transferring knowledge about logistics operations.

Operations and process management: Recognizing logistics as a central role in preparedness.

Financial resources: Preparing sufficient money and financial resources to prepare and initiate operations and ensure that they run as smoothly as possible.

The community: Finding effective ways of collaborating with other key players such as governments, military, business and other humanitarian organizations.

As it was introduced in section 1.2, humanitarian action refers to the provision of assistance to an affected population (Ryfman, 1999) and thus, the success of an operation could be measured by how much assistance is provided or to how many people. However, the complexity of this context makes difficult to define what type of measure can or should be used. For instance, can we consider that an operation is successful when the minimum standards for survival are achieved? or shall we improve the population's capacity to respond to future threats? Moreover, given that each humanitarian organization is *a priori* specialized in one domain (e.g. nutrition, medical assistance, WASH), and that the humanitarian system is fractioned in several and different levels, can success be measured with the same criteria regardless of the type of organization? or each organization should have its own success criteria and then, what about the overall success of the operation? This is probably the reason why most organizations talk about performance (effectiveness and efficiency) rather than success, showing an interest on improving the delivery, i.e. the logistics process, towards a quality measurement. Nevertheless, this subject remains of interest for this research and deserves further attention in the empirical study.

1.5 Conclusion

The first chapter of this thesis allowed us to introduce the context in which this research is developed. Here, we present humanitarian relief as an **action** that has evolved from assisting the armed forces during the late 1800s and early 1900s, to the provision of assistance to any crisis-affected population. Moreover, humanitarian relief is explained as a three-phase cycle that includes the **response** to a crisis, the **recovery** and the **preparedness** for future threats. A special attention is given to the circumstances in which humanitarian relief is performed based on practitioner literature, characterized by destabilized infrastructures, uncertainty and unpredictability of demand, lack of resources and lack of control.

Based on a double literature review, this chapter identifies the main activities performed by NGOs in order to provide humanitarian assistance. These include accountability, coordination, risk management and information management, among others. Further, the analysis identified logistics as a key activity in humanitarian action, although the importance given to this activity by practitioners and academics may differ. Practitioners may consider logistics as a part of a set of activities or competences needed to provide assistance to the affected population, and thus apparently no much attention is put into this specific activity. On the other hand, academics consider logistics to play a more important role, being the most studied topic in humanitarian relief research.

Finally, the question of measuring success of humanitarian relief is addressed combining practitioner and academic literature. The complexity of the humanitarian system highlights the difficulty in measuring the success of humanitarian operations and points out the need of using performance to measure the effectiveness of humanitarian action. From an academic point of view, logistics and SCM indicators can be very useful when measuring the effectiveness of an humanitarian operation. Inventory levels, delivery speed, equipment utilization and customer responsiveness are some of the KPIs used in humanitarian relief to measure performance. On the other hand, humanitarian practitioners adopt a wider perspective of performance that include internal and external factors that influence the impact of humanitarian action and yet, logistics appears also as a key element that can contribute to create effective disaster management from the preparedness phase of the disaster management cycle. Taking this into account, a further analysis of what is humanitarian logistics is needed in order to understand which is the role that this activity plays in the success of humanitarian relief operations. The following chapter tempts to give answer to this question by describing the activity based on academic and practitioner literature.

Chapter 2

Humanitarian logistics

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2.1 Introduction

Ever since the early 2000s, humanitarian logistics has received increasing attention from media and academy in response to the trend of increasing crise all over the world. One event that is considered as trigger for such interest is the 2004 Indian Ocean earthquake, a Tsunami that took more than 200,000 lives and affected the lives of 2.3 million people in 12 countries (IFRC, 2005), and that is considered as one of the biggest humanitarian responses in history. During the response to this crisis, the lack of coordination in delivering the goods became evident. Some of the main problems included the transportation of unsolicited and unsuitable goods, weak infrastructure, inaccurate assessments and finance management (Rusell, 2004). Nevertheless, logistics enabled the international community to deliver an incredible amount of at least US$13.6bn of funding emergency relief and reconstruction (Telford et al., 2006).

As it was presented in the structure of the thesis, the objective of this chapter is to answer to the questions *What is humanitarian logistics?* and *what is a humanitarian supply chain?*. The answer to these questions will further our understanding on how logistics is performed under the circumstances already explained in the first chapter of this thesis. Moreover, an acute description of humanitarian logistics will allow us to shed a light on the strategic role that this activity plays on the success of humanitarian operations. In the following sections, we will present a short review of the historic origins of humanitarian logistics (§ 2.2) followed by a discussion of the main characteristics of humanitarian logistics, its relation with commercial logistics and its characteristics with regards to the disaster management relief cycle (§ 2.3). Later on, a description of humanitarian supply chains is performed (§ 2.4) and we will conclude by showing the need of a further look into the logistics and SCM concept.

2.2 Humanitarian logistics: An overview

The XXIst century has brought, along with some of the biggest natural disasters of all time, great advances in how humanitarian action is provided. Emergency stocks, pre-positioning of goods, multimodal transportation, Geographic Information Systems (GIS) and Unmanned Aerial Vehicules (UAVs) are just some of the tools found in today's humanitarian logistics. However, with almost two centuries of humanitarian action, it would be naive to think that the field has always performed under these conditions. The evidence from past crises show that, even though logistics did not have the recognition that has nowadays, it always played an important role of the provision of humanitarian assistance.

As it was introduced in section 1.2, the battle of Solferino (1859) gave birth to humanitarianism with the foundation of the ICRC and the establishment of the first Geneva Convention. The early years of humanitarian action focused on the constitution

of an international movement based on a set of rules which seek, for humanitarian reasons, to limit the effects of armed conflict (ICRC, 2004). It was not until the first World War (1914 – 1918), that an important number of new humanitarian organizations[1] worked to help the civil population, collecting and supplying food aid to new independent territories as a result of the dismemberment of the Austro-Hungarian Empire, as well as to Germany and Austria, countries that were victims of a blockade. Some years later during the famine in Russia, an American organization called American Relief Association (ARA) known for its logistical capacity during the WWI, was able to daily provide food for 10 million people thanks to a network of 35.000 distribution centers, and to transport 660.000 tons of cereal in ten months (Ryfman, 1999). A testimony that appeared in the New York Times in 1922 show the important role that logistics played during this operation.

> "*From personal investigation of the Russian situation and telegraphic advices that have reached me since leaving Moscow, I am fully convinced that transportation of American grain to the distribution centres is being successfully effected. Unless unforeseen contingencies arise, the grain will reach the famine area in time not only to save millions from dying of starvation, but to allow sowing for this year's harvest. I have just received a cable from Moscow stating: 'Upward of 60.000 tons of corn is already on the rails, which is sufficient to insure one month's adult feeding. There is no reason to anticipate a breakdown of transportation. Owing to the blockade of the southern Baltic due to the unprecedented ice conditions in January and February, which caused the simultaneous arrival of may cargoes in Baltic ports, there may be temporary congestion, but the deliveries will not fall below what is necessary to keep up our program.*' "[2].

[1] In Great Britain, a humanitarian organization called Fight the Famine was created by Eglantyne Jebb, an Oxford-educated teacher and sociologist, to aid children in war-ravaged central Europe. The organization is known today as Save The Children.

[2] Lupton A. Wilkinson, an American on his way home after accomplishing a special mission in Russia

The second World War (1939 – 1945), as was the case for WWI, gave rise to new humanitarian organizations mostly from Anglo-Saxon countries. During this period, allegedly the origin of humanitarian logistics (see Box 2.1), an important number of massive distributions of relief items took place targeting the populations of affected countries all over Europe. For instance, between November 1943 and May 1945, the ICRC sent over 750.000 parcels to the Nazi Concentration Camps, and to 1946 over 33 millions of parcels were sent to war prisoners (Favez, 1988). The American organization CARE[3], sent in Mai 1946 a full cargo filled with 15.000 food parcels containing canned meat, milk, beans and oil (Ryfman, 1999). Oxfam[4], a British humanitarian organization created in 1942, ensured the supply of vital relief to civilians in Belgium and Greece and launched in 1943 the 'Greek Week', a relief appeal that raised £10.700 that permitted to monthly send cargoes of 2.000 tons of dried milk and vitamins for Greece and Belgium (Black, 1992).

and Central Europe for the American Relief Administration (The New York Times, 1922).

[3]Originally the Cooperative for American Remittancies Europe, today the Cooperative for Assistance and Relief Everywhere.

[4]Also known as the Oxford Committee for Famine Relief

Box 2.1 : Uncle Wiggly Wings – Humanitarian Logistics Pioneer *by* Neil Maddon

The origins of humanitarian logistics, and in many ways still the benchmark, go back to 1948 and the early days of the Cold War. The theatre was war-torn Berlin; the context, the steady strangulation of the city and its people by Soviet forces under the ruthless direction of Joseph Stalin. The solution came in the form of thousands of individual acts of bravery and determination by Western allied forces, at first not so much co-ordinated as inspired, that would become known as the Berlin Airlift.

For one young U.S. Air Force pilot the airlift would define the future course of his life. First Lt. Gail Halvorsen, a quiet Mormon from Garland, Utah, voluntarily transferred from his station in Alabama, and departed for Rhein-Main Air Base, which occupied what is now the south side of Frankfurt-Main airport. Before leaving, Halvorsen had stuffed his duffel bag with handkerchiefs to deal with a raging cold, a simple act that would prove unexpectedly significant. On July 17 of 1948, after several missions, he visited Berlin as a passenger hoping to make a home movie of the airlift. While filming landings from the cemetery at the end of Tempelhof airport's runway, he noticed children watching the airplanes. The German children acted differently from others, Halvorsen noted, as they didn't ask for sweets or gum. Expecting nothing, they asked for nothing. So one day the 28 year-old pilot walked to the perimeter fence to speak with the children. "All I had in my pocket were two sticks of chewing gum, so I said to them if they didn't fight over those two sticks I would return with more". The children responded by asking how they would know it was him: "I'll wiggle my wings", came the reply.

So Halverson devised a plan, conjuring up small parachutes from the handkerchiefs he had brought with him from Alabama and tied small bags of sweets and chocolate to them. On his next flight he dropped the parachutes on the outskirts of the city. At first Halverson acted on his own initiative with a few pilot 'buddies'. It was their way of bringing some happiness into the lives of children whose world had been turned upside down. The flyers became known as the Rosinenbombers (the Raisin Bombers, which mutated into the 'Candy Bombers'), while Halverson himself gained various monikers; Onkel Wackelflügel (Uncle Wiggly Wings) and Der Schokoladen-flieger (the Chocolate Flyer). Halvorsen's initiative drew the attention of the operation's commanding officer, Lieutenant General William H. Tunner, who ordered it to be expanded into 'Operation Little Vittles'. Then one day, a bag fell at the feet of a German journalist and the story exploded onto the world stage.

Whatever we think of the airlift in terms of its heroism or geo-political significance, the facts to this day testify how monumental an effort was undertaken between June 1948 and May 1949. For example, the average daily cargo tonnage lifted out of Frankfurt in those 12 months was only surpassed at the airport two years ago. A fact all the more remarkable when you consider that the fuselage (and so effective cargo capacity) of the C-54 has the same dimensions as the tail engine on today's MD-11. The Berlin Airlift was probably the only time when coal became a regular air cargo consignment as sacks of fuel were brought in during the winter months to keep beleaguered Berliners from freezing. Stalin eventually backed down leaving the western parts of Berlin as an island of democracy in the heart of Soviet-backed East Germany, until the fall of the Berlin Wall in 1989.

Source: http://www.hu-online.org/

The second half of the XXth century began with a very unstable geopolitical environment that had important repercussions in the humanitarian community. In the aftermath of the WWII, the Soviet Union and the United States were the world's most powerful nations, and their profound economic and political differences led to a 44 year conflict known as the cold war. The recently created United Nations[5] was unable to respond to the rapid rise in tension between the Eastern and Western blocs, creating a 'freezing' on the humanitarian community. Only the ICRC was able to assist in 1956, with the authorization of Soviet authorities, the Hungarian people deeply affected by the conflict. During the first phase, a plane chartered by the Committee carried out six flights between Vienna and Budapest and afterwards, a convoy of 65 trucks reached Budapest filled with food, medicines, medical equipment, construction material, among other supplies (Perret, 1996).

During the 60s and the 70s, humanitarian action as we know it today was born as a result of the Biafra conflict[6], along with the establishment of new actors such as M2decins Sans Frontières (MSF), Action Against Hunger (ACF) and the World Food Program (WFP). Early, these new actors as well as the already present humanitarian organizations, realized the importance of logistics in the provision of humanitarian assistance, leading in the following decades to the creation of specialized logistics structures such as MSF Logistique and the United Nations Joint Logistics Center[7] that provide for their institutions, and in some cases to other NGOs, logistics coordination when responding to both emergencies and development programs.

The last two decades of the XXth century, were the scenario of some of the most devastating food crisis of the history. Some of these include the Ethiopian famine

[5]Originally the United Nations Relief and Rehabilitation, was created representatives of 50 countries in 1945 to maintain international peace and security.

[6]An interesting discussion about the development of this conflict and factors that led to the creation of Médecins Sans Frontières is held in section 6.3

[7]Known today as the Logistics Cluster under the leadership of WFP.

(1983-1984), the Sahel drought (1984 – 1985), the Somalia famine (1992), the North Korean Famine (1995–2002) and the 1998 Sudan famine. In addition to this, some of the largest forced migrations of all time took place in Africa, obligating millions of people to live in temporary refugee camps. The new logistics structures managed (not without struggling) to respond to these unprecedented crises, providing food and shelter to displaced populations. One of the first academic articles in humanitarian logistics, appeared in 1995 describing the logistics of famine relief (Long and Wood, 1995). Based on interviews with officers and personnel from international organizations such as CARE and WFP, as well as other humanitarian organizations, the authors offer a first look to humanitarian relief from a logistics perspective, describing the challenges that this activity faces and pointing out possibilities for improving the relief effort. During the 1990s, important developments were done with the creation of specialized tools such as the United Nations Joint Logistics Center (UNJLC) of the UN agencies (Samii and Van Wassenhove, 2003), the Augmented Logistics Intervention Team (ALITE) from WFP (Scott-Bowden, 2003), and the logistics Emergency Relief Unit (ERU) from IFRC (Samii and Van Wassenhove, 2002a).

The year 2000 also brought important developments in the provision of aid with regards to how help should be delivered. The great difficulties faced by the IFRC during the response to Hurricane Mitch in 1998, had as a result a major restructuring exercise that led to a clear separation between on-going programmes and disaster management (Chomilier et al., 2003). The 2001 Gujarat Earthquake was the 'test' for the recently formed Field Assessment Coordination Teams, that in 30 days organized 45 charter planes carrying basic shelter material (255.000 blankets, 34.000 tents and 120.000 plastic sheets) as well as other relief items for more than 300.000 people (Samii and Van Wassenhove, 2002b). Furthermore, the recently created UNJLC concept was successfully deployed to respond to the 2000 – 2001 Mozambican floods, organizing almost 10.000 hours of air operations, the equivalent of 15.000 to 20.000 flights, without accident

(Samii and Van Wassenhove, 2003).

As it has been previously said, throughout the past years humanitarian logistics has received increasing attention from both practitioner and academic communities, being recognized as a key activity to the relief effort. An important number of humanitarian logistics trainings and certifications offered by diverse institutes, associations and NGOs show the interest from the practitioner community to professionalize this activity. Moreover, various research centers such as the Fritz Institute, the INSEAD Humanitarian Research Group, the HUMLOG Group, the MIT Humanitarian Response Lab and the Center for Help and Humanitarian Logistics at Georgia Tech's Supply Chain & Logistics Institute, among others, have contributed to the development of humanitarian logistics as we know it today. In the next section we present the main characteristics of today's humanitarian logistics.

2.3 Characteristics of humanitarian logistics

To provide humanitarian assistance is the core mission focus in any disaster relief effort (Chia, 2007). Disaster relief activities involve a wide variety of actors in which we find donors, humanitarian organizations (aid agencies and non-governmental organizations), logistics providers, governments and military actors (Kovacs and Spens, 2007a) as well as suppliers. This organizations are put together in a temporary network to respond to a unique crisis characterized by unpredictable demands and supplies. Logistics, in this context, covers different operations, at different times and locations as a response to different catastrophes (Ibid.). One of the main logistical issues is to "design the transportation of first aid material, food, equipment, and rescue personnel from supply points to a large number of destination nodes geographically scattered over the disaster region and the evacuation and transfer of people affected by the disaster to the health care centers safely and very rapidly" (Barbarosoglu et al., 2002, p. 118).

Moreover, humanitarian logistics involves activities such as procurement, transportation, warehousing, inventory management, tracking and tracing, bidding and reverse bidding, reporting and accountability (Gustavsson, 2003). As pointed by van Wassenhove (2006, p. 476), during the past years humanitarian organizations have discovered that logistics:

- is crucial to the performance (effectiveness and speed) of current and future operations and programmes;
- serves as a bridge between disaster preparedness and response, between procurement and distribution and between headquarters and the field. (Thomas and Mizushima, 2005);
- provides a rich source of data, since it is this department that handles the tracking of goods, which could be used to analyze post-event effectiveness (Thomas and Mizushima, 2005); and
- is the most expensive part of any relief operation and the part that can mean the difference between a successful or failed operation.

Most articles on humanitarian logistics are based on the assumption that major differences exist between humanitarian and commercial logistics, mostly caused by the characteristics in which humanitarian relief operations are undertaken (cf. § 1.2.2). Kovacs and Spens (2007a) present a synthesis of those characteristics that make humanitarian logistics so unique (see Table 2.1). However, as pointed out by Ernst (2003), many lessons and practices of the commercial world can be used in the humanitarian world. Three main processes are distinguished: *demand management* that include customer service and order processing, *supply management* covering procurement, production planning and inventory, and *fulfillment management* including transport distribution and warehousing. The definition of suppliers and customers may change from the commercial world to humanitarian but basic logistics principles such as the management

of flows of goods, information and finances remain valid. The author also states that "the fundamental difference with the commercial world is in the motivation for improving the logistics process going beyond profitability". Indeed this fundamental difference is depicted in the definition of humanitarian logistics, "the process of planning, implementing and controlling the efficient, cost effective flow and storage of goods and materials as well as related information from the point of origin to the point of consumption for the purpose of **alleviating the suffering of vulnerable people**" (Thomas and Mizushima, 2005, p. 60).

Table 2.1: Characteristics of humanitarian logistics (Kovacs and Spens, 2007a)

	Humanitarian logistics
The main aim	Alleviating the suffering of vulnerable people
Actor structure	Stakeholder focus with no clear links to each other, dominance of NGOs and governmental actors
3-phase setup	Preparation, immediate response, reconstruction
Basic features	Variability in supplies and suppliers, large-scale activities, irregular demand, and unusual constraints in large-scale emergencies
Supply chain philosophy	Supplies are 'pushed' to the disaster location in the immediate response phase. Pull philosophy applied in reconstruction phase
Transportation and infrastructure	Infrastructure destabilized and lack of possibilities to assure quality of food and medical supplies
Time effects	Time delays may result in loss of lives
Bounded knowledge actions	The nature of most disasters demands an immediate response, hence supply chains need to be designed and deployed at once even though the knowledge of the situation is very limited
Supplier structure	Choice limited, sometimes even unwanted suppliers
Control aspects	Lack of control over operations due to emergency situation

Moreover, Kovacs and Spens (2007a, p. 109-110) present a framework for disaster relief logistics (Figure 2.1), stating that for each actor and phase, parallels to business logistics can be drawn. During the phase of preparing for disasters, risk management will help regional actors (i.e. local NGOs and the government) to be ready when the disaster strikes, while extra-regional actors (i.e. International NGOs and the humanitarian community)

can turn to strategic planning of disaster relief operations. During the the immediate response phase, regional actors learn from crisis management while extra-regional actors will employ short-term project management in their part of disaster relief. Finally, during the reconstruction phase, continuity planning from a regional perspective and long-term project management from an extra-regional perspective are applied.

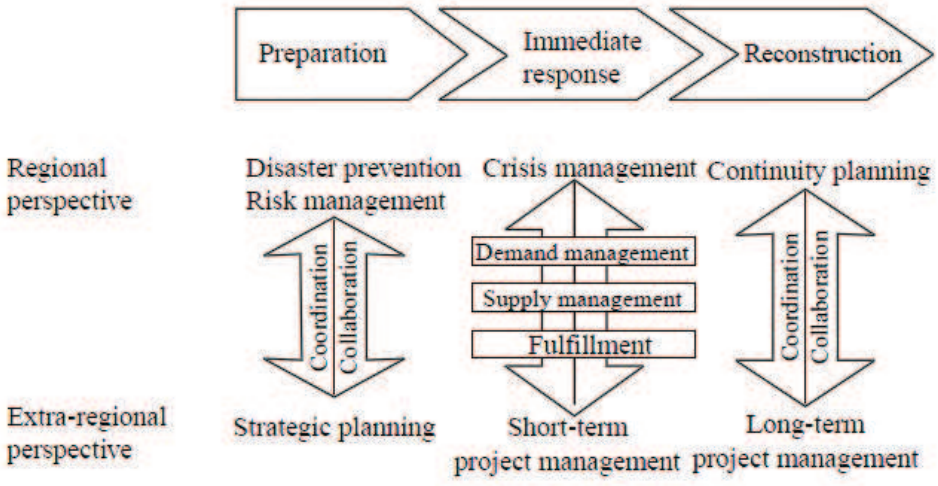


Figure 2.1: A framework for disaster relief logistics (Kovacs and Spens, 2007, p. 109)

Recent studies show that some of these characteristics can be 'mitigated' (see, for example, the work of Everywhere et al., 2011, on demand forecasting), and also that characteristics of humanitarian logistics can be a source of knowledge for commercial logistics. For instance, van Wassenhove (2006) argues that despite the fundamental differences between the two there is a lot to overlap; humanitarian logisticians possess many strengths that business could get advantage from (see Figure 2.2). For instance, business could improve the responsiveness and flexibility thanks to humanitarian practices with regards to rapid deployment and collaboration. Moreover, (Eng-Larsson and Vega, 2011) show that some problems faced by temporary business (e.g. construction or events) with regards to environmental impact, can be addressed by applying the permanent–temporary approach under which humanitarian relief is built, a feature that has received

increasing attention from academics in the past years (cf. Pettit and Beresford, 2005; van Wassenhove, 2006; Kovacs and Spens, 2007a; Tatham and Kovacs, 2007; Jahre et al., 2009).

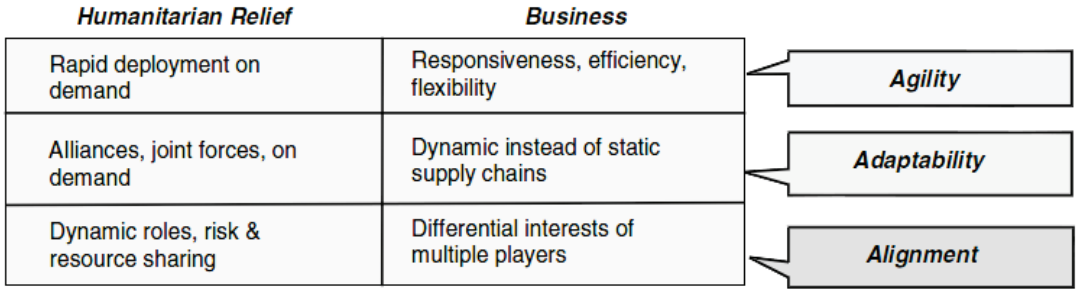


Figure 2.2: Learning from humanitarians (Van Wassenhove, 2006 *from* Lee, 2004)

As stated by Tatham (2012), the challenges faced by humanitarian logistics are significantly broader and deeper than those related to the movement of material. Beyond the traditional logistics activities such as transportation, warehousing, "last mile" distribution and information management, humanitarian logistics include the aspects of prepare for, and respond to disasters (cf. § 1.2.1), a characteristic that is not found in commercial settings *per se*. This feature has an important impact in the way flows are coordinated between and throughout organizations, contributing to its uniqueness.The following section presents the most remarkable characteristics of humanitarian relief chains.

2.4 Humanitarian Supply Chains

As it was previously mentioned, a supply chain consists of three or more entities involved in the upstream and downstream flows of materials, information and finances from suppliers to end consumers (Mentzer et al., 2001). In the humanitarian context, an effective supply chain must be able to respond to **multiple** interventions, often on a **global** scale, as **quickly** as possible and within a **short time frame** (van Wassenhove, 2006). When compared to commercial supply chains, humanitarian supply chains have to deal with a more volatile demand pattern, reduced lead times (nearly zero) and high uncertainty in

the accessibility to logistical infrastructure (airports, ports, roads, etc.). Beamon (1999) presents a comparison between commercial and humanitarian supply chains (see Table 2.2). The author states that the unpredictability of global emergencies and the stakes of adequately deliver the correct amount and number of people and resources highlights the uniqueness of humanitarian supply chains.

Another feature that characterize humanitarian supply chains is the difference on its nature. Depending on the phase of the disaster (§ 1.2.1) and/or the type of work (continuous aid or emergency response), and the type of sourcing (international or local), the humanitarian supply chain will present a different configuration and will face different challenges, maintaining nevertheless the same goal, to effectively respond to the needs of the population. In the following sections we present the characteristics of humanitarian supply chains with regards to these two dimensions: time and sourcing.

2.4.1 Permanent Vs. Temporary Supply Chains

As it was presented previously, disaster relief is whether considered as succession of events (Kovacs and Spens, 2007b) or as a cycle (Carter, 1999; Safran, 2003). Each phase encompasses a number of specific activities that will have an impact on how the supply chain is configured. Jahre and Heigh (2008) propose three different types of supply chains for the relief cycle based on the characteristics of each phase (see Figure 2.3). During the first phase immediately after a disaster, the *emergency supply chain*, a temporary, unpredictable and unstable supply chain, is set up in days by specialist teams to respond to a crisis, and can be active for a few weeks or many months at a time. Following, the *project supply chain*, a temporary–locally managed set of resources, generally predictable and stable, is set up usually the recovery phase of a disaster or for prevention purposes. Finally, the *permanent supply chain*, a stable and generally predictable supply chain where activities and processes are standardized in order to achieve responsiveness, is found during the prevention/development phase of the cycle.

Whether as a cycle or as a sequence of phases, a difference between relief/recovery and development can be drawn with regards to time scope. If we consider that organizations involved in humanitarian operations exist also between crises (Jahre et al., 2009), it is possible to think that a permanent network is developed as a part of the preparedness



Figure 2.3: Humanitarian Supply Chains throughout the Disaster Relief Cycle *adapted from* Safran (2003) and Jahre and Heigh (2008)

strategy and serves as a basis for the temporary network where specific resources are deployed when a disaster occurs and relief is activated. During the emergency response, the first deployed resources consist mainly of expertise in areas such as logistics, medical and telecommunications. Later on, when moving towards recovery, those resources are mostly on equipment and further, on materials (see Figure 2.4)[8]. Depending on the type of resource deployed, the type of procurement will also define the configuration of the relief supply chain.

2.4.2 International Vs. Local Supply Chains

In the introduction of this thesis, we briefly discussed the pros and cons of global and local procurement. As stated by (Balcik and Beamon, 2008), although local procurement may be considered as the best option when responding to an emergency, due to low transportation costs and prompt deliveries, it may also generate competition between the suppliers and shortage in the local market (PAHO, 2001). On the other hand, global procurement provide the possibility of finding large quantities of quality products (Balcik

[8]Based on a presentation by Birgitte Olsen, head of IFRC Global Logistics Services, during the 2012 Conference on Health and Humanitarian Logistics. 21 - 23 March 2012, Hamburg, Germany.

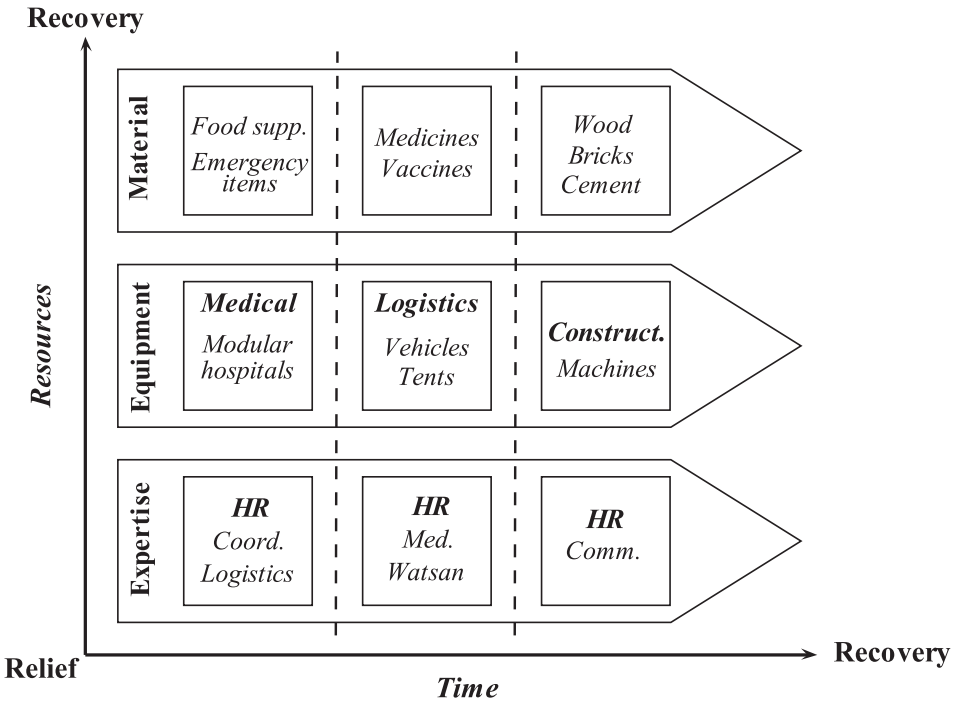


Figure 2.4: Resource deployment from relief to recovery

and Beamon, 2008), not without entailing higher costs and longer delivery times (PAHO, 2001). In order to provide quality products, at low transportation cost and within a short time frame, international organizations such as IFRC and WFP established a pre-positioned items network, strategically located near the most vulnerable areas (see fig. 2.5). Both Regional Logistics Units (RLUs) for IFRC (bottom left) and United Nations Humanitarian Response Depots (UNHRD) for WFP (bottom right), are local warehouses that hold emergency stocks ready to respond to any type of crisis.

Given the conditions of the affected country or region during and/or after the emergency, local procurement can be extremely challenging in the first phase of the disaster management cycle. During the first 72 hours the key is speed at any cost (van Wassenhove, 2006). Goods are mostly flown in from abroad through an international supply chain that links the prepositioned emergency stocks, located in the humanitarian depots, with the beneficiaries. As the emergency evolves (the following 90 to 100 days),

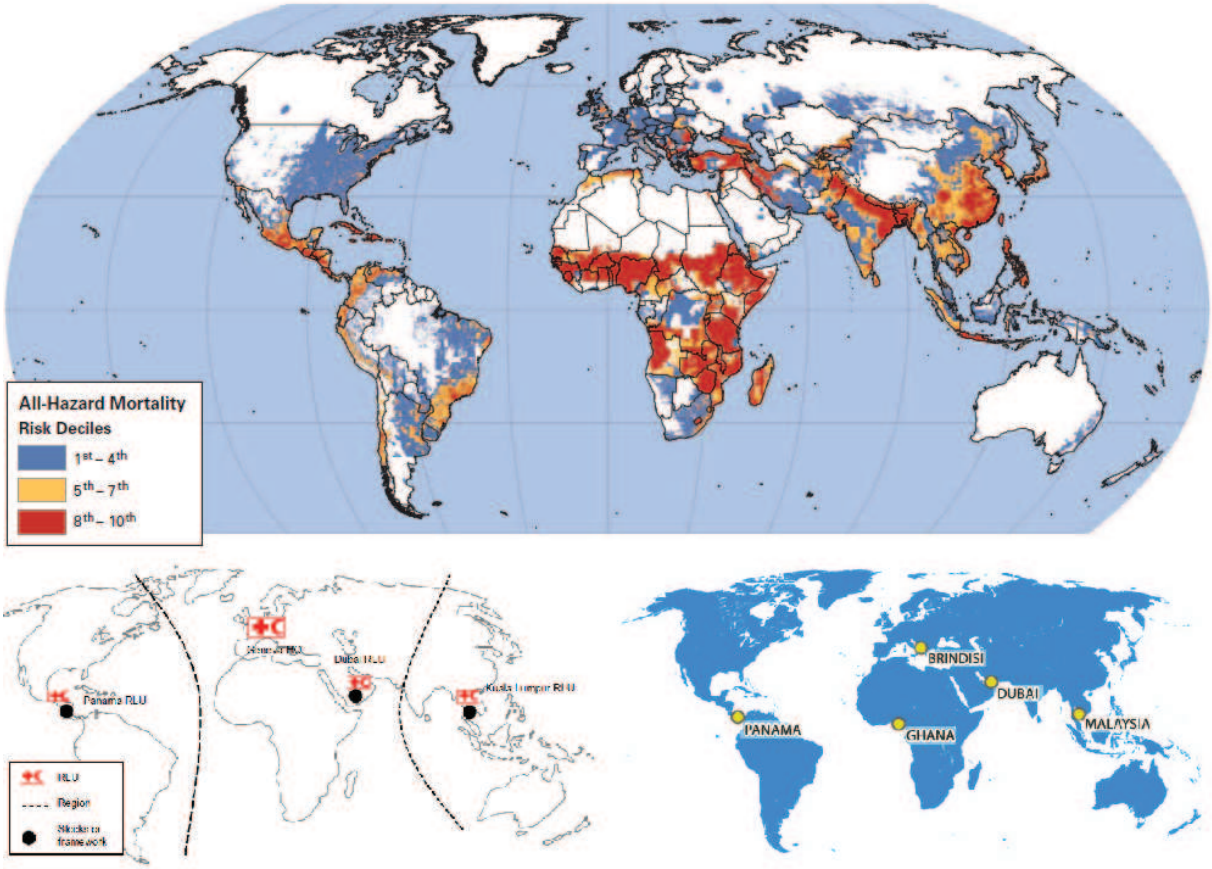


Figure 2.5: Prepositioned stocks based on disaster risk hotspots *adapted from* (Dilley et al., 2005, p. 82)

the supply chain becomes cost-effective, and the NGOs begin to buy goods locally (Ibid.). The aim of relief being to help local citizens (Long and Wood, 1995), the recovery and preparedness phases favor local procurement in order to develop the local economy. Figure 2.6[9] shows the relation between international and local supply chains with regards to time and used resources. When compared with figure 2.4, it is possible to see that an international supply chain comprises mostly expertise and specialized equipment, while a local supply chain consist of construction material and equipment and medicines/vaccines when possible.

[9]Same reference as note 12

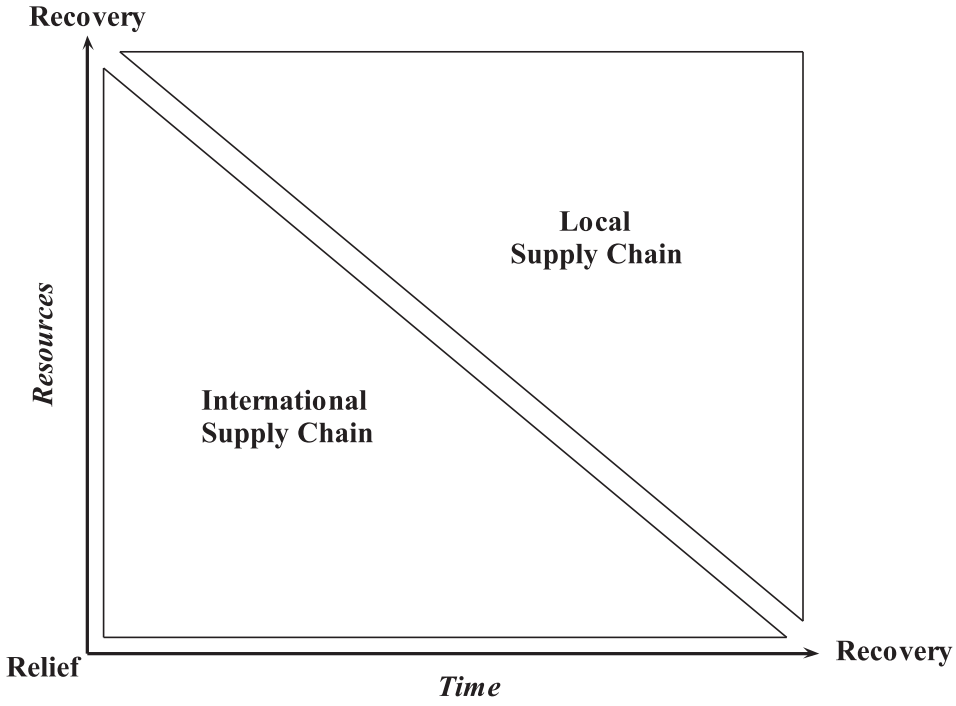


Figure 2.6: Resource deployment from relief to recovery

Table 2.2: Commercial Supply Chains vs. Humanitarian Relief Chains (Beamon, 2004, p. 79)

	Commercial Supply Chain	Humanitarian Relief Chain
Demand pattern	Relatively stable, predictable demand patterns. Demands occur from fixed locations in set quantities	Demand is generated from random events that are unpredictable in terms of timing, location, type, and size. Demand requirements are estimated after they are needed, based on an assessment of disaster characteristics
Lead time	Lead time determined by the supplier-manufacturer-DC-retailer chain	Approximately zero lead times requirements (zero time between the occurrence of the demand and the need for the demand), but the actual lead time is still determined by the chain of material flow.
Distribution network configuration	Well-defined methods for determining the number and locations of distribution centers	Challenging due to the nature of the unknowns (locations, type and size of events, politics, and culture), and "last mile" considerations
Inventory Control	Utilizes well-defined methods for determining inventory levels based on lead time, demand and target customer service levels	Inventory control is challenging due to the high variations in lead times, demands, and demand locations
Information System	Generally well-defined, using advanced technology	Information is often unreliable, incomplete or non-existent
Strategic Goals	Typically: to produce high quality products at low cost to maximize profitability and achieve high customer satisfaction	Minimize loss of life and alleviate suffering
Performance Measurement System	Traditionally: focused on resource performance measures, such as maximizing profit or minimizing costs	Primary focus on output performance measures, such as the time required to respond to a disaster or ability to meet the needs of the disaster (customer satisfaction)
What is "Demand"?	Products	Supplies and People

2.5 Conclusion

The second chapter of this thesis finds basis on the results presented in the first chapter, where logistics appeared as a key activity to humanitarian relief. Through a historical overview, the chapter presents the evolution that this activity has followed from food raising and distribution during World War I and II, to the creation of specialized logistics teams. Nowadays, humanitarian logistics encompasses an important number of activities such as storage, transportation, and network design among others, and is often compared to those found in the industrial sector, not without taking into account the characteristics under which humanitarian operations are performed.

One of the most significant characteristics of humanitarian logistics relies on how relief is delivered with regards to time frame and goals, i.e. a three-phase setting. This fact pushes humanitarian organizations to create three successive and some time overlapping supply chains: an emergency SC during the response phase, a project SC during the recovery phase, and a permanent SC for preparedness. The particularity of humanitarian supply chains is that, for the response and recovery phases, both emergency and project SCs are temporary, linking specific actors to undertake specific tasks. Nevertheless, these actors are found in the permanent SC or network ready to be activated for a new emergency.

Although the chapter globally describes what humanitarian logistics is, the activities performed by the logistics function in the humanitarian organizations are not fully explained, and neither are the organizational competences and capabilities needed to ensure the success of humanitarian relief operations. Therefore, a shift from context level to management level (cf. Fig. 3 in the introduction), is required to understand what logistics is in order to give answer to our research question. The following chapter goes deeper in the logistics and supply chain concepts, and presents for the first time in this thesis the organizational logistics competences and capabilities based on academic

literature.

Synthesis

Humanitarian action can be defined as the assistance provided by one or a group of actors in favor of the populations whose living conditions, physical integrity or even survival are threatened. These actors that involve the military, governments, donors and NGOs, found themselves in a network that seeks for the provision of assistance to the affected population, often dealing with a number of factors that make this provision complex. Whether caused by a natural disaster or as a result of human conflict, and regardless of the speed of its onset, humanitarian operations are considered as a series of interrelated activities that are undertaken in a cycle going from the response to a crisis and the preparation for a future one. Three main phases, namely emergency response, recovery and prevention, encompass different types of activities in an environment that is highly unstable and unpredictable.

Lack of communication, damaged infrastructures and a generally destabilized environment are some of the characteristics that humanitarian practitioners must cope with and still be able to provide assistance to the affected population. In order to do so, a set of competences must be developed. From a practitioner perspective these competences, which include accountability, coordination, logistics and information among others, are interrelated in order to cope simultaneously with the characteristics of the environment. However, academic research seems to differ from this perspective. Most articles that address humanitarian relief operations point logistics and supply chain management as the main activity of the relief effort. This discrepancy can be founded in the academic bias of disciplines that drive research to specialize in one particular area, neglecting perhaps a more holistic vision found in the practitioner community. What ever the case, logistics appears as an important aspect for achieving the goals of any humanitarian operation.

When considered as the process of efficiently planning, implementing and controlling the physical and informational flow from source to consumption for the purpose of alleviating the suffering of vulnerable people, humanitarian logistics is involved in all aspects of the relief effort, from the effectiveness of suppliers and transportation providers to the appropriateness of donated goods. Moreover, logistics is present in each one of the phases of the disaster relief, building an emergency supply chain to respond to the crisis, a project supply chain during the recovery phase, and supporting the development of mitigation/prevention mechanisms through a permanent supply chain. This feature of logistics makes possible to consider it as the 'bridge' between *preparedness* and *response*, as most actors of the humanitarian context collaborate between crisis, creating a semi-temporary/stationary network that enables a temporary supply chain to be deployed to respond to a specific crisis and then be reconfigurated if needed. Moreover, humanitarian logistics is considered as a mean to measure the effectiveness and efficiency of the delivery and thus, it can be a mean to determine the success of humanitarian operations. Nevertheless, this topic requires further inquiry from an empirical perspective.

During the first part of this thesis, the main characteristics of the humanitarian context and those of humanitarian logistics were introduced in order to contextualize our research and provide foundations for answering to our research question. However, until now little has been said regarding the organizational logistics competences required in humanitarian relief to ensure the success of humanitarian operations. Moreover, the activities involving logistics at large are not fully described, yet deserving further explanation. The second part of this thesis deals with these topics from an academic perspective, providing theoretical underpinnings for the development of this research.

Part II

Theoretical Frame of Reference

Chapter 3

Logistics and SCM competencies and capabilities

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3.1 Introduction

Ever since the 1980s, logistics has received increasing attention from business and industry as it is considered to be as a key for competitive advantage (Porter, 1980). Activities such as transportation, material handling and warehousing became 'logistics' and even strategy and management are also qualified as 'logistics' (Lièvre, 2007). Later on, with the emergence of the concept of *supply chain*, the field of logistics broadened considerably becoming "one of the most significant driving forces for organizational change" due to its process-oriented perspective, cutting across the vertical functions of

the organization (Fabbe-Costes and Colin, 2007, p. 35). From an academic perspective, logistics is considered to be a scientific discipline since the mid 1960s (Arlbjorn and Halldorsson, 2002), borrowing from more established disciplines such as economics, marketing, management and engineering (Stock, 1997). Nowadays, logistics is considered to be a part of a broader concept that encompasses the planning and management of all activities involved in sourcing and procurement: Supply Chain Management (CSCMP, 2010).

As it was presented in the structure of the thesis, the objective of this chapter is first to answer to the questions *what is logistics?*, *what is a supply chain?*, *what is supply chain management?* and afterwards, to identify *what are the logistics and SCM competences and capabilities from a logistics and SCM perspective.* The answer to these questions will permit us to understand logistics from a broader perspective with respect to the one offered by humanitarian relief in the first part of this thesis, as humanitarian logistics literature offers a context-rooted description of this activity. Moreover, as we go further into the 'heart' of logistics, we will be able to take a first look at the strategic side of logistics from a theoretical point of view, as well as to identify the logistics competences and capabilities found in this literature. The aim of this chapter is to match the description of logistics presented in chapter 2 based on real-life situations, i.e. humanitarian operations, to theoretical definitions that could be further used for the analysis of the empirical data.

In the following sections, we will begin with an historical overview of logistics in order to understand the evolution followed from logistics to supply chain management (§ 3.2). For this, we used recent articles on the history of logistics and we traced back to ancient references on this topic. Later on, the definitions for logistics and supply chain management, as well as the interrelatedness between these two concepts will be presented (§ 3.3), based on an analysis of the different definitions of these two concepts found in academic literature through time. The strategic role of logistics and supply

chain management will be described based on academic literature (§ 3.4), and logistics capabilities and competences will be presented based on a review of logistics and SCM academic literature where the words logistics 'competence' and 'capability' were the keywords used for the search on academic data bases. Finally we will conclude with some remarks (§ 3.5).

3.2 A Logistics Timeline

In chapter 2, we presented a brief overview of the origins and development of humanitarian logistics throughout history (§ 2.2). However, when compared to the evolution on commercial logistics, a time-lag seem to exist between these two as logistics practices in the humanitarian sector have been applied with some delay. This section presents an historical overview of logistics from its origins to nowadays, setting a basis for a discussion this possible time-lag between humanitarian and commercial logistics that will be held in the conclusion of this chapter.

3.2.1 Origins

Allegedly, the word 'logistics' was first used by Antoine Henri Jomini (1779 – 1869), a Swiss military that served as Captain in the Swiss army, as a General of Brigade for the French army, and as Lieutenant General in the Russian army, in his famous treaty *Précis de l'Art de la Guerre* (1862). The proclaimed Baron de Jomini defines logistics as "the practical art of moving armies" (ch. VI), and argues that the word is derived from the title of the *Major Général des Logis*, "an officer whose duty [...] was to lodge and camp the troops, to give direction to the marches of columns, and to locate them upon the ground" (p. 200). However, at the time Jomini discovered that this definition of logistics was quite limited and did not reflect the true meaning of logistics, "the science of applying all possible military knowledge" (p. 201). The author points out some important points that must be included in order to embrace in one view every duty and detail relating to

the movements of armies. These points are:

1. The preparation of all the material necessary for setting the army in motion,
2. Drawing up in a proper manner the orders of the general-in-chief for different enterprises,
3. Arranging with the chiefs of engineers and artillery the measures to be taken for the security of the posts which are to be used as depots,
4. Ordering and directing *reconnoissances*[1] of every kind,
5. Taking every precaution for the proper execution of movements ordered by the general,
6. Providing all the means necessary for the performance of the duties,
7. Prescribing forms and instructions for subordinate commanders or their staff officers,
8. Indicating to advanced guards and other detachments well-chosen points of assembly,
9. Arranging and superintending the march of trains of baggage, munitions, provisions, and ambulances,
10. Providing for the successive arrival of convoys of supplies. Collecting all the means of transportation of the country and of the army, and regulating their use,
11. Directing the establishment of camps, and adopting regulations for their safety, good order, and police,
12. Establishing and organizing lines of operations and supplies, as well as lines of communications with these lines for detached bodies,

[1] An alternative spelling for "Reconnaissance": The act of reconnoitering; preliminary examination or survey (Webster's Revised Unabridged Dictionary, 1913).

13. Organizing depots of convalescent, wounded, and sickly men, movable hospitals, and workshops for repairs,

14. Keeping accurate record of all detachments, either on the flanks or in rear,

15. Organizing marching battalions or companies to gather up isolated men,

16. In case of sieges,ordering and supervising the employment of the troops in the trenches,

17. In retreats, taking precautionary measures for preserving order,

18. In cantonments, assigning positions to the different corps.

From this non-exhaustive list of duties, it is possible to see that indeed logistics refers to the movement of armies, but also to material-related tasks such as handling, warehousing and transportation, and more strategic tasks such as the reconnoissance and the establishment of camps. This use of the word logistics provided a first glance of what the field would become, however, the genesis of logistics tells a whole different story. Historically, the word logistics comes from the medieval Latin 'logisticus' of calculation, from Greek 'logistikos', skilled in calculating, from 'logizesthai', to calculate, from 'logos', reckoning, reason (van Wassenhove, 2006), and the first use of the word is mostly attributed to Platon (428/427 – 348/347 BC) which defines logistics as the practical calculation (Lièvre, 2007). Nevertheless, a recent study shows that the origins of logistics can be tracked back to the Late Bronze Age (1550 – 1200 BC), pointing Pythagoras (b. about 570 - d. about 495 BC) as the first logistician.

In their study on ancient logistics, Tepić et al. (2011) support the idea that the word logistics comes from the Greek 'logistikos' but argue that the interpretation of this word might be incomplete. The greek word 'logistikos' contains the root 'logos' meaning correct thought and action but also *account*, and the suffix 'icon' meaning *painting*. Therefore,

in the literal translation from Greek, logistics means "art of calculus with pictures" (p. 379), tracking back the origin of logistics to the creation of numeric systems such as the Sumerian sexagesimal system or the Egyptian hieroglyphic system during the late neolithic period (5500 – 4000 BC), being these two the foundation for measuring spatial-temporal transformation of material goods. One of the first applications of logistics as a numeracy skill through images date back to the 14th century BC during the Bronze Age with the discovery of the *Uluburun shipwreck* (see Box 2.1). In the ship cargo, an important number of items from different regions of the Mediterranean Sea with a total weight of 20 tons was found, implying a complex bill of lading that involved complex navigation, careful planning of transfer operations at ports, establishing a new balance of the ship, regular reconsolidation of cargo and so on (Tepić et al., 2011). Such complex activities would required a set of skills and knowledge in different domains such as navigation and weather conditions, the ship technical characteristics, expert knowledge on the properties of the wide range of goods, organization of transfer, market demands for raw materials, intermediate and finished products, trading preferences, risk assessment and much more.

Box 2.1 : The Uluburun shipwreck (Tepić et al., 2011, p. 380-382)

The Mediterranean is an area where the earliest civilizations, the main religions and cultures were formed. Development of Mediterranean civilizations and their progress has always been intrinsically linked to the production in qualitative and quantitative terms. Geographic distribution of resources defined the domination of one civilization in the production of particular commodity groups. Trade as the phenomenon appears with the aim to enable purposeful civilizational interaction - exchange of goods. Mediterranean civilizations were the first to establish organized trade. The earliest civilizational interactions within an established trade network in the Mediterranean date back to 5000 BC and are linked to port infrastructure in the Middle and Late Bronze Age (LBA). The most concrete information about the Bronze Age market system in the Mediterranean is provided by the famous *Uluburun shipwreck* from the LBA (14th century BC), discovered off Uluburun, located about 6 miles due southeast of Kas, in south-western Turkey. A boat, 15 to 16 meters in length, was submerged at a depth of 44 to 52 meters.

The ship cargo included 354 ingots of raw copper and 121 oval copper ingots, one ton of tin, 149 Canaanite jars, Blackwood from Africa and unprocessed ivory (tusks). In addition, ostrich eggshells, Cypriot pottery and oil lamps, amber pearls of Baltic origin, quartz, agate, stone anchors, 175 glass ingots of cobalt blue turquoise and lavender (the earliest intact glass ingots known), and many more items were found. Based on the cargo content analysis, the bronze total weight was determined to be 11 tons. Quantity and weight of amphorae contents was not established. The reconstruction of load distribution indicates the concentration of copper ingots towards the aft (stern) of the ship. The total weight of copper ingots (Figure 5) was about 10 tons, and the balance was established by other heavy payload: amphorae, tin, glass ingots, anchors, etc. Thus, the approximate Uluburun ship cargo weight was probably over 20 tons!. Using modern comparison techniques, combined with archaeological and historical sources, the analysis of the mouse molar skeleton found within the remains of the Uluburun ship, revealed the last port the ship docked in before it sank -Minet el Beida, natural harbor located 1 km west of Ugarit, north of Bilbos. The complex assortment of items from Uluburun further increases the number of possible navigation routes and enables the analysis of transit operations in the Mediterranean ports. This finding has important implications in defining the transit bill of lading, a combination of old and new assortment.

Evidence from the Uluburun shipwreck allows to identify that key elements of modern logistics such as handling, storage, packaging and order delivery were already found in 600 BC before the military applied this ancient science, and included a complex trading process that has all the characteristics of the current logistics systems. Moreover, the etymological genesis presented by Tepić et al. (2011) shows that logistics, as a "numeracy skill through images", is the foundation of philosophy and made possible the development

of scientific fields of ancient times, even though "philosophy completely absorbed logistics" (p. 383). Albeit, the etymological genesis of logistics is essential and fully applicable in the modern times.

3.2.2 From a physical distribution science to Supply Chain Management

Logistics as a discipline finds its roots during the Second World War and is defined by historian Stanley Falk on two levels. First, "logistics is essentially moving, supplying, and maintaining military; forces. It is basic to the ability of armies, fleets, and air forces to operate, indeed to exist. It involves men and material, transportation, quarters and depots, communications, evacuation and hospitalization, personnel replacement, service and administration". Second, logistics is defined as the "economics of warfare, including industrial mobilization, research and development, funding procurement, recruitment and training, testing and, in effect, practically everything related to military activities besides strategy and tactics" (Falk, 1986, p. xi *in* Groupman, 1997). Indeed, the Second World War is considered as a logisticians war, as it can be seen in the words of an army officer[2] (USArmy, 1993, p. viii, 32, 33):

> *"World War II was a logisticians war. Its outstanding characteristics were the totality with which manpower and resources were mobilized and the vigor with which the belligerents attempted to destroy each other's material resources for war. Fabrication and assembly plants, refineries, laboratories, rail and highway networks, ports and canals, oil fields, and power generating installations, because of their logistic importance were primary objects of offensive action. Developments in mechanized, aerial, and amphibious warfare made the logistic support of armed forces vastly more complicated and extensive. ... Our cause would have been lost without the magnificent*

[2]Director of the Service, Supply, and Procurement Division, War Department General Staff.

> *logistic support by our entire Nation. Logistics provided the tools with which our air, ground, and sea forces fashioned victory. ... World War II was a war of logistics. Never before had war been waged on such varied, widespread fronts. Never had combat operations so directly affected whole industrial systems and populations. Logistics ... in many cases dictated ... considerations of strategy, whether the grand strategy of the United Nations or the strategy of a single campaign. From the over-all standpoint, the major logistic problem of the war was the utilization of national resources in meeting the needs of the strategic plans formulated by the Combined Chiefs of Staff ... for the complete defeat of Germany and Japan ... No strategic plan could be drafted without a determination and evaluation of the major logistic factors".*

During this period, logistics showed its potential not only mobilizing resources, supplying material and supporting the armed forces, but also allowing military tactics and strategy to be implemented, having as a result the defeat of the German Army and the end of the Second World War. Soon after the war, industry realized the importance of this activity, increasing its significance when physical distribution management was recognized as an independant organizational function (Gripsrud et al., 2006). During the 1960s, logistics emerged as a scientific discipline (Arlbjorn and Halldorsson, 2002), and borrowed from a wide range of other sciences, ranging from Economics, Mathematics, to the younger fields of Business Administration, the Organization Sciences, and Engineering (Klaus, 2009). Most authors identify this era as the 'birth' of logistics as we know it today (cf. Langley, 1986; Kent and Flint, 1997), and identify two other transformations during the 20th and the beginning of the 21st centuries (see Figure 3.1)[3].

[3]The dates in the figure are indicative.



Figure 3.1: The evolution of logistics *adapted from* Klaus (2009)

3.2.2.1 A physical distribution science

During the post-war years, the marketing revolution gave a whole different perspective of how business was understood (Keith, 1960). Rather than having the capacity to efficiently produce scarce goods, the success of a business relied on the ability to attract and service customers (Klaus, 2009). Physical distribution was born as an original way to respond to marketing problems (Langley, 1986), and was limited to the handling of materials and goods from a supply source to a point of sale (Colin and Paché, 1988). However, activities such as warehousing and wholesaling, inventory control, materials handling, and transportation were seen as separate functions (Kent and Flint, 1997). Ballou (2007) presents the reasons for such fragmentation to be a lack of understanding of key cost trade-offs, the inertia of traditions and conventions, areas other than logistics were thought to be more important and that the organization may have been in an evolutionary state. Moreover, logistics and physical distribution cost were high, ranging from 14.1 percent of sales in Australia to 16 percent in the United Kingdom and 26.5 in Japan (Ibid.). This high costs led physical distribution and logistics to be considered as "the most sadly neglected, most promising areas of American business" in Drucker's (1962) seminal work "The Economy's Dark Continent". Also, the author *cited in* Langley (1986, pp. 3-4) states:

> *"We know little more about distribution today than Napoleon's contemporaries knew about the interior of Africa. We know it is there, and we know it is big; and that's about all. There are plenty of experts on individual phases: on transportation and warehousing, on retailing and consumer buying habits, on labeling and packaging, on factoring and insurance. But when a major government department recently looked for two or three men to advise it on distribution, none of the many people consulted in industry, government, and even the universities could name even one qualified candidate..."*

It was not until early 1960s when academy identified the challenges and potential of physical distribution and logistics that this field became a science. Firms became aware of the great amount of flows and the need to manage them in order to respond to customer requirements at a low cost (Colin, 2005). A new trend on physical distribution, based on the *total cost concept*, lead to the emergence of a 'new science' that focused on the firm's outbound movement of goods (physical distribution science), that later expanded its focus to include physical supply and was called **business logistics**, mostly to differentiate it from military logistics (Ballou, 2007). This new era referred to as "physical distribution and materials management maturity" (1965 – 1979) (Bowersox, 1983), was marked by the integration of logistic activities under a system view and the consolidation of management for both inbound and outbound transportation, warehousing, inventory control, and materials handling (Kent and Flint, 1997).

At that time, Heskett et al. (1964, p. 43) stated that the logistics system of a business firm consists on a "set of fixed points, or facilities" connected by "a transportation network". These two elements include not only its own facilities, but also "the facilities of the company's suppliers and the company's customers and the transportation network which connects each of these to the company's facilities" (p. 49). Based on this perspective, Jahre et al. (2006) point out that physical **resources** (warehouses, hubs, terminals,

trucks, ships, etc.) are the foundations of the physical activities of the logistics system, highlighting the importance of the effective handling of these resources since the early days. However, as stated by the authors, this perspective was modified when integration with other functions and firms became crucial.

The focus on customer service and the integration of inventory management allowed distribution managers to realize that reduced inventory would have a positive impact on the firm's cash flow, meaning that "well planned physical distribution operations could significantly improve corporate profitability" (Bowersox, 1983, p. 24). Likewise, distribution executives became more proactive in creating planning strategies in contrast to the reactive approach adopted until then (Langley, 1986). This focus on operations (physical activities) and the means to conduct them in the most efficient way, changed the way resources were regarded, being considered from now on "facilitators of operations" rather than "facilities of value" (Jahre et al., 2006, p. 34). Another important aspect that prompted the evolution of the field was the rapid expansion of computer technology, permitting the development of computer programs that supported the physical distribution and material management activity (Bowersox, 1983) and setting the basis for a second era of logistics.

In France, the field followed the a similar path not without having some important differences. Functions such as procurement, production and distribution were still considered as independent, and were forced to seek solutions to deal with transport and warehousing problems, leading to local optimizations due to a fragmented approach of logistics (Colin, 2005). The frequent failure in the application of American logistics models led practitioners and academics to realize that logistics needed a unified approach, leading to the creation of a number of logistics associations such as the ASLOG[4] among others, and an important development of academic logistics research (Tixier et al., 1996).

[4]Association Française des Logisticiens d'entreprise (French Business Logisticians Association).

3.2.2.2 Industrial logistics

During the 1980s, logistics began to be considered as a key mean of differentiation and a critical component in the strategy of the firm (Kent and Flint, 1997). Until then, logistics comprised the material management, aligned with the production function, that dealt with the inbound flow of raw material, and the physical distribution, aligned with marketing, dealing with the outbound flow of finished materials, leaving "an artificial break in an essentially continuous function" (Waters, 2007, p. 5). The need to solve logistical problems in the different functions of the firm resulted in the adoption of a more integrated approach of physical distribution and material management activities: the *supply chain* (see Figure 3.2) (Colin, 2005). Here, each function was a link of the chain and logistics became responsible for all material movement into, through and out of the organization.



Figure 3.2: Actors of the supply chain *adapted from* Colin (2005)

Along with this supply chain perspective, logistics witnessed a new era of 'industrialization', supported by the advances in statistical and modeling techniques and increasingly powerful support from informatics, allowing firms to achieve economies of scale through product standardization and production lines, brand-name mass-marketing of services, and the rationalization of service process structures (Klaus, 2009). One of the most important advances during this period was the adoption of 'flow thinking', a concept developed some years earlier by Japanese engineer Taiichi Ohno in his work the "Toyota Production System (TPS)" (1988), originally published in 1978. Ohno's conceptualization of production as a flow system is based on the synchronization of the flow across multi-stage sequences of activities, achieved by passing on demand signals from the end of

the chain, upstream direction from stage to stage, making sure that demands signaled are met "just-in-time". Some other advances based on Ohno's concept such as 'lean manufacturing' (Womack et al., 1990), 'efficient consumer response (ECR)' (Kurt Salmon Associates, 1993) and 'time-based management' (Stalk, 1988) were also developed during this period. From these advances, lean thinking refocused the attention on resources but in a very specific way (Jahre et al., 2006), as the interest became the minimization of used resources to produce the necessary customer service (Cooper et al., 1997).

Another significant change that took place during the industrialization of logistics was the way organizations were structured. Regularly, organizations followed a *vertical* structure (see Figure 3.3), organized around functions such as production, marketing, sales and distribution under a 'silo' or 'stovepipe' design (Christopher, 2007). This vision of the organization contributed to the focus on the use of resources rather than upon the creation of outputs. However, these outputs can only be measured in terms of customer satisfaction achieved at a profit, which can only be realized through coordination and cooperation *horizontally* across the organization (Ibid.). A new organizational structure based on processes including new product development, order fulfillment and information management, promoted the organization's capacity to compete and succeed in the marketplace.

The process-oriented perspective of the organization was soon linked to the concept of supply chain, enabling firms to "control the information flow from downstream to upstream, and to optimize (in terms of cost and level of service) the whole physical movement that is initiated by demand pull" (Fabbe-Costes and Colin, 2007, p. 35). New approaches such as 'process-based management' (Davenport and Short, 1990) and later 'process re-engineering' (Hammer, 1990) were introduced as organizations realized that processes had to be completely redesigned in order to gain competitiveness. However, logistics was mostly regarded as an internal cross-functional process and thus boundaries

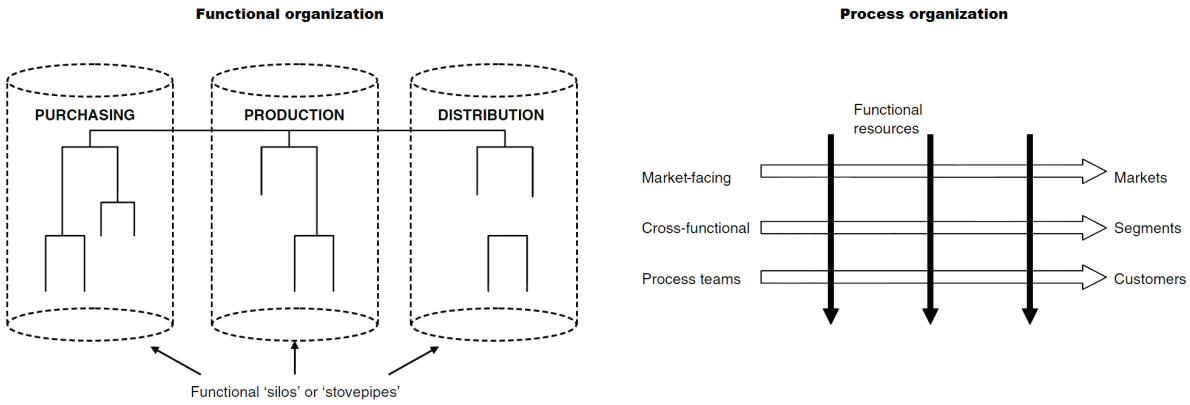


Figure 3.3: Vertical vs. Horizontal organizations *adapted from* Christopher (2007)

were created between organizations disrupting the flow of materials and increasing costs (Waters, 2007). The logical step was therefore, to merge logistics along the supply chain and remove these boundaries (see Figure 3.4). This new perspective set the basis for a new era of logistics.

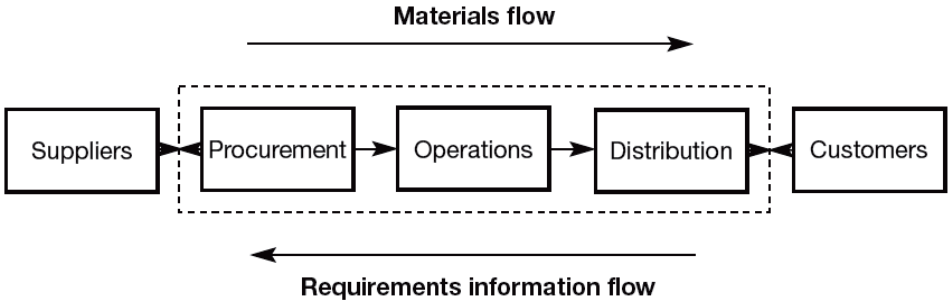


Figure 3.4: The Logistics Management Process (Christopher, 2005)

3.2.2.3 Supply Chain Management

For Christopher (2007, p. 23), logistics is "an integrative process that seeks to optimize the flows of materials and supplies through the organization and its operations to the customer". However, in order to obtain real benefits, the logistics concept must be extended upstream to suppliers and downstream to final customers; this new concept is *supply chain management (SCM)* (Ibid.). Although the concept of supply chain was

developed during the 1980s, pointing out the need to extend the scope of logistics from intra– to inter–organizational relationship, it took 10 years more until SCM caught the fascination of logisticians becoming a major topic for practitioners and research (Klaus, 2009). Some of the benefits of this perspective include (Waters, 2007, p. 5):

- common objectives for all parts of the supply chain;
- genuine cooperation to achieve these objectives;
- sharing information and highlighting important features;
- faster and more flexible responses to customer demands;
- replenishment and movements triggered by actual demands;
- lower stocks;
- less duplication of effort, information, planning, stocks, etc;
- improved efficiency and productivity;
- easier planning;
- less uncertainty, errors and delays;
- elimination of activities that add no value for customers.

Ballou (2007) argues that the origin of the concept remains a mystery and points out the difficulty of defining what SCM is compared with physical distribution and logistics. In some countries, the term SCM replaced the term logistics and initiated a discussion about which concept is considered broader than the other[5] (Klaus, 2009). Albeit, SCM is considered to be "the most recent approach to distribution arrangements" (Gripsrud

[5] A discussion on this subject is held on section 3.3

et al., 2006, p. 645), trying to capture the whole supply chain and taking into consideration the complexity of cross-organizational issues. According to Christopher (2005), this perspective helped firms to recognize the fallacy of simply transferring costs upstream or downstream and led them to make the supply chain as a whole more competitive through the value it adds and the costs that it reduces overall, realizing that "real competition is not company against company but rather supply chain against supply chain" (p. 29).

During this era, referred to as the *supply chain revolution* and the *logistical renaissance* (Bowersox et al., 2002), the scope of the firm broadened both upstream and downstream, not only creating a wider perspective of its business, but also helping organizations to consider themselves as a link in a long length chain going from the supplier's supplier (upstream) to the customer's customer. It is worth noting that even though this new movement gained popularity all over the world during the late 90s, the concept of SCM was already being implemented in France under the name of *Logistique Totale* or Total Logistics since the 1980s. As introduced in section 3.2.2.1, the perspective that French academics and practitioners developed of logistics during the early 70s was that of a unified activity that gathered three elementary operations, namely procurement, production and distribution, under the same umbrella[6]. The need to coordinate the different flow-related functions of the organization led to their integration (Colin, 1996), giving birth to Total Logistics, a concept that includes new functions such as conception, after-sales service and reverse logistics (see Figure 3.5). Taking this into account, it is possible to argue that there is a gap between the 'classic' evolution of logistics and SCM from an Anglo-American perspective and the early evolution that the field had in France.

Nevertheless, France is not the only country following a different path from the American. Ever since the 1960s, Scandinavian countries developed an alternative approach to logistics in both practice and academic research. Jahre and Persson (2008) state that

[6]In France, one of the first authors that proposed such vision was François Kolb in his 1972 work "La logistique: approvisionnement, production, distribution".

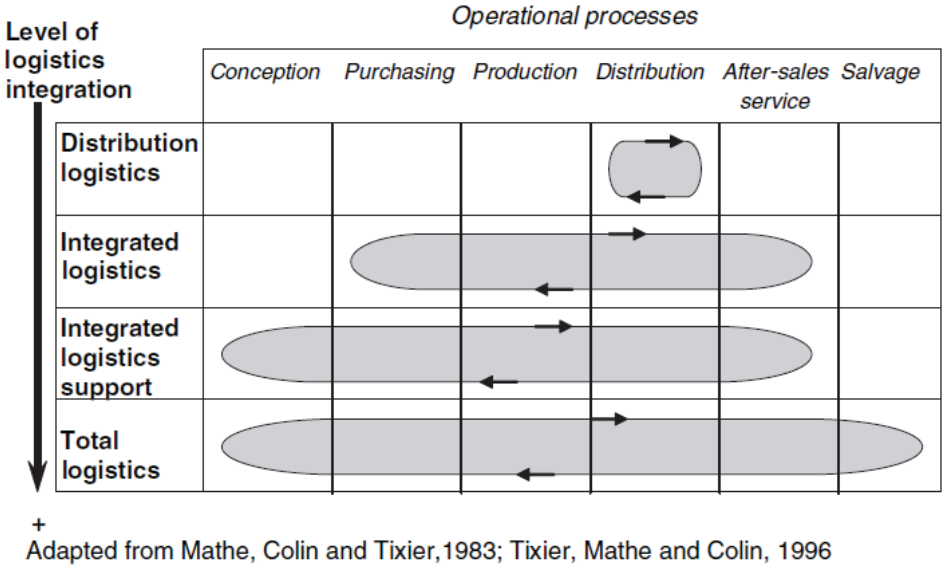


Figure 3.5: Evolution of the field of action of logistics (Fabbe-Costes and Colin, 2007, p. 35)

Nordic approach to logistics and logistics research can be described in three phases. A first phase from WWII to late 60s, where modeling and operations research techniques dominated logistics research. Until then, as it was the case for the French evolution, the Anglo-American approach dictated how logistics was defined. It was not until the early 1970s that Scandinavian countries developed their own approach to logistics, mostly influenced by Professor Dag Ericsson's book "Material Administration" (1972), including management literature (e.g. organization theory, strategy, marketing and distribution research) rather than operations research, and being genuinely based on a systems approach. This perspective was followed by several authors and became the mainstream in Nordic research. Finally, a third phase emerged during the late 1990s based on the specialization of firms and the outsourcing of activities, a fact that led to focus on inter-organizational issues such as collaboration and interaction (e.g. Hakansson and Snehota, 1995), supply networks rather than chains (e.g. Gadde and Hakansson, 2001; Jahre and Fabbe-Costes, 2005), and resources rather than activities (e.g. Jahre et al., 2006).

The Anglo-American approach also developed a more inter-organizational approach driven by the concept of Supply Chain Management, based on the assumption that in practice most organizations get materials from different suppliers and sell products to many different customers (Waters, 2003) and thus, organizations belong to a network rather than to a single chain (see Figure 3.6). The emergence of a 'network organization' marked a new competitive paradigm, suggesting that in order to compete in such environment, "the route to sustainable advantage lies in managing the complex web of relationships that link highly focused providers of specific elements of the final offer in a cost-effective, value-adding chain" (Christopher, 2005, p. 285). However, this holistic perspective of logistics and Supply Chains remains limited, as the 'network' appears as a vertical and hierarchical set of connected actors defined by a focal actor's perspective, disregarding the indirect links between actors and the role of Logistic Service Providers and thus, remaining a Supply Chain perspective (Jahre and Fabbe-Costes, 2005).

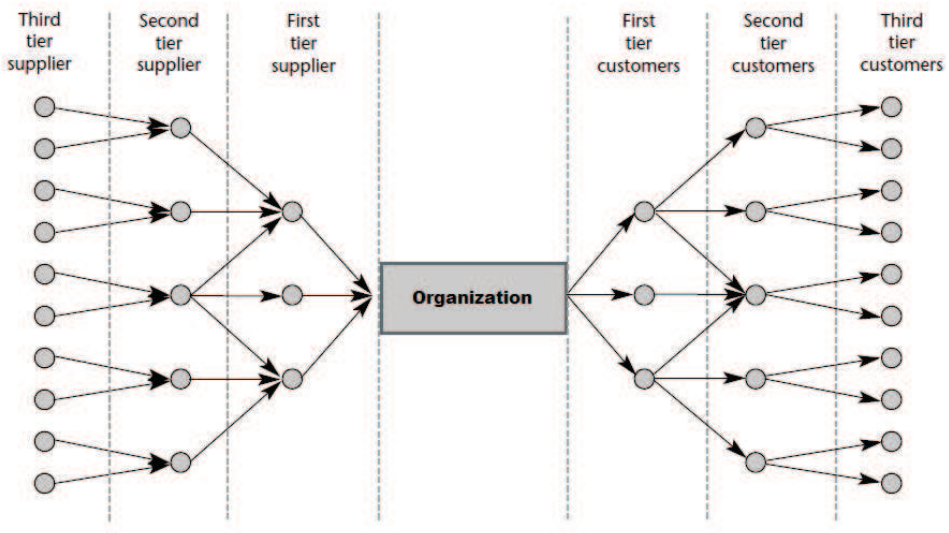


Figure 3.6: The supply chain as a whole *adapted from* Waters (2003)

However, one of the factors that influenced the emergence of a network organization and to consider logistics and SCM as a strategic capability (Stalk et al., 1992), was the technological advances in communications with the arrival of the Electronic Data

Interchange (EDI) in the late 1980s, and the Internet in the late 1990s, technologies that brought instant access to any supplier irrespective of location, available at any time, with transparent transactions, low entry costs and low transaction costs (Waters, 2007). Nowadays, SCM allows organizations to cope with the changing competitive environment characterized by new rules of competition, globalization of industry, downward pressure on price and customers taking control, among others (Christopher, 2005). Strategies such as cost leadership, differentiation, innovation, alliance and diversification can be achieved through logistics strategy formulation appearing as a subset, but not only, of the organization's overall strategy (Fabbe-Costes and Colin, 2007).

3.3 Defining logistics and Supply Chain Management

Throughout the evolution of logistics from a physical distribution science to SCM, the field has witnessed an important amount of transformations that can be identified by the definition that this activity has received during the past 60 years. The appearance of the concept of SCM to academic literature generated a debate on whether SCM is the fulfillment of the logistics activity integration or a whole new and bold concept (Ballou, 2007). In order to understand the difference between these two concepts, it is necessary to follow the evolution of the definition of the activity, first analyzing each concept separately and then comparing the relationship between logistics and SCM. This analysis has the purpose of contributing to the theoretical match process, by identifying the theoretical definition of logistics, the activities and the scope, compared to what was presented in chapter 2, in order to set a basis for the empirical study. Results show that, albeit logistics as a science is rather established, multiple perspectives ranging from activity, to process, to function, are found in the proposed definitions. A further discussion on this topic is held on the conclusion of this chapter.

3.3.1 Logistics

Although most authors recognize the 1960s as the period when logistics is considered as a scientific discipline, Kent and Flint (1997) argue that logistics, then known as physical distribution, first appeared in academic literature in the early 1900s. Since then, the definition of logistics evolved from a focus on physical distribution within the marketing domain in the early 1960s, to the contemporary process orientation focused on conforming to customer requirements. The authors summarize the most important changes in the definition of logistics since its early beginnings in the late 20s to the mid 90s. In the late 90s, the term 'logistics' was to some extent supplanted by the term 'supply chain management' (Rogers and Leuschner, 2004), and the accelerated market changes as well as the evolving environment led to a re-definition of logistics. Table 3.1 presents this summary of definitions and includes those proposed by the Council of Supply Chain Management Professionals (CSCMP)[7].

In the definitions presented on Table 3.1, it is possible to see that in addition to the shift from physical distribution to process orientation, logistics also included other activities such as planning, implementation and control. An interesting fact is that since the 1960s, allegedly the birth date of logistics, this activity has covered the movement of goods from point-of-origin to point-of-consumption, a scope that remains valid in today's globalized world. However, not all definitions include this end-to-end perspective. For instance, in 1998 Martin Christopher defined logistics as "the **process** of strategically managing the procurement, movement and storage of materials, parts and finished inventory and related information flow through the organization and its marketing channels" (Christopher, 1998), and later as "the **process** of strategically managing the

[7]The CSCMP was created in 1962, originally under the name "National Council of Physical Distribution Management" (NCPDM). In 1985 the name was changed to "Council of Logistics Management (CLM) and later to "Council of Supply Chain Management Professionals" in 2005, implying that 'logistics' covers a subset of SCM-issues only.

Table 3.1: The evolution of Logistics definitions *based on* Kent and Flint (1997)

Year	Definition
1927	There are two uses of the word distribution which must be clearly differentiated ... first, the use of the word to describe physical distribution such as transportation and storage: second, the use of the word distribution to describe what is better termed marketing
1967	A term employed in manufacturing and commerce to describe the broad range of **activities** concerned with efficient movement of finished products from the end of the production line to the consumer, and in some cases includes the movement of raw materials from the source of supply to the beginning of the production line (NCPDM).
1976	The integration of two or more **activities** for the purpose of planning, implementing, and controlling the efficient flow of raw materials, in-process inventory and finished goods from point-of-origin to point-of-consumption (NCPDM).
1985	The **process** of planning, implementing, and controlling the efficient, cost-effective flow and storage of raw materials, in-process inventory, finished goods, and related information from point-of-origin to point-of-consumption for the purpose of conforming to customer requirements (CLM).
1994	The **process** of planning, implementing, and controlling the efficient, effective flow and storage of goods, services, and related information from point-of-origin lo point-of-consumption for the purpose of conforming to customer requirements (CLM).
2001	That part of supply chain process that plans, implements, and controls the efficient, effective flow and storage of goods, services, and related information from the point of origin to the point of consumption in order to meet customer requirements (CLM).
2003	That part of supply chain management that plans, implements, and controls the efficient, effective *forward and reverse* flow and storage of goods, services, and related information from the point of origin to the point of consumption in order to meet customer requirements (CLM).
2006 – 2010	That part of supply chain management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customers' requirements. This definition includes inbound, outbound, internal, and external movements (CSCMP).

procurement, movement and storage of materials, parts and finished inventory (and the related information flows) through the organization and its marketing channels in such a way that current and future profitability are maximized through the cost-effective fulfillment of orders" Christopher (2005, p. 4). This perspective considers logistics as a framework that creates a plan for the flow of product and information through a business (Ibid.).

Other definitions such as the one proposed by Bowersox et al. (2006, p. 22), where logistics refers to the **responsibility** to design and administer systems to control movement and geographical positioning of raw materials, work-in-process, and finished inventories at the lowest total cost, are considered as alternative yet related definitions to the CSCMP's. Colin (2005) argues that the fraction of the CSCMP's definition that refers to the upstream/downstream origins of logistics ("from the point of origin to the point of consumption"), results obsolete and also contradictory with the current vision of market-driven flows, incidentally highlighted in the definition ("conforming to customer requirements"). Moreover, the author proposes to use "*through* related information" instead of "*and* related information" in order to reveal the importance of information in the logistics process. The amended definition, and the one adopted in this thesis, is thus:

> *the process of planning, implementing, and controlling procedures for the efficient and effective transportation and storage of goods including services, through related information for the purpose of conforming to customer requirements.*

Either broad (point-of-origin to point-of-consumption) or narrow, most authors agree that logistics encompasses a series of activities in which we find sourcing and procurement, transportation, warehousing, materials handling, order fulfillment, inventory management, production planning and scheduling, packaging and assembly, and customer service, among others. The following is a non-exhaustive list of logistic activities that are found when the movement of materials through an organization is followed (Waters, 2003).

Purchasing or procurement: The flow of materials through an organization is usually initiated when procurement sends a purchase order to a supplier. Procurement

finds thus suitable suppliers, negotiates terms and conditions, organizes delivery, arranges insurance and payment, and does everything needed to get materials into the organization.

Inward transport or traffic actually moves materials from suppliers to the organization's receiving area. For this, the type of transport (road, rail, air) is chosen, transport operators are found, routes are designed, safety and legal requirements are met, etc.

Receiving makes sure that materials delivered correspond to the order, acknowledges receipt, unloads delivery vehicles, inspects materials for damage, and sorts them.

Warehousing or stores moves materials into storage, and takes care of them until they are needed. As well as making sure that materials can be available quickly when needed, warehousing also makes sure that they have the right conditions, treatment and packaging to keep them in good condition.

Stock control sets the policies for inventory. It considers the materials to store, overall investment, customer service, stock levels, order sizes, order timing, etc.

Order picking finds and removes materials from stores. Materials for a customer order are located, identified, checked, removed from racks, consolidated into a single load, wrapped and moved to a departure area for loading onto delivery vehicles.

Materials handling moves materials from one operation to the next, and also moves materials picked from stores to the point where they are needed. The aim of materials handling is to give efficient movements, with short journeys, using appropriate equipment, with little damage, and using special packaging and handling where needed.

Outward transport takes materials from the departure area and delivers them to customers.

Physical distribution management is a general term for the activities that deliver finished goods to customers, including outward transport.

Recycling, returns and waste disposal: Even when products have been delivered to customers, the work of logistics may not be finished. There might, be problems with delivered materials and they have to be collected and brought back. Sometimes there are associated materials such as pallets, delivery boxes, cable reels and containers which are returned to suppliers for reuse. Some materials are not reused, but are brought back for recycling, such as metals, glass, paper, plastics and oils. Finally there are materials that cannot be used again, but are brought back for safe disposal, such as dangerous chemicals. This activity is better known as *reverse logistics* or *reverse distribution*.

Location: Some of the logistics activities can be done in different locations. Logistics has to find the best locations for these activities, or at least play a significant role in the decisions. It also considers related questions about the size and number of facilities. These are important decisions that affect the overall design of the supply chain.

Communication Alongside the physical flow of materials is the associated flow of information. This links all parts of the supply chain, passing information about products, customer demand, materials to be moved, timing, stock levels, availability, problems, costs, service levels, etc.

The integration of some of these activities such as purchasing, production planning and material handling, created *materials management*, while the integration of transportation, distribution planning and finished goods inventory, among others, created *physical*

distribution. Moreover, the integration of both material management and physical distribution results in what we define as logistics, as a function in the structure of organizations that is responsible for both in-bound and out-bound physical flows. If we consider logistics, from an organizational point of view, as a part of a supply chain, others activities are to be integrated to this function to create SCM (see Figure 3.7). However, defining SCM has not been an easy task.

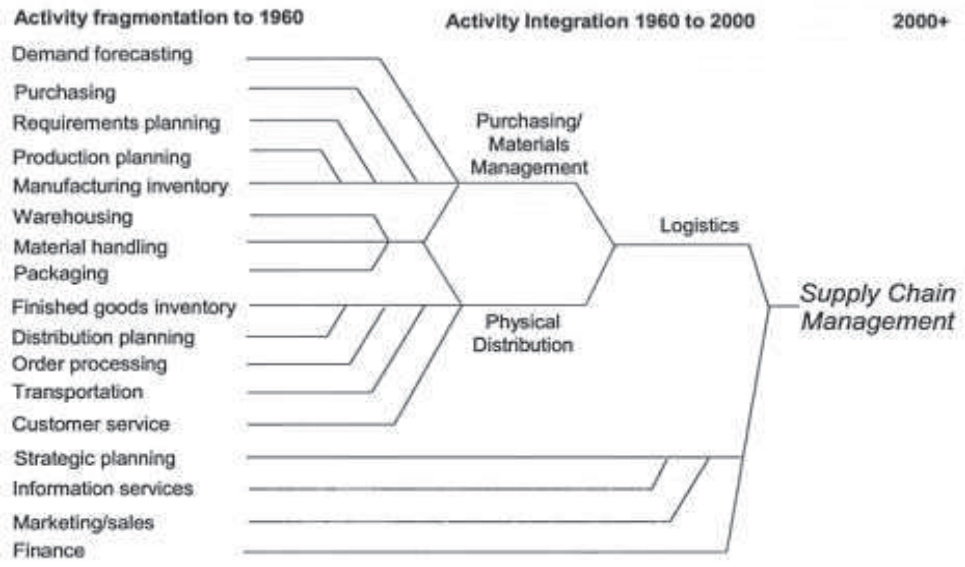


Figure 3.7: The evolution of Supply Chain Management (Ballou, 2007)

3.3.2 Supply Chain Management

The concept of SCM is based on the notion that supply chains rather than single business units are competing with each other (Gripsrud et al., 2006). Since its introduction in the late 1980s, SCM has become one of the most popular concepts within management in general (LaLonde, 1997). The term SCM has received an important number of definitions mostly referring to as a management philosophy, as an implementation of a management philosophy or as a set of management processes (Mentzer et al., 2001). However, before defining SCM it is necessary to understand what a supply chain is.

For Bowersox et al. (1999, p. 4), a supply chain "consist of firms collaborating to leverage strategic positioning and to improve operating efficiency". For Waters (2003, p. 7) it "consists of the series of activities and organizations that materials move through on their journey from initial suppliers to final customers". Christopher (2005, p. 6) defines as "a network of connected and interdependent organizations mutually and co-operatively working together to control, manage and improve the flow of materials and information from suppliers to end users". The CSCMP (2010, p. 179) gives two definitions to a supply chain: "(1) starting with unprocessed raw materials and ending with the final customer using the finished goods, the supply chain links many companies together. (2) The material and informational interchanges in the logistical process stretching from acquisition of raw materials to delivery of finished products to the end user. All vendors, service providers and customers are links in the supply chain". A wider definition, and the one adopted for this thesis is proposed by Mentzer et al. (2001, p. 4) as:

> *"a set of three or more entities (organizations or individual) directly involved in the upstream and downstream flows of products, services, finances, and/or information from a source to a customer".*

Moreover, the authors differentiate three different types of supply chain, namely direct, extended and ultimate supply chain (see Figure 3.8). The *direct supply chain* consists of a company, a supplier, and a customer involved in the upstream and/or downstream flows of products, services, finances, and/or information. The *extended supply chain* includes suppliers of the immediate supplier and customers of the immediate customer. Finally, the *ultimate supply chain* includes all the organizations involved in all the upstream and downstream flows of products, services, finances, and information from the ultimate supplier to the ultimate customer. Having defined the concept of supply chain, a phenomenon of business that exists whether it is managed or not, it is now possible to define SCM.

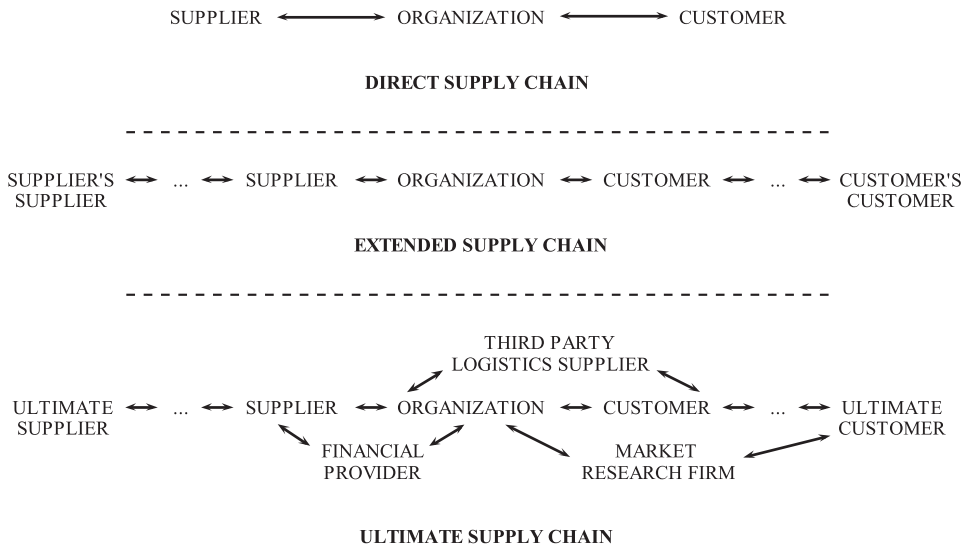


Figure 3.8: Types of supply chain (Mentzer et al., 2001)

During the past 20 years, several definitions have been used to describe what is SCM. One of the first works that showed the myriad of existing definitions for SCM was presented by Bechtel and Jayaram in 1997, classifying more than 50 existing SCM definitions into five schools of thought and identified functional and process areas covered. In the same year, Cooper et al. also presented a review of 13 early SCM definitions, identifying the basic SCM components found in literature. Later on, Mentzer et al. (2001) classified more than 20 SCM definitions into three categories leading to a differentiation between SCM and Supply Chain Orientation. In 2005, Gibson et al. conducted a survey to assess the practitioner perspective on this topic based on the CSCMP members; the results of this study led to the organization's SCM official definition. More recently, Stock and Boyer (2009) developed a consensual definition of SCM by performing a qualitative analysis of 173 unique definitions of the field, collected from articles and books published on the subject from 1985 through 2008. Authors define SCM as "the management of a network of relationships within a firm and between interdependent organizations and business units consisting of material suppliers, purchasing, production facilities, logistics, marketing, and related systems that facilitate the forward and reverse flow of materials, services, finances

and information from the original producer to final customer, with the benefits of adding value, maximizing profitability through efficiencies, and achieving customer satisfaction". Nonetheless, as stated by Stock (2009, p. 148) "there is still no consensus definition of the field and what it entails". Table 3.2 presents a review of the different SCM definitions.

As mentioned earlier, Mentzer et al. (2001) argues that most definitions consider SCM whether as a management philosophy, as an implementation of a management philosophy or as a set of management processes. As a *philosophy*, SCM extend the concept of partnership into a multi–organizational effort to manage the total flow of goods from the ultimate supplier to the ultimate customer. In order to *implement* such philosophy, a number of activities such as integration; information, risk and reward sharing; cooperation; mutual focus on customer satisfaction; process integration; and long-term partnerships must be undertaken. Finally, as a *process*, SCM manages relationships, information, and materials flow across enterprise borders to deliver enhanced customer service and economic value. Nevertheless, these perspectives do not reflect the path that logistics and SCM followed throughout the past years, evolving from physical distribution to management through the integration of an important number of organizational activities. Therefore, the definition adopted for this thesis is the one proposed by the CSCMP (2010), probably the most widely held view of SCM (Stock, 2009). Moreover, this definition reflects the intra-organizational vision put forth in the introduction of this thesis. SCM is thus defined as:

> *"an integrating* ***function*** *with primary responsibility for linking major business functions and business processes within and across companies into a cohesive and high-performing business model. It includes all of the logistics management activities [...], as well as manufacturing operations, and it drives coordination of processes and activities with and across marketing, sales, product design, finance and information technology".*

Table 3.2: SCM definitions *based on* Mentzer et al., (2001)

Author	Definition
Jones and Riley(1985)	"Supply chain management deals with the total flow of materials from suppliers through end users..."
Houlihan (1988)	Differences between supply chain management and classical materials and manufacturing control: "(1) The supply chain is viewed as a single process. Responsibility for the various segments in the chain is not fragmented and relegated to functional areas such as manufacturing, purchasing, distribution, and sales. (2) Supply chain management calls for, and in the end depends on, strategic decision making. *Supply* is a shared objective of practically every function in the chain and is of particular strategic significance because of its impact on overall costs and market share. (3) Supply chain management calls for a different perspective on inventories which are used as a balancing mechanism of last, not first, resort. (4) A new approach to systems is required-integration rather than interfacing."
Stevens(1989)	"The objective of managing the supply chain is to synchronize the requirements of the customer with the flow of materials from suppliers in order to effect a balance between what are often seen as conflicting goals of high customer service, low inventory management, and low unit cost."
LaLonde and Masters (1994)	Supply chain strategy includes; "...two or more firms in a supply chain entering into a long-term agreement;...the development of trust and commitment to the relationship;...the integration of logistics activities involving the sharing of demand and sales data;...the potential for a shift in the locus of control of the logistics process."
Cooper et al. (1997)	Supply chain management is "...an integrative philosophy to manage the total flow of a distribution channel from supplier to the ultimate user."
Monczka et al. (1998)	"SCM requires traditionally separate materials functions to report to an executive responsible for coordinating the entire materials process, and also requires joint relationships with suppliers across multiple tiers. SCM is a concept, "whose primary objective is to integrate and manage the sourcing, flow, and control of materials using a total systems perspective across multiple functions and multiple tiers of suppliers."
Mentzer et al. (2001)	"the systemic, strategic coordination of the traditional business functions and the tactics across these business functions within a particular company and across businesses within the supply chain, for the purposes of improving the long term performance of the individual companies and the supply chain as a whole"
CSCMP (2005 – 2010)	"Supply Chain Management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all Logistics Management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third party service providers, and customers. In essence, Supply Chain Management integrates supply and demand management within and across companies"

Although the most popular view of SCM, as it can be seen in the different definitions listed above, is that SCM encompasses an important number of activities in which logistics is included, some other perspectives are also found in both academic and practitioner communities. As stated by Cooper et al. (1997, p. 1), "practitioners and educators have variously addressed the concept of supply chain management (SCM) as an extension of logistics, the same as logistics, or as an all-encompassing approach to business integration". These different perspectives were studied in Larson et al.'s (2007) article on SCM depth and breath. The next section briefly reviews these perspectives.

3.3.3 Perspectives on logistics vs. SCM

As it can be seen throughout these last sections, SCM is the logical development of advances in logistics management. However, not all practitioners and academics agree with this perspective. Based on earlier discussions about logistics versus supply chain management, Larson et al. conducted in 2000 a survey of logistics educators that confirmed the existence of four perspectives. These four perspectives are: *traditionalist* (logistics subsumes SCM), *re-labeling* (logistics equals SCM), *unionist* (logistics is subsumed by SCM), and *intersectionist* (logistics and SCM overlap partially) (see Figure 3.9). The study published in 2007 briefly describes each perspective and highlights the implications in practice.

Traditionalist

The traditionalist positions SCM within logistics, meaning that SCM is a function or subset of logistics. This reduces SCM to a special type of logistics, external or inter-organizational logistics. Traditionalist practitioners may create new 'SCM analyst' positions within the logistics group. SCM analysts focus on logistics problems, perhaps in a cross–functional and/or inter–organizational context. The SCM leader reports to the head of logistics.

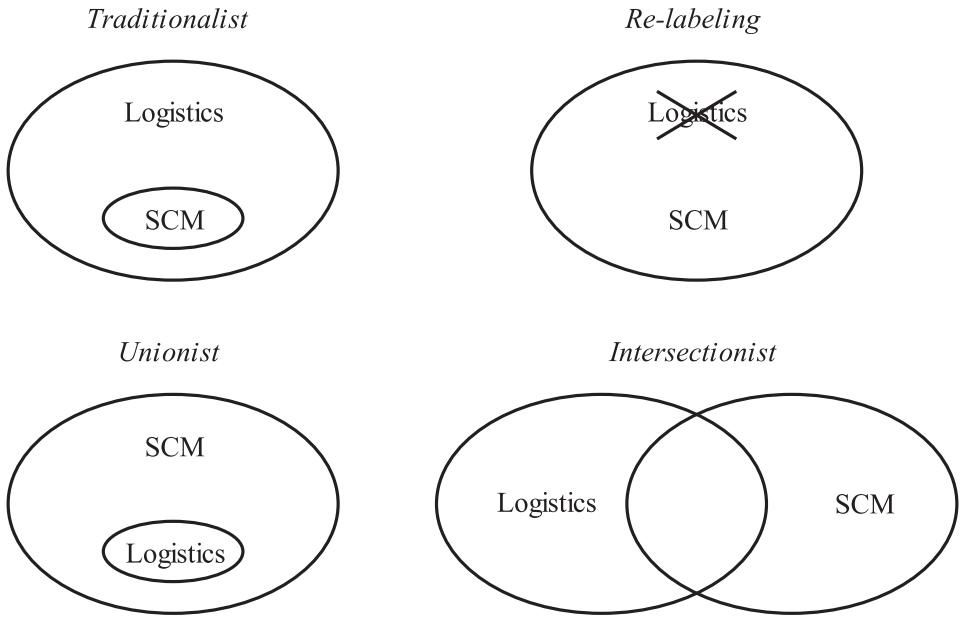


Figure 3.9: Perspectives on logistics vs. SCM (Larson et al. 2007)

Re–labeling

Re-labeling simply entails a name change; what was logistics is now SCM. Re–labeling narrows the scope of SCM. since SCM equals logistics. Practitioners re–title last year's 'logistics analyst' to become this year's 'SCM analyst', with little or no change in job description.

Unionist

This perspective positions logistics as a function of SCM. SCM subsumes many traditional business functional areas, including purchasing, logistics, operations, and marketing. A company adopting the unionist perspective may start by creating a new high-level position, such as *Director* or *Vice President of SCM*, and then by altering reporting relationships and the organizational chart. The unionist perspective is broad and deep, including all elements (strategic and tactical) across multiple functional areas.

Intersectionist

The intersectionist concept of SCM focuses on the strategic, integrative elements across purchasing, logistics, operations, marketing, and other functions. At the intersection, SCM coordinates cross-functional strategic activities across the supply chain. In practice, intersectionist organizations may appoint a supply chain council or team, consisting of executives across functions (e.g. logistics, marketing, purchasing) and institutions.

Based on these four perspectives on logistics versus SCM, the authors propose that each perspective vary in terms of the breadth (narrow or broad) and depth (shallow or deep) of SCM concept. As it is shown in Table 3.3, both intersectionist and unionist perspectives are considered *broad*, as these support a multiple function of SCM, while traditionalism and re–labeling are considered *narrow* since they position SCM within a single function, logistics. On the other hand, traditionalist and intersectionist perspectives are considered *shallow*, given that these focus only in strategic, integrative elements across functions, while re–labeling and unionist perspectives include both strategic and tactic elements.

Table 3.3: The breadth and depth of SCM *adapted from* (Larson et al. 2007)

Feature	**Traditionalist**	**Re–labeling**	**Unionist**	**Intersectionist**
Definition	SCM is a part of logistics	SCM is logistics	SCM is logistics	SCM and logistics partially overlap
Breadth	Narrow, single function (logistics)		Broad, multiple functions	
Depth	Shallow, strategic only	Deep, strategic and tactical		Shallow, strategic only

Considering the evolution that the field has followed from a physical distribution science to what is known today as supply chain management, being this the result of an integration process (§ 3.2), the perspective that we choose to adopt for this research is the **unionist**, which accounts for the evolution of the field and focuses on the integration of different key business processes to add value for customers and stakeholders (Cooper et al., 1997).

Moreover, with regards to the breadth and depth, we consider logistics and SCM as broad, including multiple functions within and across the boundaries, and deep, encompassing both strategic and tactical aspects.

3.4 Logistics/SCM and competitive advantage

It is a well known fact that effective logistics and supply chain management can provide a major source of competitive advantage (Christopher, 2005). As stated by Barney (1991, p. 102), "a firm is said to have *competitive advantage* when it is implementing a value creating strategy not simultaneously being implemented by any current or potential competitors. A firm is said to have a *sustained competitive advantage* when it is implementing a value creating strategy not simultaneously being implemented by any current or potential competitors and when these other firms are unable to duplicate the benefits of this strategy". Numerous authors argue that superior resources and skills contribute to sustained competitive advantage (cf. Day and Wensley, 1988). Others suggest that firms must combine their resources and skills into core competencies to achieve sustained competitive advantage (cf. Prahalad and Hamel, 1990)[8]. One of the first works that pointed logistics as a source of sustained competitive advantage was Stalk et al.'s (1992) "Competing on Capabilities: The New Rules of Competitive Advantage".

In the article, the authors demonstrate how Walmart, today's world's largest retailer[9], was able to transform the discount retailing industry in less than 10 years. Behind Walmart's strategy of customer satisfaction, lies a highly performing logistics infrastructure that enables the company's inventory replenishment to be the centerpiece of its competitive strategy. Most organizations possess business processes that deliver value to the customer. However, not many consider such processes as the primary object for strategy. When

[8]Further discussion of these topics is held on the next chapter of this thesis

[9]Rank based on the 14th annual "Global Powers of Retailing" report compiled by Deloitte Touche Tohmatsu and STORES Magazine. Full list available at http://www.stores.org/2011/Top-250-List

strategically understood, a set of business processes become a *capability*, and competitive advantage depends on the firm's capacity to transform business processes into capabilities (Stalk et al., 1992). Waltmart's story shows that from a firm point of view, logistics is regarded as a key strategic resource for acquiring competitive advantage. However, as stated by Olavarrieta and Ellinger (1997, p. 569) "the strategic role of logistics has not received the attention it deserves in terms of the considerable influence that it can have as a resource that contributes to service superiority".

One interesting perspective that addresses Olavarrieta and Ellinger's statement is the one presented by Fabbe-Costes and Colin (2007). The authors argue that it is necessary "to think about logistics at the time the overall strategy is being designed, and to foresee how, in certain cases, it can be the foundation of overall strategic action" (p. 37). In other words, to reverse the classic approach of logistics Strategy (lS) to think strategic Logistics (sL). For this, a typology of possible logistics strategies is proposed based on selected case studies of distributors (e.g. Carrefour, Décathlon, Casino), manufacturers (e.g. Renault, Hewlett-Packard, Levi's) and Logistics Service Providers (e.g. FedEx, Geodis, DHL) (see Table 3.4). Evidence shows that logistics is nowadays considered as a "source of competitive advantage and/or new strategies" (p. 53).

Over the past years, a considerable amount of research in logistics has been dedicated to the identification and definition of competences or capabilities in order to support the idea that logistics can be considered as a source of sustained competitive advantage. However, findings show that research on this issue is far from being stable, as both terms 'logistics competences' and 'logistics capabilities' are used interchangeably in literature (Morash et al., 1996).The following sections review, based on logistics and SCM literature, the most prominent works on these two streams of research, logistics competences and logistics capabilities, and the relation of each of these two concepts with sustained competitive advantage.

Table 3.4: Typology of logistic Strategies and strategic Logistics (Fabbe-Costes and Colin, 2007)

Generic Strategy	**logistics Strategy**	**Strategic logistics**
Cost leadership	Reduce logistics costs	Reduce overall costs with logistics
Differentiation	Quality of logistics service	Logistics factor of differentiation
Innovation	Logistics support for innovation	Logistics as a source/ motor for innovation
Alliance	Logistics as a means of alliance	Logistics as a source/ motor for alliance
Profession expansion	Logistics as a support for new profession integration	Logistics as a new profession
Mission expansion	Logistics as a support for extension	Logistics in order to win new clients
Diversification	Use of logistics synergies	Diversifying through or in logistics

3.4.1 Logistics competences

A competence can be broadly defined as well–defined routines that are combined with firm–specific assets to enable distinctive functions to be carried out (Teece et al., 1991), and is considered to be directly linked to a firm's competitive advantage. One of the first works on logistics competence was conducted by the Global Logistics Research Team at Michigan State University (MSUGLRT). The Research team proposed in 1995 a "World Class Logistics Competency Model" (see Figure 3.10) based on a study on how some of the world's best–managed companies used logistics to achieve competitive superiority (MSUGLRT, 1995). In the model, each competency was conceptualized as being comprised of several functional capabilities, which in combination create a competency. The study reported some empirical evidence that world class practices are correlated with better logistics performance. This first logistics competences framework was the basis for an important number of studies all over the world.

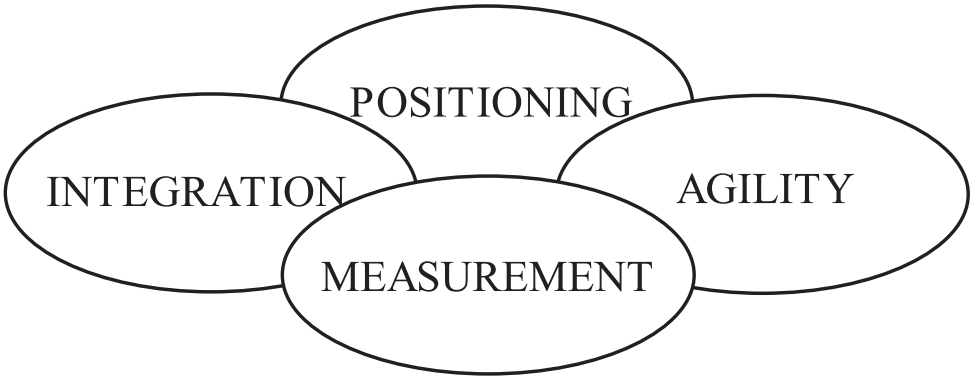


Figure 3.10: World Class Logistics Competency Model (MSUGLRT, 1995)

Based on this framework, Stank and Lackey (1997) examined the relation between capabilities and competencies and found *integration* and *agility* to be of great importance to logistics performance. Later on, Anderson et al. (1998) conducted a survey on the importance of quality management practices in the achievement of operational results and customer satisfaction with members of the American Society of Transportation and Logistics. Results show a casual relationship between quality management factors and logistics outcomes, specifically logistics operational performance and customer service. Daugherty et al. (1998) confirmed the strong link between logistics capabilities and costumer satisfaction from a study that examined the relation between buyers and sellers in a B2B setting. Goldsby and Stank (2000) provided support to the relationship between the World Class Logistics Competency Model, and the implementation of environmentally logistics practices. In Shang and Sun's (2004) work, authors combined resource–based view of the firm and logistics and supply chain management to classify organizations in the manufacturing industry in Taiwan, and confirmed that logistics can be regarded as a key strategic source for acquiring sustained competitive advantage. Shang and Marlow (2005) explored the relationship between performance and logistics capabilities and found that information–based capability plays an important role in the enhancement of the firms' performance and the facilitation of the firms' other capabilities. More recently, in the authors' 2007 work, four logistics competencies, namely integration and knowledge

competence, customer focused logistics competence, measurement competence, and agility competence, were identified based on a survey of 1,200 manufacturing firms in Taiwan, confirming the MSU's framework.

Bowersox et al. (1999) expanded the MSUGLRT (1995) study and propose the *21st Century Logistics* model with six supply chain competences, namely *costumer integration, internal integration, relationship integration, technology and planning integration, measurement integration and supplier integration*, and the "Supply Chain 2000 Framework" (see Figure 3.11) which identifies the competences essential to integrating supply chain logistics. The authors conducted a survey of 306 senior North American Logistics Executives in order to obtain information on the supply chain competences and performance metrics. Results confirmed that the companies possessing these key competencies, experience operational and financial improvement. In an attempt to substantiate the academic relevance of Bowersox et al.'s (1999) work, Stank et al. (2000) showed that superior logistics performance is a reward for high achievement on supply chain logistics integration competencies and that customer integration is the most critical competency associated with improved performance. Many authors have applied this framework to international environments. Some of these works include Carranza et al. (2002), who used this framework to analyze the logistics strategy of Argentinean firms, Mollenkopf and Dapiran (1999; 2005) who used it to benchmark logistics capabilities and competencies in Australia and New Zealand, and Closs and Mollenkopf (2004) that compare the data collected during the *21st Century Logistics Framework* with data collected by Mollenkopf and Dapiran (1999) in Australia and New Zealand.

Others studies emphasize either in one specific logistics competence (e.g. Richey et al., 2007), in logistics competence as a whole (e.g. Bolumole et al., 2007; Peko and Ahmed, 2011) or in logistics competency building (e.g Hulsmann and Grapp, 2006; Li and Lin, 2006). Surprisingly, no new models have been proposed or developed in recent years,

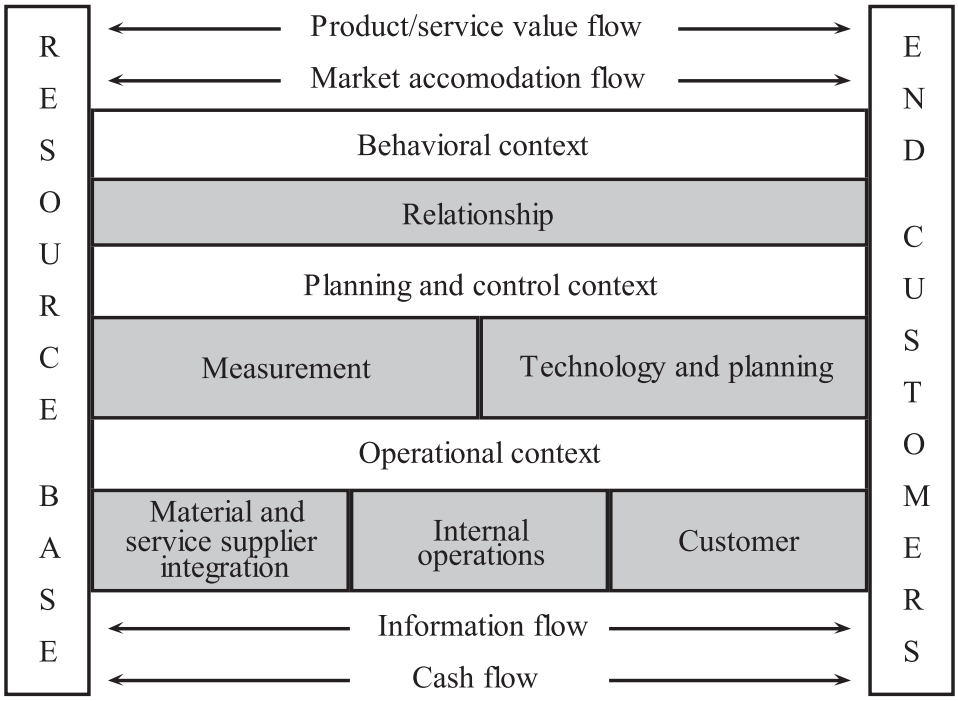


Figure 3.11: The Supply Chain 2000 Framework (Bowersox et al., 1999)

mostly because studies apply either one of the frameworks presented above, or because they focus on a particular competence. Table 3.5 summarizes the most prominent works on this literature. Each logistics competence framework is presented including the main reference, denoted by an asterisk (*), and the authors that carried out studies based on this framework. Subsequently, a list of the competences are presented as well as the capabilities that compose such competence.

3.4.2 Logistics capabilities

A capability can be defined as "complex bundles of individual skills, assets and accumulated knowledge exercised through organizational processes, that enable firms to co-ordinate activities and make use of their resources" (Olavarrieta and Ellinger, 1997, p. 563). An important amount of research on strategic logistics is founded on the idea that logistics capabilities support different value disciplines (Snow and Hrebiniak, 1980). Morash et al. (1996) present two main value disciplines, *demand–oriented* or costumer oriented and *supply oriented*, and the different capabilities that compose these value disciplines. Based on a study on the perceived importance of strategic logistics capabilities for firm success, the actual implementation of such logistics capabilities, and measures of both firm performance and firm performance relative to competitors was conducted in the American furniture industry, the authors found that delivery speed, reliability, responsiveness, and low cost distribution are the key logistics capabilities for sustained competitive advantage.

Later on, Gilmour's (1999) work proposes a framework to evaluate supply chain processes based on a set of capabilities, namely *process capabilities, technology capabilities* and *organization capabilities* (see Figure 3.12), which incorporate the extent of integration and the use of associated technologies in the supply chain processes of an organization, and the degree to which logistics is used as a key element of overall strategy formulation and implementation. The author performed a study on six Australian consumer product and automobile manufacturers, finding that for the automotive industry, the customer-dialogue driven supply chain capability results in a high differentiation on the market. As for the consumer product industry, integrated information systems capability and integrated performance measurement capability are the market differentiation facilitators. The framework provides a benchmark for measuring the match with the organization's logistics strategy and overall corporate strategy.

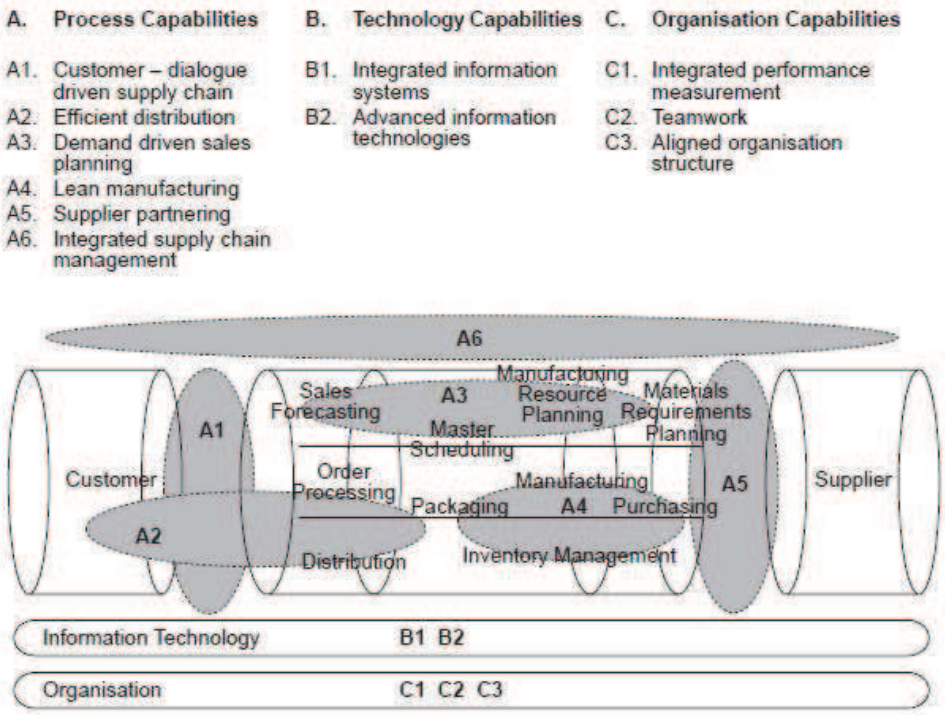


Figure 3.12: Supply chain capability framework (Gilmour, 1999)

Based on the MSUGLRT's (1995) study, Lynch et al. (2000) divided logistics capabilities into two groups, i.e. *value–added service capabilities* and *process capabilities*, following expert panel's beliefs that some are more important for achieving low costs, and others are more important for differentiation. The study conducted in North American retail grocery industry, showed a positive relationship between process capabilities and a cost leadership strategy, while value-added service capabilities have a positive impact in an organization's differentiation strategy. Later, Zhao et al. (2001) use MSU's framework to propose and test a model of the relationships among *costumer–focused capabilities* and *information–focused capabilities* and firm performance. Based on senior logistics or supply chain executives in each North American-based (i.e. Canada, Mexico, and the United States) manufacturing, wholesale/distributing, and retail industries, a study confirmed that costumer–focused capabilities are strongly related with firm performance.

In 2004, Mentzer et al. categorized logistics capabilities based on the existing literature into four interfaces, namely *demand-management interface capabilities*, *supply-management interface capabilities*, *information management capabilities* and *coordination capabilities*, arguing that logistics capabilities demonstrate a firm's competitive advantage through the management of stakeholder goals. The authors also recognize the important role of logistics capabilities in boundary–spanning interfaces between internal functional areas and between the focal firm and the supply chain partners. Later on, Esper et al. (2007) reveal the most frequently discussed capabilities in literature, including customer focused capabilities, supply management capabilities, integration capabilities, measurement capabilities, and information exchange capabilities. Recent developments include the importance of logistics capability in the e-commerce market (Cho et al., 2008), the contribution of capabilities to the LSP competitiveness in China (Liu et al., 2010), the identification of key logistics capabilities for international distribution centers (Lu and Yang, 2010), and the role of logistics capabilities as a source for competitive advantage in Swedish retail companies (Sandberg and Abrahamsson, 2011), among others. However, as it is the case for logistics competence, these recent studies do not include new insights but are rather confirmatory of previous literature. The following table summarizes the capabilities found in literature. Here, capabilities are gathered by their focus or orientation, and no work is considered as a main reference.

From the literature presented above both on logistics competences and capabilities, it becomes clear that logistics plays an important role in the strategy of an organization and can be considered as a source of sustained competitive advantage. Hence, organizations must develop logistics competences and capabilities to achieve such competitive advantage. Logistics and SCM literature present an important number of competences and capabilities that, when regarded jointly, present some discrepancies that must be discussed. Table 3.7 reunites the competences and capabilities presented in Table 3.5 and those presented in Table 3.6 as a synthesized list.

Table 3.5: Logistics competence frameworks

Framework	Authors	Competences	Capabilities
MSUGLRT (1995)*; Anderson et al. (1998); Daugherty et al. (1998); Goldsby and Stank (2000); Shang and Sun (2004); Shang and Marlow (2005; 2007)	Positioning	Strategy, Supply Chain, network, organization	
		Integration	Supply Chain unification, information technology, information sharing, connectivity, standardization, simplification, discipline
	Agility	Relevancy, flexibility, accommodation	World Class Logistics Competency Model
		Measurement	Functional assessment, process assessment, benchmarking
	Stank and Lackey (1997)	Positioning	Costumer focus, organizational control, organizational implementation
	Integration	Connectivity, functional integration, information sharing, IT, supplier relations	
		Agility	Operational flexibility, personnel flexibility
	Measurement	Activity–based costing, benchmarking, performance assessment	
21st Century Logistics Model	Bowersox et al. (1999)*; Mollenkopf and Dapiran (1999, 2005); Stank et al. (2001); Carranza et al. (2002); Closs and Mollenkopf (2004)	Customer integration	Segmental focus, relevancy, responsiveness, flexibility
	Internal integration	Cross–functional unification, standardization, simplification, compliance, structural adaptation	
		Relationship integration	Role specificity, guidelines, information sharing, gain/risk sharing
	Technology and planning integration	Information management, Internal communication	

Table 3.6: Logistics capabilities gathered by orientation

Authors	**Orientation/Focus**	**Capabilities**
Morash et al. (1996)	Demand–oriented	Pre–sale costumer service, post–sale costumer service, delivery speed, delivery reliability, responsiveness to target markets
	Supply–oriented	Widespread distribution coverage, selective distribution coverage, low total cost distribution
Gilmour (1999)	Process	Costumer–driven supply chain, efficient logistics, demand–driven sales planning, lean manufacturing, supplier partnering, integrated supply chain management
	Information technology	Integrated information systems, advanced technology
	Organization	Integrated performance measurement, teamwork, aligned organizations structure
Lynch *et al.* (2000)	Process	
	Value–added service	
Zhao et al. (2001)	Costumer–focused	Segmental focus, relevancy, responsiveness, flexibility
	Information–focused	Information sharing, IT, sharing
Mentzer et al. (2004)	Demand–management interface	Flexibility, responsiveness
	Supply–management interface	Total cost minimization, efficient logistics processes
	Information management	IT, information sharing, connectivity

Table 3.7: Synthesis of Logistics Competences and Capabilities from logistics and SCM literature

Accommodation	Financial impact	Low cost total distribution	Selective distribution coverage
Activity-based costing	Financial linkage	**Measurement**	Sharing
Advanced technology	**Flexibility**	**Measurement Integration**	Simplification
Agility	Functional assessment	Network	Standardization
Aligned Organization structure	Functional Integration	Operational flexibility	Strategic alignment
Benchmarking	Gain sharing	Operational fusion	Strategic planning
Collaborative forecasting and planning	Guidelines	Organization	Strategy
Compliance	Information	Organizational control	Structural Adaptation
Comprehensive metrics	Information Management	Organizational Implementation	**Supplier Integration**
Connectivity	Information sharing	Performance assessment	Supplier Management
Customer Integration	Information Technology	Personnel Flexibility	Supplier Partnering
Cross-functional unification	Integrated Information Systems	**Positioning**	Supplier relations
Customer focus	Integrated Performance Measurement	Post-sale Customer service	Supply Chain
Customer Service	Integrated SCM	Pre-sale Customer Service	Supply Chain Unification
Customer-driven Supply Chain	**Integration**	Process assessment	Teamwork
Delivery reliability	Internal Communication	**Relationship Integration**	**Technology and**
Delivery Speed	Internal Coordination	Relevancy	**Planning Integration**
Demand-driven sales planning	**Internal Integration**	Responsiveness	Total Cost Methodology
Discipline	Lean Manufacturing	Risk sharing	Total Cost Minimization
Efficient Logistics	Low Cost Supply	Role specificity	Widespread distribution coverage
External Coordination		Segmental focus	

As it can be seen in Table 3.7 most logistics competences, highlighted in bold, are related to integration presented separately (customer, internal, relationship, technology and planning, measurement, and supplier), mostly influenced by the 21st Century Logistics model (Bowersox et al., 1999). Nevertheless in the previous version of this model, the World Class Logistics Competency Model (MSUGLRT, 1995), integration appeared as a single competence that included capabilities that were later found mostly in the internal integration competence of the 21st Century Logistics Model. Surprisingly, competences such as 'positioning' or 'agility' were somehow lost in the process, while 'measurement' competence evolved into 'measurement integration' competence. Further, in logistics and SCM literature, flexibility appears simultaneously as a competence (Fawcett et al., 1996) and a capability (Bowersox et al., 1999; MSUGLRT, 1995; Mentzer et al., 2004), showing a lack of conceptualization of competences and capabilities in logistics literature. These and other discrepancies found in literature make relevant the need for a deeper analysis on the definition of competences and capabilities.

3.5 Conclusion

The third chapter of this thesis goes deep into the logistics and SCM concept in response to chapter 2, where a shift from context level to management level (cf. Figure 3 in the introduction) appeared as necessary. The chapter begins with an historical overview of logistics from its origins in the military, through its break into industry, to the birth of SCM. The evolution of logistics and SCM relies on the integration of different activities performed separately, that were gathered to optimize the management of flows, first through the organization, and later throughout the organization. The focus of the field changed throughout the years from resources (facilities and transportation means), to activities (warehousing, transportation, inventory maintenance, etc.), to the effective use of resources to perform activities. When compared with the evolution of humanitarian

logistics, it is possible to argue that a time-lag exists between these two.

For instance, when commercial logistics discovered the importance of inter-organizational relationships (SCM) during the 1980s, humanitarian organizations began to understand the importance of logistics management, mostly due to the specific characteristics where humanitarian activities are undertaken. Humanitarian logisticians have developed context-rooted knowhow adapting some commercial logistics practices to the context's requirements. However, the uncertainty and the volatility of today's economic environment lead commercial logistics to put further attention on how some humanitarian logistics practices can be implemented in the commercial sector. This let us think that, in the years to come, a stronger collaboration will take place between these two contexts through knowledge sharing.

Further, the chapter offers a thorough analysis of the logistics and SCM concepts based on the evolution of the different definitions found in the literature. This analysis allows us to identify a ***dissensus*** on the definition of what logistics is, either as a process, an activity or a function in the organization. It is also the case of SCM to which 'a philosophy' can be added to what this concept is. In the first part of this thesis, logistics is clearly identified as an **activity** necessary for humanitarian action, while in this chapter logistics is presented as a **process** of flow management (cf. § 3.1.1), as a **function**, based on the analysis proposed by Larson et al. (2007), and also as a source of competitive advantage, i.e. a competence (cf. § 3.4). The question is thus, which one of these perspectives suits the role that logistics plays in humanitarian relief? Is it just an activity? is it a function in the organization? or can it be considered as a competence?

Finally, this chapter describes the role that logistics has played in achieving competitive advantage in the industry, presenting the different competences and capabilities proposed by several authors in academic literature. Here again, the literature review revealed a dissensus in the use of the concepts competence and capability, as the relation between

competence, capability and resource presented in the logistics and SCM literature is almost taken for granted. Furthermore, the cases of Waltmart, Levi's and FedEx among others, show that from an organizational point of view, logistics can be considered as a competence, but no further attention is given to this subject. In order to clarify these topics, a second shift from management level to theory level (cf. Figure 3 in the introduction) is necessary. The following chapter goes further into the concepts of competence, capability and resource by mobilizing academic literature from the origin of these concepts.

Through history, several schools of thought have tried to determine why firms exist, what is its nature and lately, how can these achieve competitive advantage. One of these perspectives is known as the Resource-Based View (RBV) of the firm, and considers the firm as a bundle of resources through which competitive advantage can be achieved. As it has been previously shown, resources have played an important role in the development of logistics and SCM, and logistics competences and capabilities appear as means to achieve sustained competitive advantage, however, logistics and SCM literature seldom discuss these topics from a RBV perspective. Moreover, as it was put forth in the introduction of this thesis, this research adopts a intra-organizational perspective assuming that competences and capabilities are found within the boundaries of an organization (the firm). Therefore, the Resource-Based View of the firm appears as a suitable approach that will elucidate the topics that emerged from the logistics and SCM literature, with regards to the conceptualization of competences and capabilities. The following chapter goes to the core of the RBV and explains the concepts of resource, competence and capability, three concepts that are crucial for the operationalization of the empirical study and the development of this research.

Chapter 4

Resources and Competences

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4.1 Introduction

In economic theory, the nature of the firm has been the subject of a great amount of research streams including a shareholder perspective (Berle and Means, 1932), a transaction cost perspective (Williamson, 1975), and a behavioral approach (Cyert and March, 1963), among others. One stream of research, the Resource Based View of the firm, proposes that the basis for a competitive advantage of a firm lies primarily in the application of the bundle of valuable resources at the firm's disposal (Wernerfelt, 1984). Taken together,"superior skills and resources represent the ability of a business to do more or do better than others" (Day and Wensley, 1988, p.2). Several authors introduce logistics and SCM as source for competitive advantage (cf. § 3.4), and propose an important number of logistics capabilities and competences that contribute to the organization's

competitive advantage. However, both terms are used interchangeably in literature leading to a misunderstanding in the use of these concepts.

As it was presented in the structure of the thesis, the objective of this chapter is to answer to the questions *how 'resource' is defined?*, *what is a competence?* and *what is a capability?*. The last chapter introduced these concepts based on a logistics and SCM literature review, but no formal definition was given. This fact brought to light some discrepancies between the way these concepts were used due to a lack of conceptualization. The answer to these questions in this chapter will help us to further understand the concepts of resource, capability and competence, and to identify the relation that exist between these three. The aim of this chapter is to deepen our understanding on these concepts through an academic literature review on the Resource-Based View of the firm. In the following sections we will present the Resource-Based approach from its origins in order to take account of the evolution that strategic management has followed until now (§ 4.2). Later on, we will introduce the Resource-Based View as a theory of the firm and we will define, based on a literature review, the different concepts mentioned above (§ 4.3). Finally, some concluding remarks will be presented before moving into the empirical part of this thesis.

4.2 Origins of the Resource Based approach

4.2.1 From economic theory ...

Until the First World War, economic theory focused on understanding individual players of a market and the structure of such markets, considering that no participants where large enough to have the market power to set the price of a homogeneous product, i.e. perfect competition. However, after the war it became increasingly clear that perfect competition was no longer an adequate model of how firms behaved. This is how a new *theory of the firm* was born mainly based on Berle and Means's (1932) seminal work "The modern

corporation and private property". From an empirical study of American corporations, the authors described a new form of corporation, "in which no single stockholder or group of stockholders holds a sufficiently large stake as to exercise meaningful control over the managers' conduct" (Armour and Gordon, 2008, p. 6); the question about corporate ownership and control was raised.

Later, Coase (1937) gives birth to the *transactions cost theory of the firm*, proposing that people begin to organize their production in firms when the transaction cost of coordinating production through the market exchange, given imperfect information, is greater than within the firm; a second question about the firm, its nature, is raised. His work is considered as one of the first attempts to describe the firm in relation to the market. In 1963, Cyert and March developed the *behavioral theory of the firm*, where the firm is considered as a complex organization created by different individuals and groups having their own aspirations and conflicting interests, and that firm behavior is the weighted outcome of these conflicts. This work was the basis for several developments in the theory of the firm, such as the process of goal formation and fixation of aspiration levels and resource allocation, and organizational knowledge, among others.

Based on Coase's (1937) work, Williamson (1973; 1975; 1979) gives importance to the until then neglected condition of asset specificity as a crucial defining attribute of transactions (see Figure 4.1). Asset specificity refers to "the degree to which an asset can be redeployed to alternative uses and by alternative users without sacrifice of productive value" (Williamson, 1988, p. 70), and can take a variety of forms such as physical assets, human assets, site specificity, dedicated assets, brand name capital, and temporal specificity. *Transaction-Cost Economics*, as named by the author "regards the firm not as a production function but as a governance structure" (Williamson, 1998, p.37), emphasizing on economize on transaction costs through choosing appropriate governance structures for handling its transactions. However, as argued by Zajac and Olsen (1993), transaction

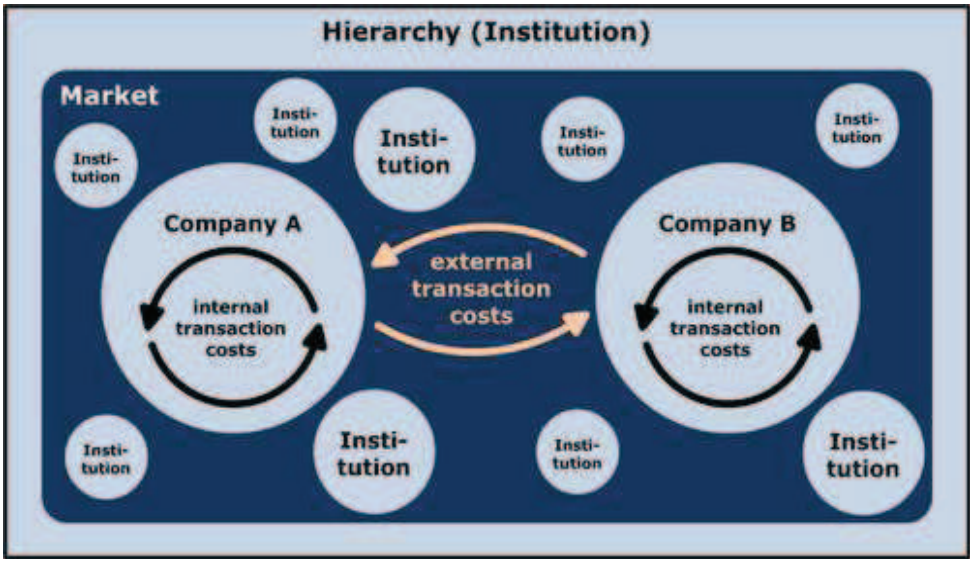


Figure 4.1: The Market-Hierarchy Model

cost over-emphasizes the cost minimization and neglects the value creation aspect of a transaction.

4.2.2 . . . through strategic management . . .

In the early 60s, developments on organizations theory resulted in a new science called *strategic management* that sought "to answer the fundamental question of how firms achieve sustainable competitive advantage" (Herrmann, 2005, p. 111). During this period, an important number of concepts and theories were created mainly to examine the firm from the inside. Among these we can find March and Simon's (1958) information-processing metaphor for management, Burns and Stalker's (1961) organic and mechanistic types of management organizations, Cyert and March's (1963) process-oriented behavioral decision making, and Woodward's (1965) and further Lawrence and Lorsch's (1967) match of organizational resources with environmental opportunities and threats.

In its beginning, strategic management research aimed mostly in defining strategy, being Chandler (1962) and (Ansoff, 1965) the two main perspectives. The former defined strategy as the determination of the basic long-term goals and objectives of an enterprise,

and the adoption of courses of action and the allocation of resources for carrying out these goals, while for the latter, strategy is a process favoring the establishment of a means to guide a firm in achieving its objectives. Since the 1960s and through the 1970s, the 'first era of ferment' (Herrmann, 2005), the field witnessed important developments including the dissertations developed at Harvard and Purdue universities that examined relationships between corporate diversification strategy, organizational structure and firm performance, and Rumelt's (1974) categorization of diversification strategies, among others. However, strategic management needed to focus more on the firm and to borrow from other areas such as marketing, organizations theory and economics.

In 1980, Michael Porter provided what is considered today as the most influential contribution to the field with his classic book *Competitive Strategy*. The author, based on ideas of industrial organizational economics, built a framework called *the Five Forces Framework* (see Figure 4.2). The model argues that firm performance is determined by industry attractiveness, depending on five essential forces: threat of entry, intensity of rivalry among existing competitors, pressure from substitute products, bargaining power of buyers, and bargaining power of suppliers. Moreover, three 'generic strategies', namely overall cost leadership, differentiation and focus, will lead the firm to earn superior returns although the best strategy is the one tailored to the individual capabilities of a firm. Porter's work on generic strategies created a new era on strategic management research during the 80s, 'the era of incremental change', influencing a great number of research streams including entry and exit barriers, the fit between strategy and the environment, the relationship of market share to performance and the relationship between strategy and performance, among others.

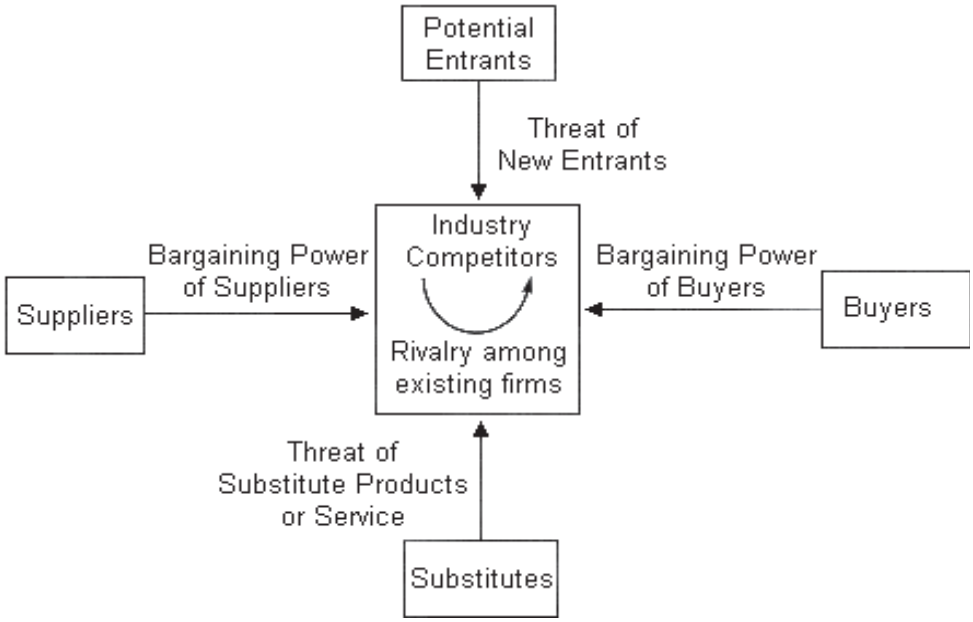


Figure 4.2: The Five Forces Framework (Porter, 1980)

4.2.3 . . . to resource-based view

With the purpose of answering the question *why do firms exist?*, the theory of the firm presents a number of perspectives where the firm whether exist to combine resources to produce and end product (neo-classic theory), to restrain productive output through monopoly (Bain Model), to seize competitive opportunity by creating/adopting innovations (Shumpeter), to enhance production and distribution (Chicago) or to avoid the costs of using the market's price mechanism (transaction cost theory). However, most of these perspectives of the firm result quite restrictive. On the other hand strategic management, in its quest to understand *how firms achieve competitive sustainability*, focuses on the link between strategy and the external environment, often neglecting the link between a firm's resources and the strategy. Building on these gaps, an alternative approach that address both the theory of the firm and strategic management was created: The Resource-Based View (RBV).

From a historical point of view, the RBV is the result of Edith Penrose's (1959) seminal work "The Theory of the Growth of the Firm", where the author presents the key principles of the approach by considering that the firm's resource ownership is what determines its competitive advantage in comparison to others. However, the most influential work is found in Wernerfelt's (1984) article "A Resource-Based View of the Firm", in which the author "explores the usefulness of analyzing firms from the resource side rather than from the product side" (p. 171), setting the basis for a new era in strategic management research. Later on, in Barney's (1986) work, although no direct reference to Wernerfelt or Penrose was made, the author supports the idea that resources are the key for achieving competitive advantage. A further development of this work is found in his 1991 article which presents a first attempt on defining resources and a resource-based framework (see Figure 4.3)

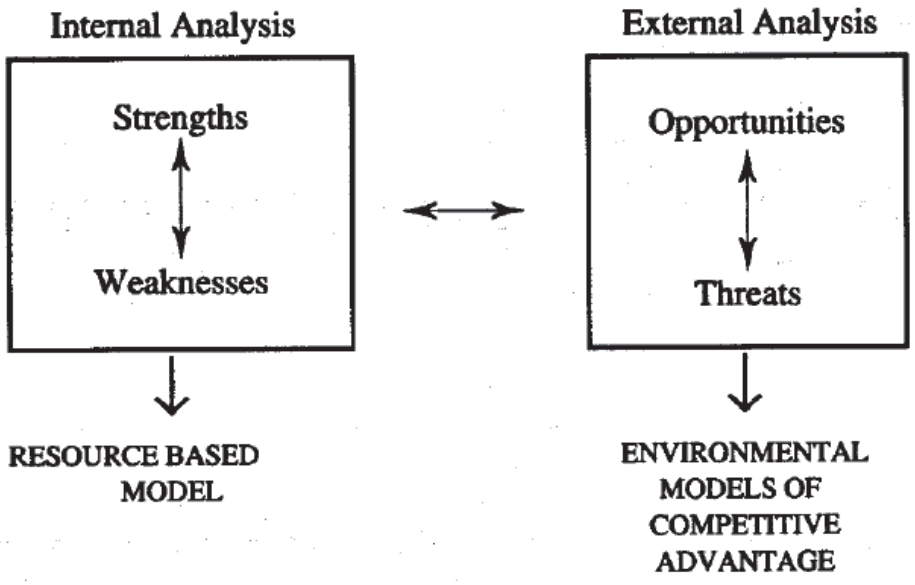


Figure 4.3: A Resource Based Framework (Barney, 1991)

During the 1990s, several works under this approach contributed to the development of this new perspective of strategic management. Some of the most influent works are Prahalad and Hamel's (1990) notion of core competence, Grant's (1991) work on

definitions, Teece et al.'s (1991) notion of dynamic capabilities, Amit and Schoemaker's (1993) work on strategic assets and Lei et al.'s (1996) notion of dynamic core competency, among others. It is also during this period that the RBV evolves from being a strategic management approach to be a theory of the firm, mostly because RBV can explain the reasons for existence of the firm and what limits its size and scope, the primary requisites for a theory of the firm (Conner, 1991).

4.3 Resource-Based View: A theory of the Firm

According to Holmstrom and Tirole (1989, p. 65), the two basic questions that a theory of the firm must address are *"What is the purpose of firms and what determines their scale and scope?"*. Thus far, the theories discussed earlier agree that the firm's ultimate purpose is to maximize profits, but differ on the means through which this objective is realized. From a comparative study between RBV and five schools of thought within industrial organization economics, Conner (1991) determines that the RBV "presents an alternative rationale for the existence of the firm and its scope" (p. 143) and thus it can be considered as a theory of the firm. The author demonstrates that from a RBV perspective, the firm's existence turns on advantages in inter-component knowledge transplantation and in the creation-redeployment of specific assets and the firm's scope also turns in creation-redeployment of specific assets. Moreover, contrary to the five schools of thought within Industrial Organization economics presented in the study, RBV provides an answer to why distinct firms exists, arguing that heterogeneous firms exist to take advantages of potentially valuable idiosyncratic assets to which the firms are made specific. Taking this into account, we decided to adopt RBV as a theory of the firm that allows to explain why organizations succeed in doing more or better than others. The basic assumptions of the RBV are explained as follows.

As presented earlier, the main postulates of the Resource-Based Theory of the firm are that firms are a collection or a bundle of *resources* (Penrose, 1959; Wernerfelt, 1984) and that its capacity to create sustainable competitive advantages depends on its capacity to implement strategies that exploit its internal strengths (Barney, 1986; Barney, 1991). Most works of this stream aim to link resources with competitive advantage and to analyze the conditions to ensure sustainability. However, during the evolution of this new theory of the firm, a parallel stream was developed based on the concept of *distinctive competence* (Selznick, 1957), and further established with Hamel and Prahalad's (1989) work "Strategic Intent" and Prahalad and Hamel's (1990) "The Core Competence of the Corporation". Known as the Competence-Based View (CBV), the stream's postulate is that the competence is the firm's capacity to deploy its resources (Amit and Schoemaker, 1993), and that competitive advantage is achieved through the development and use of distinctive competencies. The difference between these two streams is explained by Freiling (2004, p. 29) as follows:

> *"The resource-based view suggests that a firm A is more successful than firm B if A controls more effective and/or efficient resources than B. The competence-based view, instead, goes one step further: Firm A can only be more successful than B if A is in a position to make use of the available resources more effectively and/or efficiently than B".*

In addition to the competence-based view, three other streams were developed based on the RBV and are often considered as complementary. These are the knowledge-based view inspired in the work of Spender and Grant (1996), the dynamic capacity approach based on Teece et al.'s (1997) work, and the relational view based upon Dyer and Singh's (1998) work. In academic research, the boundary between a resource-based theory and a competence-based view is rather blurry. For some authors, these two can be gathered in

a Resource & Competence View (cf. Quélin and Arregle, 2000; Prévot, 2005a; Tywoniak, 2009), while for others a distinction between the two is necessary (cf. Freiling et al., 2008). Knowing that the concepts of resource and competence are extremely important for the understanding of this thesis, we have chosen to explain each perspective separately in order to define each concept, identify their relationship and evoke what arises as relevant to our research. This process will provide theoretical basis for the analysis of the empirical data gathered in the case study.

4.3.1 Resources

As it was said before, Penrose's (1959) theory is considered as the funding work of the RBV of the firm. In this work, the author focuses on the internal resources of a firm but mostly on the productive services that a firm can create from its own resources, arguing that "it is never *resources* themselves that are the 'inputs' in the production process, but only the *services* that the resources can render" (Foss, 1997, p. 31). Resources are thus defined as a bundle of potential services, and can be classified as physical (e.g. plant, equipment, land and natural resources, materials, semi-finished/finished products, among others) and human (e.g. unskilled and skilled labor, administrative, managerial, financial and technical staff, among others). Both physical and human resources when combined create 'productive opportunities' that are productive possibilities that the firm can take advantage of. This perspective allows the firm rather than the environment to be the focus on strategy implementation.

Several years later, this perspective provided the basis for what it is known as the resource-based theory of the firm (RBT), supporting the idea that firms usually do not obtain advantages from analyzing the environment but rather, by choosing to implement strategies to exploit resources already under their control (Barney, 1986) and thus, strategy involves a balance between the exploitation of existing resources and

the development of new ones (Wernerfelt, 1984). As the theory evolved, a number of concepts emerged as well as new definitions for what a resource is, becoming very difficult to end with a theoretical consensus. However, some of the definitions proposed during the *introduction* and *growth* stages of the Life Cycle of Resource-Based Theory (Barney et al., 2011), are still considered as the foundations of the Resource-Based Theory and most authors refer to these for further development of the theory. Although other works (e.g. Ray et al., 2004) have defined 'resource' in a different way, no new contribution has been made at a definition level with regards to the founding articles. Based on Prévot et al.'s 2010b synthesis, Table 4.1 presents the proposed definitions of the most prominent works. The authors' analysis exhibits a list of the articles considered as theoretical foundations as well as the articles that contain key concepts, from where the articles that explicitly define "what a resource is" were selected.

Since the late 90s no new definitions have been proposed, probably because the field is considered to be in a *maturity* stage (Barney et al., 2011) and thus, research in the last decade has focused on explaining contributions of the RBV to other fields (Alvarez and Busenitz, 2001; Lockett and Thompson, 2001; Wright et al., 2001), building up synthesis (Makadok, 2001; Felin and Hesterly, 2007; Prévot et al. 2010a), concept/theory development (Winter, 2003; Lavie, 2006; Sirmon et al., 2007) and the microfoundations of the Resource-Based Theory (Lippman and Rumelt, 2003; Teece, 2007). One interesting point that is worth mentioning is that during this period, a number of discussions were held between different authors in which we find a debate on the usefulness of RBV as a theory of strategy and organization between Priem and Butler (2001) and Barney (2001), a discussion on the resource-based approach to sustainable competitive advantage between Foss and Knudsen (2003) and Peteraf and Barney (2003), and a discussion on Edith Penrose's (1959) contribution to the resource-based view of strategic management between Rugman and Verbeke (2002) and Kor and Mahoney (2004).

Table 4.1: Defining "resources" *based on* Prévot et al. (2010b)

Authors	**Definition**
Wernerfelt (1984, p. 172)	"Anything which could be thought as a strength or a weakness of a given firm. [...] Those (tangible and intangible) assets which are tied semipermanently to the firm".
Dierickx and Cool (1989)	Those assets which are *nontradeable*, [...] *nonimitable* and *nonsubstitutable*(*).
Barney (1991, p. 101)	"All assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness".
Grant (1991, p. 118-119)	"Inputs into the production process". "The source of a firm's capabilities".
Amit and Schoemaker (1993, p. 35-36)*	"Stocks of available factors that are owned or controlled by the firm". "Set of difficult to trade and imitate, scarce, appropriable and specialized *Resources* and *Capabilities* that bestow the firm's competitive advantage".
Collis and Montgomery (1995, p. 119	"Assets and capabilities [that] determine how efficiently and effectively a company performs its functional activities".
Sanchez et al. (1996)	Assets and capabilities that are available and useful in detecting and responding to market opportunities or threats

(*) The used term is *strategic asset* but it refers to resources

From the definitions presented in Table 4.1, it is possible to conclude that most authors agree in defining resources as factors or assets that are owned/controlled by a firm and that can be either tangible or intangible. However, such broad definition may reveal some problems. As stated by Priem and Butler (2001, p. 32), "virtually anything associated with the firm can be a resource" and thus, little prescriptive guidance can be derived from the RBV. Barney's (1991) definition suggest that a resource enables a firm to improve its efficiency and effectiveness, a characteristic that Wernerfelt (1989) attribute to *critical resources* and that include both resources and capabilities.

Amit and Schoemaker (1993, p. 36) also include both resources and capabilities in what they call *strategic assets*, defined as a "set of difficult to trade and imitate, scarce, appropriable and specialized *resources* and *capabilities* that bestow the firm's competitive advantage". Thus, either resource or asset, the Resource-Based Theory focuses on "those factors that have a significant positive effect on either the economic costs or perceived benefits associated with an enterprise's products" (Peteraf, 2001 *in* Peteraf and Barney, 2003, p. 316). Nevertheless, not all firm resources have the potential of competitive advantage. Barney (1991) proposes a number of attributes that resources must possess in order to be qualified as source for sustained competitive advantage, namely value, rareness, imperfect imitability and non-substitutability (see Figure 4.4)[1].

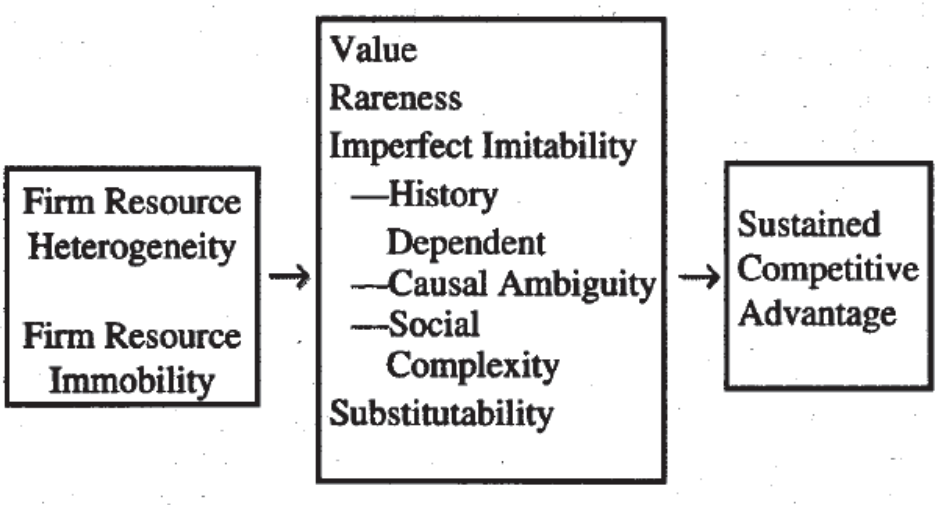


Figure 4.4: The VRIN model (Barney, 1991)

Value As stated by Barney (1991, p. 106), "firm resources can only be a source of competitive advantage ... when they are valuable". The value of a certain resource can be measured by its capacity to enable a firm to implement strategies that exploit opportunities or neutralize threats (cf. Figure 4.3). Wernerfelt (1984) talks in terms

[1]This model was further developed by the author in 1997 by replacing the non-substitutability attribute with the attribute **organization** (VRIO), which refers to the extent to which the firm is capable of exploiting its resources.

of resource *attractiveness*, defined as "its capacity to support a resource position barrier" (p. 174), and states that attractive resources are those "which no one currently has, ... which combine well with what they already have and in which they are likely to face only a few competitive acquirers" (p. 175). Some examples of such resources are machine capacity, costumer loyalty, production experience and technological leads. However, value or attractiveness alone do not explain a firm's competitive advantage, other characteristics enable to qualify resources as a source of sustained competitive advantage.

Rare By definition, to be of value a resource must be rare. According to Barney (1991, p. 106), "if a particular valuable firm resource is possessed by large number of firms, then each of these firms have the capability of exploiting that resource in the same way, thereby implementing a common strategy that gives no one firm a competitive advantage". However, the extent to which the rareness of a valuable resource will generate a competitive advantage is difficult to specify. As pointed out by the author, this will depend on the number of firms possessing a particular valuable resource and the competitive environment in which these firms are found. For instance, in large competitive environments the less number of firms sharing the same resource the better, while in small environments, it is possible to share a particular valuable resource and still generate a competitive advantage.

Imperfectly imitable As stated by Barney (1991, p. 107) "valuable and rare resources can only by source of sustained competitive advantage if firms that do not possess these resources cannot obtain them", i.e. imperfectly imitable. The imperfectly imitability of a resource can be obtained through unique historic conditions (mostly due to a firm's unique path through history), casual ambiguity (when the link between a firm's resources and its sustained competitive advantage is poorly understood) or social complexity (social relations, culture, traditions, etc.).

Resource inimitability can be compared to Rumelt's (1987) concept of *isolating mechanisms* which protect entrepreneurial rents from imitative competition.

Non-substitutability An equally important aspect for a resource to be a source of sustained competitive advantage in addition to value, rareness and imperfectly imitability, is lack of substitutability. In Barney's words for a firm to achieve sustained competitive advantage, "there must be no strategically equal valuable resources that are themselves either not rare or imitable" (p. 111). Resources can be considered strategically equal when separately each resource can be exploited and the same strategy can be implemented. However, when a strategy is implemented through rare and inimitable resources, sustained competitive advantage is achieved only through these resources even though the same strategy is implemented to equally strategic resources.

Albeit Barney's VRIN model is considered as the fundamental model for resource characterization, various authors include others factors that help to characterize resources. For instance, Grant (1991) proposes durability, transparency, transferability and replicability as characteristics that are likely to be particularly important determinants of the sustainability of competitive advantage while Peteraf (1993) suggests resource heterogeneity and imperfect resource mobility as two of the four conditions that must be met to achieve competitive advantage. Moreover, Collis and Montgomery (1995) suggest that in order to qualify a resource as the basis for an effective strategy, five test namely inimitability, durability, appropriability, substitutability and competitive superiority must be performed. On the other hand, (Amit and Schoemaker, 1993) go further on the characterization of resources and present eight primary determinants of the rent producing capacity of a firm's resources and capabilities (see Figure 4.5).

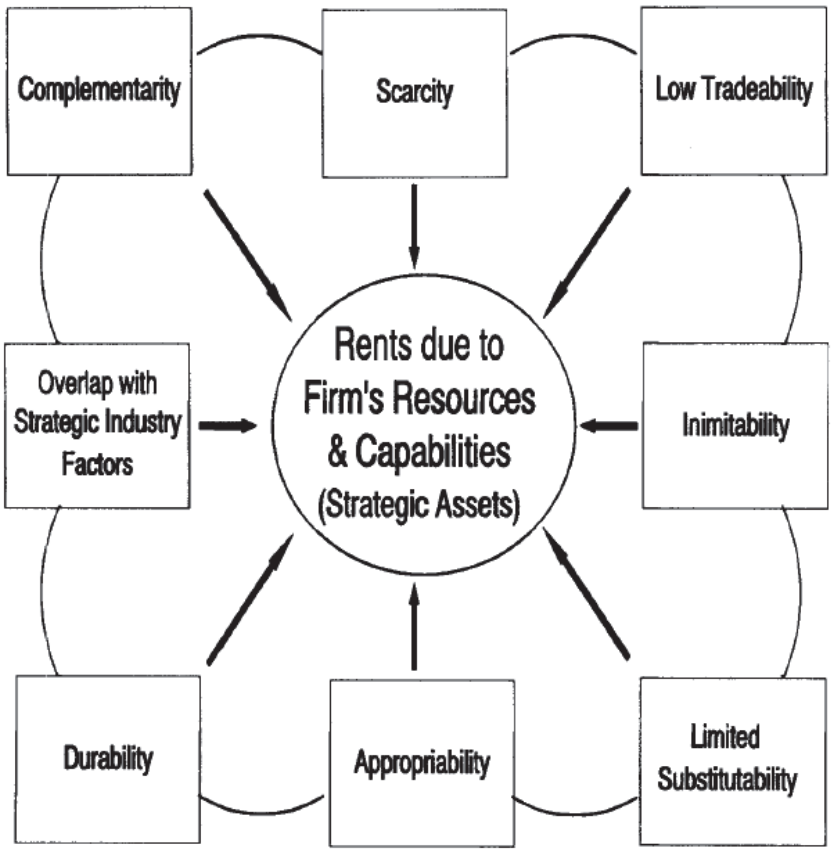


Figure 4.5: Desired characteristics of the firm's resources and capabilities (Amit and Schomaker, 1993)

As it was previously said, and as appears in Amit and Schomaker's model, the relation between resource and capability is not clearly defined. In the model, both resources and capabilities are presented as 'strategic assets' that enable the firm's capacity to produce rent, while it has been argued that resources are source of a firm's capabilities. Moreover, the term competence also appears frequently in strategic literature, often preceded by the adjectives 'core' and 'distinctive' and it appears to be interchangeable with the term capability, that at the same time is compared to the term 'skill'. To overcome this ambiguity, Fahy and Smithee (1999) propose a classification based on the diverse range of typologies of resources presented in literature (see Table 4.2). The authors propose the use of 'resource' as a all-embracing term, and describe three sub-categories of such resources: tangible assets, which refers to the fixed and current assets of the organization

that have a fixed long run capacity, intangible assets which include patents, copyrights, trademarks, brand names, and trade secrets, and capabilities, that encompass the skills of individuals or groups as well as the organizational routines and interactions within a firm.

Table 4.2: A Classification of the Firm's Resource Pool (Fahy and Smithee, 1999)

	The Firm's Resource Bundle		
Authors	**Tangible resources**	**Intangible resources**	**Capabilities**
Wernerfelt (1989)	Fixed assets	Blueprints	Cultures
Hall (1992)		Intangible assets	Intangible capabilities
Hall (1993)		Assets	Competencies
Prahalad and Hamel (1992)		Core competencies	
Itami (1987)			Invisible assets
Amit and Schoemaker (1993)			Intermediate goods
Selznick (1957); Hitt and Ireland (1985); Hofer and Schendel (1978)			Distinctive competencies
Irvin and Michaels (1989			Core skills

Based on this classification, it is possible to elucidate the relationship between resource and capability. According to Hall (1992), a difference can be made between having and doing resources; to 'have resources' refers to the assets that a firm owns both tangible or intangible (e.g. brand names or physical locations), while to 'do resources' comprises the knowledge, skill and experience of employees (e.g. advertising or zero defect production). Thus, both tangible and intangible assets do not explain a firm's competitive advantage on their own, skills are needed to coordinate these assets. However, both assets and skills must be elevated to a superior level (resource and capability) in order to achieve sustained competitive advantage. Therefore, resources can be considered as a source for a firm's

capabilities in the sense that the action of coordinating a bundle of resources can only be seen when such resources exist.

Day and Wensley (1988, p.2) state that taken together,"superior skills and resources represent the ability of a business to do more or do better than others". Under this view, superior skills are *distinctive capabilities* of personnel that set them apart from the personnel of competing firms, while superior resources are more tangible requirements that enable a firm to exercise its capabilities (Ibid.). This perspective of strategy is known as skill– or competence–based, and characterizes the firm as a collection of unique skills and capabilities (or competencies) that influence the firm's evolution and strategic growth alternatives (Lei et al., 1996). However, the distinction between skills, distinctive capabilities and distinctive competencies is seldom discussed in strategy literature, as both and similar terms seem to be interchangeable, proposing different perspectives and definitions.

4.3.2 Competences and Capabilities

As it has been introduced earlier, strategy literature uses the terms capability and competence interchangeably, often adding adjectives such as distinctive and core (Fahy and Smithee, 1999). The term 'core competence' is mostly associated to Prahalad and Hamel's (1990) article "The Core Competence of the Corporation". However, closely related terms where introduced previously in strategy literature trying, for most of them, to define the same attribute.

The term 'distinctive competence' was first introduced by Selznick (1957), to refer to those activities that firms do better in comparison with its competitors, and further developed in Andrews's (1971) "The Concept of Corporate Strategy" stating that a distinctive competence is not only what a firm can do but what a firm does *particularly well* when compared to its competitors (Snow and Hrebiniak, 1980). This term is

also used in seminal works such as Ansoff's (1965) "Corporate Strategy", Penrose's (1959) "The Theory of the Growth of the Firm" and Hofer and Schendel's (1978) "Strategy Formulation". This definition of distinctive competence was the basis for several empirical studies that demonstrated that functional areas such as general management, marketing, production or distribution among others, can become distinctive competences (cf. Snow and Hrebiniak, 1980; Hitt and Ireland, 1985). However, as mentioned earlier, it was Prahalad and Hamel's (1990) article that defined a new perspective in strategic management: the 'core competence'. The authors define core competence "as the combination of individual technologies and production skills that underlie a company's myriad product lines. [...] Core competence is communication, involvement and deep commitment to working across organizational boundaries" (p. 82).

Around the mid 90s, an important evolution influenced by the works of Hamel and Heene (1994), Sanchez et al. (1996) and Heene and Sanchez (1997) was witnessed, setting the basis for the Competence-Based Management (CBM) that aims to reconnect strategy theory and practice by integrating dynamic, cognitive and systemic aspects in strategy research. It is also during this period that some authors proclaimed Competence-Based perspective as a theory of the firm (cf. Foss and Knudsen, 1996; Hodgson, 1998). Table 4.3 presents a sample of the most influential works on Competence-Based View based on Prévot et al.'s (2010b) synthesis. As it was performed for Table 4.1, the following definitions were extracted from those articles that define explicitly what a competence is. A differentiation is made between the definition of competence, distinctive competence and core competence.

Table 4.3: Defining "competences" *based on* Prévot et al. (2010b)

Authors	**Concept**	**Definition**
Foss (1996, p. 1 *in* Foss and Knudsen, 1996)	Competence	"A typically idiosyncratic knowledge capital that allows its holder to perform activities - in particular, to solve problems - in certain ways, and typically do this more efficiently than others".
Sanchez and Heene (1997, p. 306)	Competence	"An ability to sustain coordinated deployments of resources in ways that help that organization to achieve its goals".
Hitt and Ireland (1986, p. 402)	Distinctive competence	"A firm's ability to complete an action in a manner superior to that of its competitors or to apply a skill that competitors lack"
Hall (1993, p. 139)	Distinctive competence	"Those capabilities which the organization possesses which set it apart from its competitors".
Collis (1991, p. 51)	Core competence	"The vector of the irreversible assets along which the firm is uniquely advantaged".
Prahland and Hamel (1990, p. 66)	Core competence	"The combination of individual technologies and production skills that underlie a company's myriad product lines"
Stalk *et al.* (1992, p. 65)	Core competence	"Technological and production expertise at specific points in the value chain"

Nowadays, the Competence-Based view or Competence Perspective is still developing, being the subject of numerous publications. As stated by Prévot et al. (2010b), recent developments are exploring two areas: Competence-Building and leveraging in interorganizational relations (Vlaar et al., 2005; Prevot, 2005b) and developing the theoretical foundations of the perspective (Freiling, 2004; Sanchez, 2008; Freiling et al., 2008; Sanchez and Heene, 2010). Recently, a bibliometric analysis performed by Prévot et al. (2010a) revealed that the field has reached a level of maturity and has clearly defined its differences with other fields (in particular RBV). Nevertheless, as it was the case for the Resource-Based Theory, no new contributions at a definition level have been made in the past years.

Based on the definitions presented in the Table 4.3, it is possible to say that the term 'distinctive competence' refers to activities that a firm performs better than its competitors, while 'critical' or 'core competence' encompasses technological and production skills or expertise that enables the firm to implement a strategy. However, none of the above definitions include the relation with a firm's capabilities, a term that was previously presented as to have direct relation with a firm's resources.

A capability is defined as the capacity for a team of resources to perform some task or activity (Grant, 1991), or a firm's capacity to deploy resources (Amit and Schoemaker, 1993). These differ from core competences in the way that core competences, as presented earlier, emphasize on technological and production expertise at specific points in the value chain, while capabilities are more broadly based, encompassing the entire value chain (Stalk et al., 1992). Another difference between competence and capabilities relies on the fact that capabilities are the mechanisms and processes by which new competencies are developed (Teece et al., 1991). Other definitions of capabilities found in the literature are presented in the following table. As it is the case for the term competence, adjectives such as distinctive and core are often found in the definitions. The following table presents a non extensive group of definitions found in academic literature.

Table 4.4: Defining capabilities

Authors	Concept	Definition
Day and Wensley (1988, p. 3)	Distinctive capability	"The ability to perform individual functions more effectively than other firms"
Grant (1991, p. 119)	Capability	"The capacity for a team of resources to perform some task or activity. A firm's main source for its competitive advantage"
Nelson (1991)	Core organizational capability	A hierarchy of organizational routines, which define lower order organizational skills and higher order decision procedures for choosing what is to be done at lower levels
Teece *et al.* (1991)	Capability	Mechanisms and processes by which new competencies are developed
	Dynamic capability	The firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments
Stalk *et al.* (1992)	Capability	A set of businesses strategically understood
Amit and Schoemaker (1993, p. 35)	Capability	A firm's capacity to deploy resources
Day (1994)	Capability	A complex bundles of skills, collective learning and accumulated knowledge that, exercised through organizational processes, enable firms to coordinate activities and make use of their assets

From the above definitions is clear that most authors agree that capabilities refer to those skills, mechanisms, processes and knowledge that allow resources to be deployed and when combined create competencies. When regarded from a corporate perspective, competence refers to those functional areas, critical activities or organizational processes that differentiate an organization from its competitors, and through which the strategy of the organization is implemented. Both competencies and capabilities can be regarded as critical, which degree will depend on its uniqueness, scarcity and difficulty to imitate, and the amount of superior customer value that such competence or capability can provide (Day, 1994). Finally, these two can be either core or distinctive; 'core' refers to the central role to a firm's value-generating activities, while distinctiveness implies that costumers can *distinguish* a firm from its competitors.

4.4 Conclusion

The fourth chapter of this thesis finds its basis on the ambiguity of the use of the competence and capability concepts found in the previous chapter, and seeks to clarify this topic. Moving from the management level to the theory level (cf. Figure 3 in the introduction), the chapter begins by introducing the origins of the Resource Based View, a strategic management approach that proposes that the firm's resource ownership is what determines its competitive advantage in comparison to others. The approach is considered a theory of the firm, as it provides an answer to why distinct firms exists, arguing that heterogeneous firms exist to take advantages of potentially valuable assets. Given that this research adopts an intra-organizational vision, seeking to identify the logistics capabilities and competences of **an organization**, the RBV as a theory of the firm appears as a suitable theory for this research.

Further, the chapter goes through the most important definitions of resource, capability and competence, so as to elucidate the ambiguity on the use of these concepts found on academic literature. Resources are both tangible and intangible assets or factors controlled by the firm, and in order to contribute to competitive advantage, these must be valuable, rare, inimitable and non-substitutable. Capabilities, in the other hand, refers to processes, mechanisms and knowledge that demonstrates the organization's capacity to deploy resources; when combined, capabilities create competences. Finally, competences refer to functional areas, critical activities or organizational processes that lead the organization to perform better than others. These can either help the organization to differentiate itself from its competitors, i.e. distinctive, or be central to the organization's value generating activities, i.e. core.

Although the discrepancies on the use of the resource, competence and capability concepts in the previous chapter was clarified in this chapter through a literature review on RBV, the question regarding the nature of logistics as a competence still unanswered. Nevertheless, the RBV gives some insights that can help to solve this problem. The following synthesis of the second part addresses this issue, combining the findings of both chapters and allowing us to come up with a integrative framework of logistics competences and capabilities, as well as some questions that will be answered in the final part of this thesis.

Synthesis

Since ancient times, logistics has proved to be an important 'tool' to solve complex problems. Whether it was trading products between regions in the Mediterranean during the XIVth century BC, lodging troops during the XVIIth century, or mobilizing resources during the early XXth century, logistics has provided support to the organization's (military or commercial) activity, helping it to achieve its goals. It was until the early 1960s that industry and academy understood the potential of this activity, known then as physical distribution and/or material management, and considered it as a way to respond to customer's needs in the so called 'marketing revolution'. Advances in technology and industry later allowed logistics to be considered as a primary activity rather than a supporting activity, showing during the 1980s its potential as a source of competitive advantage. Companies such as Walmart and FedEx achieved competitive advantage through improvements in their logistics infrastructure. A new way of competition based on capabilities changed the vision of corporate strategy.

This new perspective of competition is based on the Resource-Based View of the firm, a theory that considers the firm as a bundle of resources that are the source for the achieving sustained competitive advantage. Developments of this theory show that all resources do not contribute to competitive advantage, in order to do so resources must be valuable, rare, inimitable and non-substitutable. Moreover, on their own, resources do not result in competitive advantage, these must be mobilized by a number of skills, mechanisms, procedures known as *capability*. When capabilities are combined, these create a *competence*, a well–defined routine that enable distinctive functions or activities to be carried out.

When such activity is better performed in comparison with others, this competence is considered as *distinctive* enabling the consumer to distinguish the organization from its competitors. Also, when a competence defines a firm's fundamental business, this competence is considered *core* and strategy can be implemented through it.

Literature on RBV states that competences refer to functional areas, critical activities or organizational processes that contribute to the organization's competitive advantage. On the other hand, logistics is simultaneously defined as an activity, a function and a process. Therefore, regardless of the adopted definition, logistics has the potential to be considered as a competence. Nevertheless, neither Logistics and SCM nor RBV literature discuss whether logistics is to be considered as a distinctive or a core competence of the organization. An important amount of logistics literature has aimed to identify the logistics capabilities that a firm should posses in order to achieve competitive advantage, mostly focusing on either the supply, the consumer or the internal processes. Moreover, logistics and SCM literature put forth that when these capabilities are combined, they create competences that had demonstrated to have a positive impact in the success of a firm (cf. § 3.4). This statement is supported by the definitions of competence and capability found in the RBV literature and the relation between these concepts. Taking this into account, we propose an integrative framework of logistics competences and capabilities (see Figure 4.6).

The proposed framework combines the results of the literature review on logistics competences and capabilities (cf. Table 3.7) and the definitions of competence and capability found through the literature review on Resource-Based Theory (cf. Tables 4.3 and 4.4). In the framework, logistics is presented as an organizational competence that can be either 'core' or 'distinctive'. Moreover, capabilities listed in Table 3.7 are gathered by orientation based on Mentzer et al.'s (2004) classification. Based on the relation found between competences and capabilities, a number of logistics competences are presented

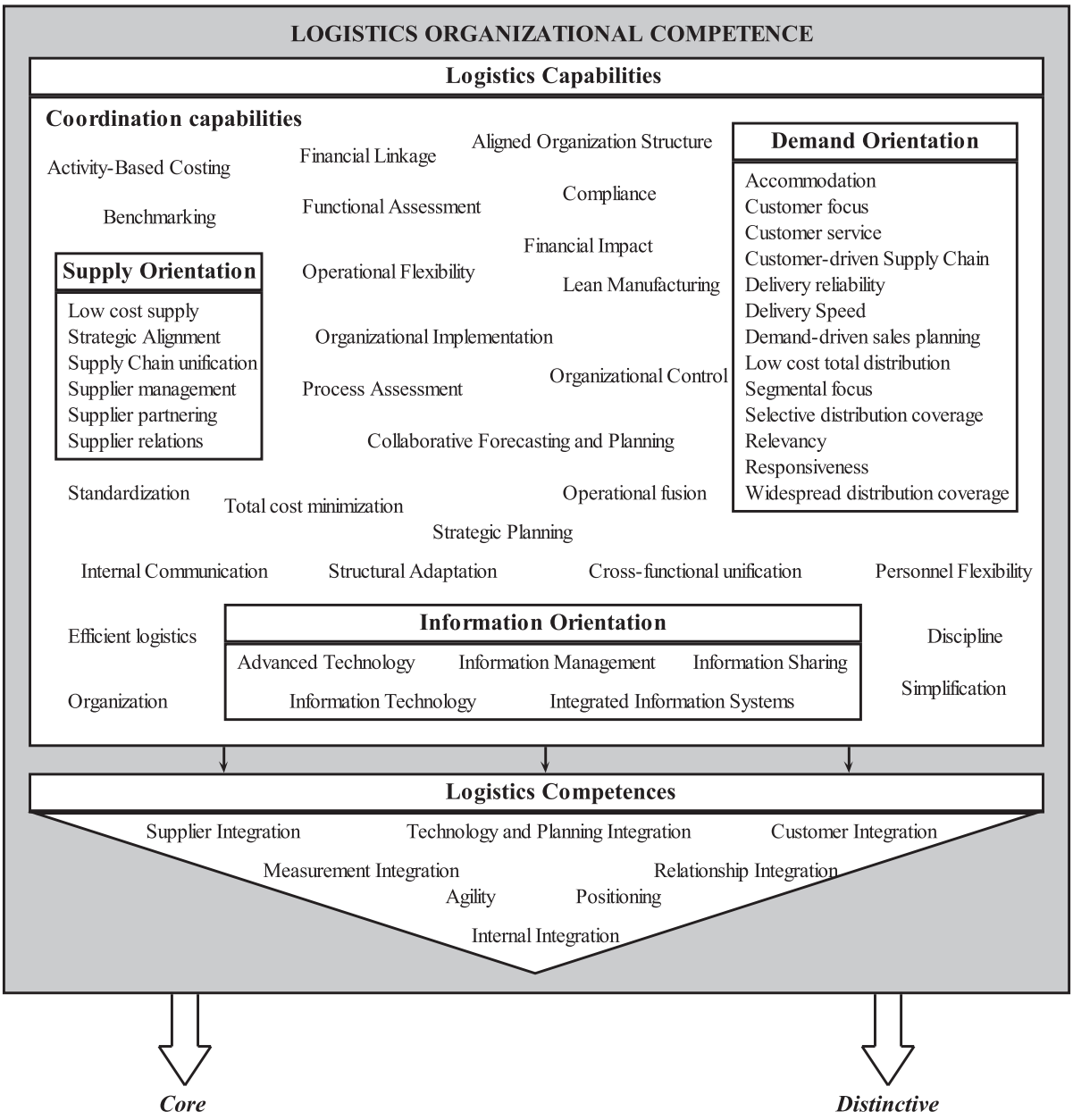


Figure 4.6: Integrative framework of Logistics Competences and Capabilities

as the result of the combination of logistics capabilities. From Table 3.7, the 'integration' competence is not included as this is explained in terms of other competences (customer, supplier, etc.) Also, the 'measurement' competence is not included, as this is represented by the 'measurement integration' competence. Finally, in the framework 'flexibility' is not considered as a competence, as theory proposes 'agility' as the combination of the

capabilities 'personnel' and 'operational flexibility'. It is important to notice that at this point, it is difficult to determine which capabilities create which competences when combined. Thus, the framework offers a starting point for analyzing this relation through the empirical study.

Nevertheless, considering the definitions found in Resource-Based Theory in chapter 4, Waltmart's and other organization's cases in industry presented in chapter 3 allows us to propose an answer to our inquiry on the nature of logistics as a competence. If logistics is considered as an activity (or a set of activities) that is better performed than one's competitors, this means that the organization can be distinguished by its 'logistical excellence' and thus, logistics can be considered as a *distinctive competence*. Moreover, if the logistics process enables the organization to implement an strategy and achieve competitive advantage, it can be also considered as a *core competence*. The question is thus, can logistics be considered as a distinctive and/or a core competence in all contexts?

As discussed in the first part of this thesis, most articles that address humanitarian relief operations point logistics and supply chain management as an important activity of the relief effort. Moreover, its capacity to serve as a bridge between preparedness and emergency also demonstrates the importance of logistics for humanitarian relief. In industry, logistics has demonstrated to be a source of competitive advantage, being considered as an organizational competence, i.e. a function, activity or process that helps the organization to perform better than others. However, this capacity has not been demonstrated in the humanitarian context. Our first research sub-question (S.Q. 1) is thus:

'Can logistics be considered as an organizational competence in humanitarian relief?'

Furthermore, logistics has helped organizations in industry to differentiate themselves from their competitors and to implement successful corporate strategies that contribute to competitive advantage. Our second research sub-question (S.Q. 2) is thus:

'Can logistics be a core/distinctive competence in humanitarian relief?'

Finally, if we consider that when combined, capabilities create competences and that these contribute to an organization's competitive advantage, it is possible to formulate our third research sub-question (S.Q. 3) as follows:

'Can logistics capabilities and competences contribute to the success of humanitarian operations?'

The third part of this research deals with these three questions from an empirical perspective. As it was presented in the introduction of this thesis, the research approach adopted for this research is the abduction, also known as systematic combining. Until now, we have followed a 'direction and redirection' process between the empirical world (cf. Part I) and the theory (Part II), looking for explanations of a real life phenomena in theory. Moreover, this process allowed us to propose a framework that integrates literature at two different levels (cf. Figure 4.6). However, as it is presented above, three questions that result from our analysis remain unanswered. The following chapters of this thesis complement the systematic combining approach by performing a 'matching' process, a back and forth between the framework, data sources, and analysis.

As it was previously said, this thesis focuses thus in those international organizations specialized in emergency response and the organizational competences and capabilities that allows to successfully respond to any given crisis. Among these organizations (cf. Figure 2 in the introduction), three international NGOs stand out for their highly valuable humanitarian work: IFRC, MSF and WFP. Not surprisingly, these three NGOs are

responsible for the most important advances on logistics in the humanitarian context. From these three international organizations, Médecins Sans Frontières is the only fully independent NGO[2], and thus, data and the organization's staff becomes more accessible. The empirical part of this research is thus focused on MSF, the international NGO that accepted to contribute to this research and that, over the past years, has been present in the most important humanitarian crises providing assistance to the affected population.

Given that the case study is based on a French humanitarian organization, the following chapters (5, 6 and 7) are deliberately written in French. Three main reasons explain the change of language. First, we wanted to include the organization's opinion about how the case study was going to be developed. For this, the case study design was built in French, creating the possibility of discussion on how the study was going to be undertaken. The design was thus presented and explained to the staff members prior to the interviews. Second, all collected data is in French and therefore, we aimed to do the analysis in the same language of the source in order to avoid any possible loss on the meaning of concepts due to translation. Finally, a restitution of the findings of the case study was planed from the beginning and therefore, the easiest and simplest way to explain the outcomes was to use the same language in which the data was gathered. It is worth noting that the terminology used during the interviews and the analysis belongs to the vocabulary used within the organization. The headings in the following chapters and sections are in French but these were translated to English for the Contents.

[2]Both IFRC and WFP are part of greater movements, the International Red Cross and Red Crescent movement and the United Nations, respectively.

Part III

The MSF case study

Chapitre 5

Méthodologie

Sommaire

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5.1 Introduction

Comme il a été énoncé auparavant, au cœur de toute recherche se trouve la notion de rigueur méthodologique (Halldorsson and Aastrup, 2003). Un nombre de choix méthodologiques on été argumentés dans l'introduction de cette thèse. Les characteristiques de l'environnement dans lequel cette recherche est développée nous a permis de choisir un paradigme **interpretativiste**, qui cherche à générer des descriptions des événements et de comprendre un phénomène (Gioia and Pitre, 1990). De plus, l'interaction entre le terrain et la théorie nous a amené vers un raisonnaiment **abductif**, qui met l'accent sur la recherche de théories aptes à une observation empirique au lieu de construire des hypothèses à partir de la théorie (Kovacs and Spens, 2005). Finalement,

la méthodologie **qualitative** (Miles and Huberman, 1994), et la méthode des **études de cas** (Ellram, 1996) ont été choisi en conformité au choix de paradigme.

Tel qu'il a été expliqué dans la structure de cette thèse, l'objectif de ce chapitre est d'expliquer nos choix méthodologiques relatifs à la méthode des études de cas ainsi que d'expliquer le processus de recueil des données ainsi que de traitement et d'analyse des données. Dans les sections suivantes, nous allons présenter la méthode des études de cas et nous allons expliquer le design de l'étude de cas (§ 5.2). Ensuite, nous poursuivons avec les processus de recueil (§ 5.3) et d'analyse (§ 5.4) des données. L'analyse des données sera expliquée en fonction du type de codage (§ 5.5), et nous finirions avec les critères de qualité de la recherche (§ 5.6) avant de conclure avec quelques remarques.

5.2 Conception de l'étude de cas

La méthode des études de cas a été souvent considérée comme l'une des méthodes de recherche les plus puissantes de la gestion des opérations (Voss et al., 2002). Cette méthodologie est préférable lorsque l'objectif est d'expliquer, d'explorer ou de décrire un phénomène d'intérêt, car "il fournit une profondeur et un aperçu d'un phénomène peu connu" (Ellram, 1996, p. 97). Selon Yin (2009), il existe quatre types d'étude de cas en fonction de deux critères: le nombre de cas et le nombre d'unités d'analyse (voir Figure 5.1). L'auteur explique que chaque type d'étude inclut le désir d'analyser les conditions du contexte dans lequel le cas est étudié, représenté dans la figure par une ligne pointillé qui montre que la barrière entre le cas et le contexte est susceptible de ne pas être claire. Les quatre types sont (1) l'étude de cas unique (holistique), (2) l'étude de cas unique (encastrée), (3) l'étude de cas multiple (holistique) et (4) l'étude de cas multiple (encastrée).

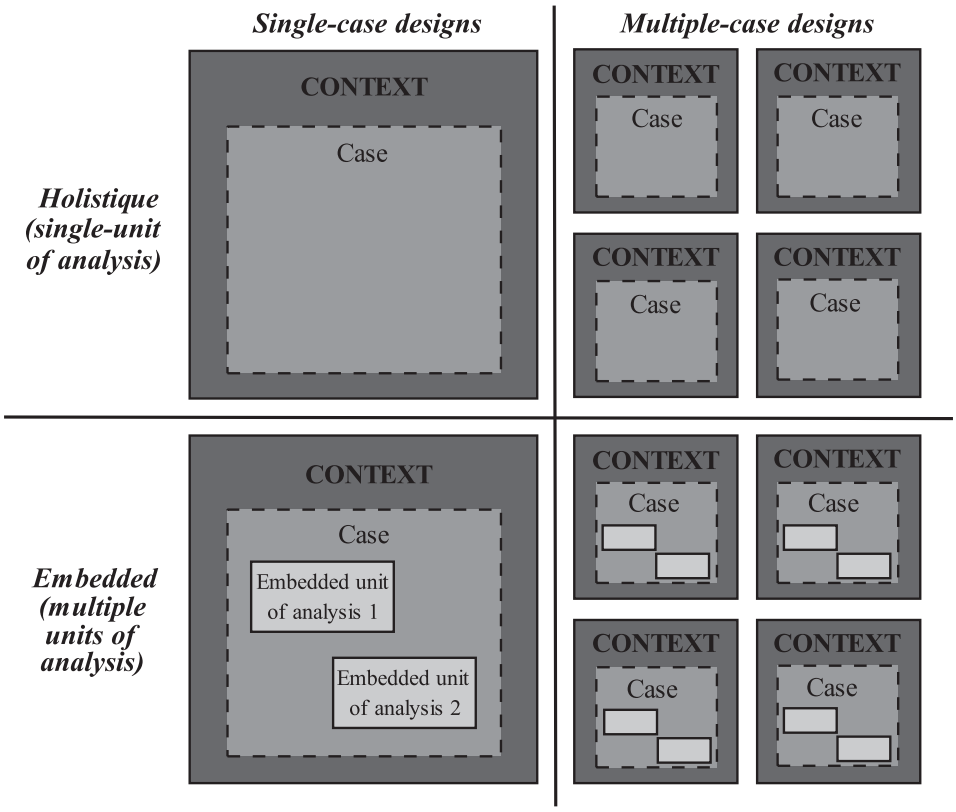


Figure 5.1: Types d'étude de cas (Yin, 2009)

Les études de cas uniques (types 1 et 2), sont à adopter quand le phénomène remplit une ou plusieurs des conditions suivantes:

- Le cas représente un *cas critique* et permet de tester une théorie bien formulée. Ici, l'étude de cas est utilisée pour déterminer si les propositions théoriques sont correctes ou, le cas écheant, il existe d'autres explications alternatives qui peuvent être pertinentes.

- Le cas représente un *cas extrême ou unique* où la probabilité de trouver un cas similaire est très faible. Ici, l'étude de cas permet de documenter les caractéristiques du cas et determiner la nature de l'existence d'un tel cas.

- Le cas est un *cas typique ou représentatif* et représente un 'projet' typique parmi d'autres. Les résultats de ce type d'étude de cas sont suposés d'être informatifs des expériences d'une personne ou organisation moyenne.

- Les cas est un *cas révélatoire* et permet au chercheur d'observer et analyser un phénomène qui était inaccessible auparavant.

- Il s'agit d'un *cas longitudinal* où le même cas est étudié à deux ou plusieurs périodes dans le temps.

De l'autre côté, les cas multiples (types 3 et 4) sont appropriés quand on cherche à répliquer l'étude. Pour les études de cas multiples, les différents cas doivent être soigneusement choisis afin de *(a)* prédire des résultats similaires (réplication littérale), ou *(b)* prédire des résultats contastants pour des raisons prévisibles (réplication théorique). Le cas le plus simple c'est de selectionner un nombre de cas, deux ou plus, supposés d'être des réplications littérales. L'autre option est d'exécuter un nombre important de réplications théoriques.

Le deuxième critère, le nombre d'unités d'analyse, permet au chercheur de choisir entre une approche holistique ou encastrée. L'approche holistique est celle qui s'intérese à la nature globale d'une organisation, et peut être utilisée quand aucune sous unité logique a été identifée ou quand la theorie sous-jacente est de nature holistique. Inversement, l'approche encastrée s'intéresse non seulement à l'organisation mais aussi à une ou plusieurs sous unités. La plupart du temps, l'étude des unités dans une organisation offre des opportunités pour un analyse extensive, ce qui permet d'augmenter la profondeur à la quelle l'étude est faite et par conséquent, la qualité des résultats.

5.2.1 Unique Vs. Multiple

La revue de littérature logistique sur les compétences et les capacités presentée dans le chapitre 3 de cette thèse, nous a permis de construire une liste qui synthétise les compétences et capacités logistiques (cf. Table 3.7). De plus, le passage par la théorie des ressources et compétences (RBV) nous a apporté des éléments conceptuels qui nous ont permis de construire un cadre théorique *(framework)* intégrateur des compétences et capacités logistiques (cf. Figure 4.6). Cependant, comme il a été énoncé dans l'introduction de cette thèse, le mode de raissonnement abductif n'utilise pas une théorie bien formulée, ici la RBV, pour produire des hypothèses mais au contraire, pour construire et faire évoluer le cadre théorique à travers le processus du « match » théorique (Dubois and Gadde, 2002). Dans une certaine mesure, il serait possible de définir le cas étudié dans cette thèse comme un cas *critique*, ayant une importance stratégique par rapport au phénomène étudié (Flyvbjerg, 2011). Néanmoins, le fait de ne pas remplir ce critère totalement, nous oblige à aller plus loin sur notre réflexion. Du point de vue empirique, une organisation humanitaire spécialisée dans l'urgence comme celles présentées dans l'introduction de cette thèse (cf. Figure 2), peut être considérée comme un cas *représentatif* de ce type d'organisations. Cependant, chaque organisation a son propre mode de fonctionnement, ses propres objectifs et, parfois, une activité bien précise autour de laquelle l'organisation est constuite. Cette perspective nous permet de considérer les ONGs comme des *cas uniques*, car la possibilité de trouver une autre ONG avec les mêmes caractéristiques qu'une autre reste très faible. Par conséquent, notre reflexion nous améne à adopter le type d'étude de **cas unique**, fait qui va nous permettre "de contester ou d'étendre la théorie" (Yin, 2009, p. 48) à la différence des études de cas multiples qui cherchent la réplication littérale ou théorique.

5.2.2 Holistique Vs. Encastré

L'unité d'analyse renvoie au type d'unité que le chercheur utilise pour mesurer (Neuman, 2007). Dans les sciences sociales, la recherche utilise différentes types d'unité d'analyse comme l'undividu, un groupe, une organisation, une catégorie sociale, une institution sociale ou la société. Cependant, l'utilisation d'unités d'analyse ne se limite pas à la sociologie. Par exemple, quand un chercheur veut determiner les différences entre deux discours, l'unité d'analyse n'est pas l'individu qui prononce le discours mais le discours lui même et les sujets abordés. Par conséquence, l'unité d'analyse determine comment le chercheur mesure les variables ou les sujets (Ibid.).

Comme il a été presenté antérieurement, cette recherche s'intéresse aux organisations humanitaires internationales présentes dans la réponse aux urgences. Dans ce cadre, on s'intérroge sur ses compétences logistiques nécessaires pour répondre aux différentes catastrophes partout dans le monde. Cependant, l'organisation dans sa globalité n'est pas choisie comme la seule unité d'analyse. Dans la littérature des ressources et compétences, Hall (1992) montre la différence entre atout (asset) et aptitude (skill), précisant que atout est "avoir des ressources" tandis que aptitude c'est "faire des ressources".

Dans une organisation, il est possible d'énumérer les facteurs (tangibles ou intangibles) qui permettent d'atteindre un certain degrée de succès au niveau logistique, mais c'est seulement l'activation ou le déployement de ces facteurs qui vont permettre de voir leur criticité réelle. Dans le contexte humanitaire, cette affirmation est plus présente à cause des caractéristiques propres de l'environnement qui permettent de voir les ressources 'en action' et la mobilisation de certaines d'entre elles selon le type d'opération. Chaque opération d'aide humanitaire, bien qu'il existe des similitudes, peut être qualifiée comme unique dû aux circonstances dans lesquelles elle est développée et donc, les compétences utilisées peuvent varier d'une opération à l'autre. Ce raisonnement justifie notre choix d'une approche **encastrée** plutôt que holistique, et de définir chaque opération comme

une unité d'analyse, fait qui va nous permettre d'identifier les compétences deployées et de les analyser par rapport à l'organisation dans sa globalité et au succès obtenu.

5.2.3 Le cas

Comme il a été énoncé auparavant, cette thèse d'intéresse aux compétences et capacités logistiques organisationnelles nécessaires pour répondre aux urgences. La Figure 2 dans l'introduction de cette thèse a présenté une catégorisation des principales organisations humanitaires selon le type d'approvisionnement (global ou local) et le type d'activité realisée (développement ou urgence). Compte tenue des caractéristiques de la logistique humanitaire présentées dans le chapitre 2, il semble plus pertinent de s'intéresser à une organisation internationale qui effectue un approvisionnement international, étant donné que les compétences et capacités logistiques doivent être encore plus développées que dans le cas d'une ONG locale. En outre, comme il a été montré dans le chapitre 4, une compétence peut être définie comme la capacité d'une organisation à déployer ses ressources (Heene and Sanchez, 1997) et donc, les compétences requises lors de la réponse aux urgences sont plus 'extrêmes' que pour les programmes de développement, compte tenu de la limite dans le temps et des caractéristiques dans lesquelles se trouvent les régions touchées par l'urgence. C'est à partir de ce raisonnement que nous allons faire notre choix du cas à traiter dans cette thèse.

Le quadrant numéro II de la Figure 2 nous offrait un choix important d'ONG internationales impliquées dans la réponse aux urgences. Parmi elles on trouve la Fédération Internationale de la Coix Rouge (IFRC), Médecins Sans Frontières (MSF) et le Programme Alimentaire Mondiale (WFP), ainsi que d'autres ONGs. De toutes, la seule organisation spécialisée principalement dans l'urgence c'est Médecins Sans Frontières qui, depuis 1971, apporte une assistance médicale à des populations dont la vie ou la santé est menacée, principalement en cas de conflits armés, mais aussi d'épidémies, de pandémies,

de catastrophes naturelles ou encore d'exclusion des soins. Elle est aussi une des rares ONGs à avoir reçu le prix nobel en reconnaissance pour son travail humanitaire pionnier dans plusieurs continents[1], et peut-être la seule à être indépendante de tous pouvoirs politiques, militaires ou religieux. Ces caractéristiques nous ont incité à choisir à MSF comme le cas d'étude de cette thèse.

5.3 Collecte de données

Un des aspects importants au moment de collecter les données c'est le choix des méthodes employées. Voss et al. (2002) déclarent que l'un des principes importants dans la collecte de données c'est celui de la *triangulation des données*. Cette technique consiste à utiliser plusieurs méthodes pour étudier le même phénomène. Ainsi, elle permet au chercheur de surmonter la polarisation lors des entretiens sur des sujets humains, et améliore la stabilité et la fiabilité des résultats (Ellram, 1996). Des exemples de ces méthodes sont les entretiens, les questionnaires, l'observation directe, l'analyse de contenu de la documentation et l'analyse des archives. Pour cette thèse, les données proviennent principalement de 27 entretiens semi-directifs ou focalisés (Yin, 2009), réalisés avec le personnel de MSF logistique, la centrale d'achats et d'approvisionnement de Médecins Sans Frontières (§ 6.5.3) et du département logistique de MSF France entre le 23 Novembre 2010 et le 3 Février 2012 (voir Annexe 5). Pour cela, un protocole – guide d'entretien (voir Annexe 4) a été construit à partir des résultats de la revue de littérature rassemblés dans le cadre théorique *(framework)* intégrateur des competences et capacités logistiques présentée dans la synthèse de la deuxième partie de cette thèse (cf. Figure 4.6). Afin de suivre le type d'approche choisi en termes d'unités d'analyse, il a été demandé à chaque interviewé d'inclure dans ses réponses les expériences vecues lors des différentes opérations d'aide humanitaire auxquelles il a participé et de donner des exemples précis sur comment ces expériences font référence à la question posée. D'autres méthodes telles que l'analyse

[1]The Nobel Peace Prize 1999 (http://www.nobelprize.org/nobelprizes/peace/laureates/1999/)

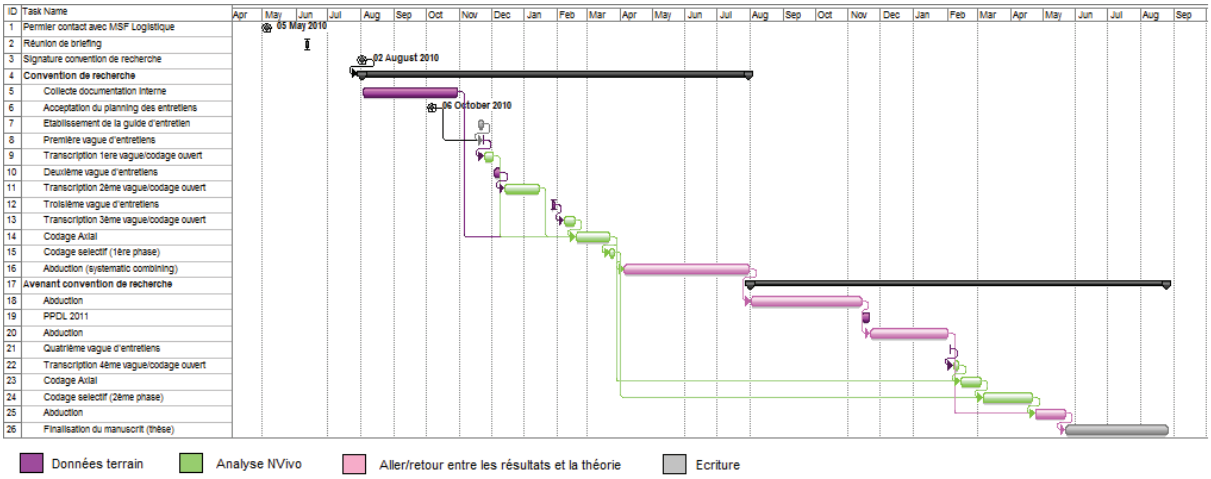


Figure 5.2: Processus d'interaction avec le terrain

de contenu de la documentation (guidelines, compte rendu des réunions, profils de poste, rapport des missions, rapports d'activité, entre autres), l'observation directe (debriefings, réunions, visiteaux locaux de MSF), et l'observation participative (suivi de la formation Préparation Premier Départ Logistique PPDL 2011), ont été inclus dans l'analyse des données. Le processus d'interaction avec le terrain est expliqué dans la Figure 5.2.

Dans la méthode des études de cas, l'entretien est une des principales sources d'information (Voss et al., 2002). De manière générale, on trouve trois types d'entretiens (Yin, 2009): Ouverte ou approfondi, semi-directif ou focalisé et enquête ou directif. Dans le type approfondi, le chercheur peut enquêter sur les faits/circonstances d'un phénomène ainsi que demander une opinion sur un événemment. Ce type d'entretien se déroule dans une période de temps prolongée, où l'interviewé devient un 'informant' plutôt qu'un simple 'répondant'. De l'autre côté dans le type semi-directif ou focalisé, l'entretien reste ouvert et est abordé comme une conversation, mais l'intervieweur doit suivre un nombre précis de questions dérivées du protocole. Finalement, l'entretien directif se rapproche plus à une enquête qu'à un entretien où chaque interviewé peut être considéré comme une sous unité d'analyse. Comme il a été annoncé auparavant, cette étude est basée sur des entretiens semi-directifs, un type d'entretien qui permet de suivre une structure issue de la théorie

mais aussi, d'inclure des nouvelles informations de la part de l'interviewé, un choix qui reste en accord avec le raisonnement abductif adopté pour cette thèse. Pour faciliter la gestion des données, les entretiens ont été enregistrés avec la permission de chaque interviewé et stockés en format électronique (.mp3).

Au moment de réaliser les entretiens, la question de l'échantillon devient un facteur important pour assurer la qualité de l'étude. Dans la recherche quantitative, l'objectif principal de l'échantillonnage c'est de trouver un échantillon représentative ou une petite collection d'unités ou cas à partir d'une collection plus grande ou d'une population de référence (Neuman, 2007), à travers des techniques probabilistes. En revanche, dans une recherche qualitative l'échantillon est rarement déterminé par l'avance dû à la connaîssance limitée de la population dans laquelle l'échantillon se trouve (Ibid.). Les cas ou les unités sont découvertes progressivement grâce à différentes techiques non-probabilistes (voir Tableau 5.1). D'autres techniques comme le cas critique, le cas typique, le random, la stratification, l'opportunisme ou une combinaison sont proposées par Miles and Huberman (1994).

Tableau 5.1: Types d'échantillonage non-probabiliste (Neuman, 2007, p. 141)

Type d'échantillonage	Principe
Aléatoire	Prendre n'importe quel cas de n'importe quelle façon qui soit pertinent
Quota	Prendre un nombre préétabli de cas dans chacune des plusieurs catégories prédéterminées afin de révéler la diversité de la population en utilisant des méthodes aléatoires
Raisonné	Prendre tous les cas possibles qui correspondent à des critères particuliers en utilisant des méthodes variées
Boule-de-neige	Prendre des cas en utilisant des références d'un ou plusieurs cas et ensuite des références de ces cas et ainsi de suite
Cas déviant	Prendre des cas qui différent substantiellement d'un modèle dominant (un type spécial d'échantillonnage raisonné)
Séquentiel	Prendre des cas jusqu'à ce qu'il n'existe plus d'autres informations ou caratéristiques nouvelles (souvant utilisé avec d'autres méthodes d'échantillonnage)

Une méthode très utilisée dans la recheche en logistique et en gestion des opérations c'est l'échantillonage théorique, un processus par lequel le chercheur collecte, code et analyse les données conjointement, et décide quel type de données collecter ensuite et où les trouver (Manuj and Mentzer, 2008). Dans ce processus, le choix des informateurs, des événements et des interactions doit être déterminé par une question conceptuelle et pas par une question de représentativité (Miles and Huberman, 1994). Conformément aux choix méthodologiques présentés dans l'introduction de cette thèse, le principal type d'échantillonnage utilisé dans cette étude c'est le *théorique*. Cependant, d'autres types d'échantillonnage ont été utilisés. Un premier échantillonnage *quota* a été établi en coopération avec le responsable des ressources humaines de MSF Logistique afin de trouver une représentativité des métiers exercés par la centrale d'achat. Ensuite, un processus de *boule-de-neige* a été développé avec le personnel de MSF Logistique, ce qui nous a permis d'étendre notre échantillon de base en fonction des résultats de chacun des entretiens. Plusieurs références ont été faites au personnel du departement logistique de MSF France à Paris. Finalement, un échantillonnage *séquentiel* nous a permis d'arriver à une "saturation théorique" (Manuj and Mentzer, 2008) à l'entretien No. 21, réalisé avec une pharmacienne appartenant à MSF Logistique, à partir duquel aucune nouvelle information n'a été trouvée. Les entretiens restants (le personnel de MSF France inclus) nous ont permis de corroborer les résultats trouvés et d'éliminer la possibilité d'un *bias* lié au fait que la plupart des interviewés appartiennent à MSF Logistique (la centrale d'achat est considérée comme une branche de la section française et les visions du personnel du siège peuvent varier par rapport à celui de la centrale). Les différents choix du type d'échantillonage fait pendant cette étude et le processus de collecte de données dans sa totalité, abordent les trois points principaux à prendre en compte au moment d'effectuer une étude de cas tels que proposés par Miles and Huberman (1994), i.e. identifier quelles activités, processus, événements, périodes, emplacements et partenaires on va échantilloner; garder un objectif théorique; et développer l'étude de manière itérative et progressive.

5.4 Traitement de données

Avant de commencer l'analyse des données collectées, une phase de traitement des données est nécessaire. Les données qualitatives existent sous la forme de photos, mots écrits, phrases, symboles et schémas qui décrivent ou représentent individus, actions ou événements (Neuman, 2007). Dans les études de cas, ces données sont, pour la plupart, des notes écrites à la main ou dactylographiées, des enregistrements d'entretiens ou d'autres événements issus du terrain (Miles and Huberman, 1994). Dans tous les cas, l'unité la plus basique dans laquelle les données peuvent être trouvées c'est le mot. Cependant, les notes et spécialement les entretiens enregistrés doivent être traités pour pouvoir les analyser. Ce processus est connu sous le nom de transcription et plusieurs techniques peuvent être utilisées selon l'objectif de la recherche.

La transcription est un processus selectif dans lequel des sons ou des images sont traduits ou transformés (dans sa totalité ou de manière partielle) en texte (Davidson, 2009). Comme il a été annoncé par Cook (1990), au lieu d'être un problème, la selectivité dans la transcription doit être comprise comme une nécessité pratique et théorique. Elle donne au chercheur la possibilité de choisir la quantité d'information nécessaire par rapport aux objectifs, et permet de suivre clairement l'entretien et de bien juger son contenu. Selon Ochs (1979, p. 44), "une transcription plus selective est une transcription plus utile". Plusieurs auteurs on proposé différentes approches pour la transcription et le dégrée de selectivité. Bucholtz (2000) considère que la transcription est un continuum entre une approche *naturalisée*, où les charactéristiques du discours priment sur l'oral, et une approche *dénaturalisée*, où les charactéristiques de l'oral telles que les "ums" et "ers" sont preservées. Lapadat (2000) fait une relation entre l'approche pour la transcription et le paradigme épistémologique adopté dans la recherche. Elle explique que dans un positionnement positiviste, les transcriptions sont *transparentes* et produisent un rendu fidèle des enregistrements; dans un positionnement interprétativiste, les transcriptions

sont des constructions théoriques où le chercheur fait le choix de ce qui doit être inclus dans la transcription et comment. Les approches qui se trouvent entre les deux positionnements sont appellées “de la pagaille au milieu” (p. 207). Finalement, Oliver et al. (2005, pp. 1273-1274) présentent aussi un continuum entre *naturalisme*, qui “cherche à donner le plus de détail possible” et à “représenter le monde réel”, et *dénaturalisme* où les significations et les perceptions aident à construire la réalité.

Cette recherche est développée sous un paradigme *interprétativiste* et par conséquent, on considère que le processus de transcription ne se limite pas à capturer et représenter des propos, mais aussi à construire et à interpréter la réalité. Les entretiens enregistrés pendant la phase de collecte des données ont été transcris peu après leur enregistrement et d'une façon selective, afin de ne pas perdre des éléments liés au contexte dans lequel l'entretien s'est déroulé. A partir du discours de l'interviewé, nous avons choisi les segments qui répondaient directement à la question du guide ou qui permettaient d'extraire des éléments pertinents pour notre recherche. Ainsi, les exemples et expériences ont été transcris afin d'être analysés à la recherche d'éléments de preuve qui peuvent soutenir ou approfondir un sujet. Ces transcriptions ont été stockées en format électronique pour être en suite analysées à l'aide d'un logiciel d'analyse des données qualitatives.

5.5 Analyse de données

Toute analyse de données est basée sur la comparaison (Neuman, 2007). Pendant l'étude, le chercheur identifie un nombre important de procédures, causes, caractéristiques ou mécanismes qui se trouvent à l'intérieur de l'évidence et qui seront ensuite examinés pour trouver des similarités, différences et/ou patrons qui structurent l'information recueillie (Ibid.). Pour cela, on doit procéder à une conceptualisation des données qui permet d'organiser et de donner du sens à l'information collectée. Ce processus, appelé aussi

codage, consiste à organiser les données brutes en catégories conceptuelles pour créer des thèmes ou concepts et à réduire la quantité de données à analyser. Les *codes* sont des étiquettes pour assigner des unités de signification à l'information compilée pendant l'étude (Miles and Huberman, 1994). Généralement, les codes sont attachés à des 'morceaux' de différente taille (mots, expressions, phrases ou paragraphes) liés de manière directe ou indirecte à un certain cadre. Cependant, "ce qui importe ce n'est pas les mots en eux-mêmes mais leur signification" (Ibid., p. 56).

À présent, l'analyse des donnéees dans plupart des études qualitatives est faite à l'aide de logiciels d'analyse de données qualitatives assitée par Ordinateur (Computer-Assisted Qualitative Data Analysis Software – CAQDAS) comme AQUAD, ATLAS.ti, MaxQDA, NUD*IST ou NVivo, entre autres. Ces logiciels permettent d'écrire ou transcrire, éditer, coder et stocker les notes du terrain; de chercher et récuperer des segments de texte pour leur inspection; de 'lier' différents segments de données; de faire une analyse de contenu (compter des fréquences, séquences ou emplacement des mots ou phrases); de cartographier les données; et d'afficher les données, entre autres (Miles and Huberman, 1994). Comme il a été annoncé dans l'introduction de cette thèse, notre recherche s'appuie sur l'utilisation du CAQDAS NVivo 8, l'un des logiciels les plus utilisés, spécialement par les jeunes chercheurs (Dean and Sharp, 2006). Une des particularités de NVivo c'est sa capacité à organiser et analyser des revues de littérature, à conduire des analyses de contenu de documentation de deuxième main, et à enregistrer, collecter, analyser et rapporter des données (Ibid.).

Le processus de codage peut être constitué de plusieurs phases ou étapes. Miles and Huberman (1994) présentent une première étape de *codage de premier niveau* où l'information est organisée par 'morceaux' et catégorisée afin de pouvoir trouver, extraire et rassembler l'information facilement par rapport à une question de recherche particulière, une hypothèse ou un thème. Pour cela, les auteurs proposent de créer une 'liste de

départ' provisoire de codes (descriptifs ou exploratoires) issue des questions, hypothèses, problèmes ou variables à étudier (cf. Figure 4.6). Ensuite, une deuxième étape appelée *codage de patterns*, permet au chercheur de créer des codes explicatifs qui vont identifier des thèmes, configurations ou explications émergents. Cette étape aide le chercheur à réduire une grande quantité de données dans un nombre plus petit d'unités analytiques, permet d'analyser les données pendant la collecte et permet la création d'une carte cognitive. Finalement, les auteurs ajoutent un étape de *'memoing'* ou aide-mémoire, qui consiste à théoriser de manière écrite les idées qui viennent à l'esprit du chercheur pendant le codage, en rapport avec les codes et leur relations, et est défini par les auteurs comme l'un des outils les plus utiles et puissants pour donner du sens à l'information.

Un processus de codage, et l'un des plus utilisés dans la recherche en sciences de gestion, est celui de Strauss and Corbin (1990). Les auteurs proposent une première phase de *codage ouvert*, qui concerne les méthodes utilisées pour décomposer les données de l'étude de cas afin de pouvoir analyser, conceptualiser et développer des categorires pour les données (Ellram, 1996). Comparable au codage de premier niveau de Miles and Huberman (1994), dans le codage ouvert, les extraits, observations et idées sont nommés et ensuite regroupés dans des sous-catégories qui peuvent à leur tour être groupées dans des catégories (Voss et al., 2002). La deuxième phase, le *codage axial*, concerne les techniques qui construisent les relations entre les catégories dévelopées dans le codage ouvert (Ellram, 1996). Comparable au codage de *patterns* (Miles and Huberman, 1994), ce processus permet non seulement d'identifer le lien entre les différents codes, mais peut aussi soulever des questions qui vont suggérer d'abandonner certains sujets ou examiner d'autres de manière plus approfondie (Neuman, 2007). Finalement, le processus se conclut avec une phase de *codage selectif*, où les catégories centrales de l'analyse son sélectionnées, reliées à d'autres catégories et validées ou développées dans des nouvelles catégories (Ellram, 1996). Ce processus est comparé au codage axial mais à un niveau d'analyse

holistique. Pour cette étude, nous avons d'abord effectué un codage ouvert qui a donné lieu à un premier groupe de catégories qui ont été ensuite développées par un codage axial afin de filtrer et réorganiser les catégories issues de la première étape. Le codage selectif, a été utilisé pour raffiner les résultats des deux premières étapes qui seront présentés dans les résultats de l'étude dans le chapitre 7.

5.5.1 Codage ouvert

Pendant la première étape de codage, l'information recueillie dans les entretiens et la documentation a été organisée en trois grands thèmes: la compétence, le succès et l'urgence. Ces trois grands groupes correspondent aux trois concepts clé de notre question de recherche *quelles sont les* ***compétences*** *logistiques organisationnelles nécessaires pour assurer le* ***succès*** *des* ***opérations d'aide humanitaire****?*[2]. Pour chacun des thèmes, un code[3] a été créé. Les trois codes ont été introduit au logiciel NVivo 8 sous la forme de *free nodes*, des *nodes* indépendants utilisés au début du codage quand il n'existe pas une structure hiérarchique définie (QSR, 2008).

Les entretiens enregistrés ont été importés au logiciel sous le dossier 'documentation – interviews' et transcrits à l'aide de l'outil de transcription de NVivo 8. À mesure que l'entretien était transcrit, un premier codage a été effectué pour rassembler l'information dans chacun des *free nodes* créés. Une deuxième étape de codage a été ensuite effectuée afin de conceptualiser et développer des catégories dans les données. Les premiers *free nodes* ont alors créé des *tree nodes*, des *nodes* qui sont organisés dans une structure hiérarchique, depuis une catégorie générale en haut (*parent nodes*) jusqu'à d'autres catégorires (*child nodes*) plus spécifiques (QSR, 2008), et devenus *parent nodes*. Afin de structurer le *node* « compétence », nous avons utilisé les compétences et capacités listées

[2]Conformément à la nature de l'organisation étudiée, une association médicale *d'urgence*, cette étude se focalise sur la réponse aux urgences (opérations d'aide humanitaire) et fait la différence avec les programmes ou projets de développement.

[3]Dans le language de NVivo, les codes sont appélés *nodes*. Les différents types de *nodes* sont expliqués à masure qu'ils ont été introduits.

dans le modèle présenté dans la synthèse de la deuxième partie. Un nombre important de *child nodes* ont emergé et ont été classés dans le *tree node* correspondant (voir Tableau 5.2). D'autres *nodes* sans catégorie apparente ont été mantenus comme *free nodes* pour être analysés dans le codage axial.

Tableau 5.2: Liste de *nodes* (Extrait)

– Compétence
Définition
+ Nature
– Compétences MSF
+ Compétences Logistiques MSF
– Urgence
+ Typologie
+ Différence
– Succès
– Définition
+ MSF
+ MSF Logistique
– Critères
+ MSF
+ MSF Logistique
+ Activité clé

Comme il a été expliqué auparavant, cette recherche utilise une technique de triangulation des données. Pour cela, les différents fichiers en format .pdf ou .doc ont été importés dans le logiciel NVivo 8 sous le dossier 'documentation – MSF' et 'documentation – MSF Logistique' selon la source. Ainsi, d'autres types de fichiers comme des videos, des photographies ou même les fichiers audio des entretiens ont été importés au logiciel sous les dossiers 'Video', 'Audio' et 'Pictures'. Dans le cas des vidéos et des fichiers audio des entretiens, des morceaux on été codés par rapport aux *nodes* et dans le cas des photographies, des notes descriptives ont été créées et ensuite codées dans les *nodes* respectifs.

Pour pouvoir analyser la documentation écrite (guidelines, rapports, debriefings, etc.), nous avons utilisé l'outil *queries* du logiciel afin d'optimiser le traitement de cette grande quantité d'information. L'application *text search query* permet de 'poser des questions' aux données et de chercher l'occurrence des mots dans les différentes sources et leur utilisation (QSR, 2008). L'option *stemmed search* permet de faire la recherche du texte par l'origine du mot, i.e. sa racine, afin de trouver les différentes variations d'un mot. Nous avons donc realisé une recherche de texte (avec l'option *stemmed search*) des différentes *nodes* issues des entretiens. Les résultats ont ensuite été codés. En outre, l'application *word frequency query* offre la possibilité de connaître la quantité de fois qu'un mot ou une phrase est utilisée (QSR, 2008). Ici, on peut analyser quelle/quels est/sont la/les mot(s) la/les plus utilisées dans une certaine source. Nous avons utilisé cette application pour déterminer l'importance des termes/concepts utilisés dans cette recherche par rapport à la documentation utilisée dans l'analyse.

5.5.2 Codage axial et selective

Suite au codage ouvert où les catégories des *nodes* ont été créées, une deuxième étape de codage axial a été réalisée (voir Figure 5.3). À partir des résultats des entretiens et de l'information écrite recueillie pendant l'étude, la première structure des *nodes* a été développée en fonction des rélations trouvées entre les différentes réponses des interviewés. Plusieurs *nodes* qui ont été créés comme 'free' *nodes*, ont été regroupés, rénommés et intégrés aux *'tree' nodes*. Ainsi, des sous catégories ont été identifiées et développées pendant la dernière étape de codage selectif (voir Figure 5.4).

Name	Created On
Competences MSF	30/11/2010 11:58
Médicales	20/12/2010 11:36
Logistiques	20/12/2010 11:37
RH - Admon.	20/12/2010 11:38
Réponse	12/01/2011 16:14
Remise en cause	20/12/2010 11:45
Engagement	20/12/2010 11:54
Analyse	20/12/2010 12:04
Maîtrise	27/06/2011 08:06
Needs assessment	01/07/2011 07:24
Bénévolat	20/12/2010 11:43
Formation	20/12/2010 11:48
Humaines	29/12/2010 18:29
Compétences MSF Log.	20/12/2010 12:15
Techniques	29/12/2010 16:17
Réactivité - Responsiveness	20/12/2010 12:38
Adaptation	20/12/2010 12:35
Engagement - motivation	03/01/2011 10:45
Analyse	03/01/2011 16:25
Rélationnel	03/01/2011 11:51
Flexibilité	03/01/2011 11:53
Professionnalisation - spécialisation	10/01/2011 16:15
Supply Chain - Vision Globale	20/12/2010 12:17
Travail en équipe	03/01/2011 14:01
L'organisation	20/12/2010 12:34
Prévision - Anticipation - Planification	12/01/2011 07:51
Partage d'info	20/12/2010 12:41
Polyvalence de compétences	03/01/2011 15:07
Management	10/01/2011 16:59
Improvisation	27/06/2011 08:25
Opérations	20/12/2010 12:29
Priorité	30/06/2011 09:32
Connaissance produit	07/07/2011 08:43
Maîtrise	11/01/2011 17:03

Name	Created On
Activité clé	29/12/2010 17:11
Logistique	29/12/2010 17:12
Ensemble	29/12/2010 18:36
Médical	29/12/2010 17:01
Mission Explo	21/06/2011 09:15
Collecte de dons	18/01/2011 14:34
Typologie de l'urgence	29/12/2010 16:46
Ampleur	29/12/2010 16:33
Type de produit	29/12/2010 16:46
Nature	03/01/2011 14:34
Endroit - pays - environnement	03/01/2011 12:05
Acces	18/04/2011 18:37
Durée	21/06/2011 07:50
Multiplicité des acteurs (mediatisation)	23/06/2011 19:24
Différence quotidien et urgence	30/11/2010 11:59
Organisation	29/12/2010 16:29
Vitesse	29/12/2010 16:35
Temps	29/12/2010 16:43
Planification	03/01/2011 15:54
Priorité	18/01/2011 07:22
Information	29/12/2010 16:36
Motivation	01/07/2011 08:37
Succès	30/11/2010 12:00
Critères	29/12/2010 17:54
MSF Log	29/12/2010 17:51
MSF	29/12/2010 17:50
Nature de la compétence	22/12/2010 18:23
Technique	29/12/2010 15:19
Expérience	03/01/2011 15:30
Poste-métier	22/12/2010 18:26
Humaine	29/12/2010 17:14
Savoir-faire	22/12/2010 18:23

Figure 5.3: Structure des *nodes* après codage axial

Name	Modified On
Compétences MSF	25/05/2012 13:21
Analyse	22/05/2012 08:57
Bénévolat	20/12/2010 11:44
Collecte de fonds	22/05/2012 09:38
Engagement	22/05/2012 08:41
Formation	20/12/2010 11:49
Humaines	29/12/2010 18:29
Logistiques	22/05/2012 09:00
Maîtrise	27/06/2011 08:10
Médicales	22/05/2012 08:58
Domaine	22/05/2012 10:08
RH	22/05/2012 10:03
Soin - Santé	22/05/2012 10:07
Urgence	22/05/2012 09:59
Mission Explo	22/05/2012 09:38
Remise en cause	19/05/2012 10:01
Réponse	24/05/2012 10:56
RH - Admon.	23/06/2011 08:49

Name	Modified On
Compétences Logistiques MSF	30/05/2012 08:15
Adaptabilité	01/06/2012 10:24
Communication interne	30/05/2012 08:34
Flexibilité	29/05/2012 16:29
Flexibilité RH	30/05/2012 08:11
Improvisation	29/05/2012 16:29
Intégration (ensemble)	30/05/2012 08:11
L'organisation	29/05/2012 16:29
Management	29/05/2012 16:29
Motivation	30/05/2012 08:23
Partage d'info	29/05/2012 16:29
Polyvalence de compétences	29/05/2012 16:29
Priorité	31/05/2012 22:14
Professionnalisation	30/05/2012 08:15
Réactivité	30/05/2012 08:18
Techniques	01/06/2012 15:07
Achat - technique	29/05/2012 16:07
Approvisionnement	29/05/2012 16:27
Prévision - Anticipation - Planification	29/05/2012 16:29
Relation fournisseur	29/05/2012 16:29
Frêt - transport	30/05/2012 08:03
Informatique	29/05/2012 10:34
Log. Support	30/05/2012 08:02
Opérations	19/05/2012 08:16
Analyse de la demande	30/05/2012 08:07
Production	29/05/2012 16:17
Stock	29/05/2012 10:38

Figure 5.4: Structure des *nodes* après codage selectif

5.6 Qualité de la recherche

Qu'il s'agisse de la recherche quantitative ou qualitative, elle est supposée de présenter un nombre d'affirmations logiques et donc, on peut juger de sa qualité par rapport à des tests logiques (Yin, 2009). Deux concepts sont mesurés avec ces test: la fiabilité et la validité. *Fiabilité* veut dire crédibilité ou consistence, et suggère que la même chose est répetée ou se produit dans des conditions identiques ou très similaires (Neuman, 2007). *Validité*, en revanche, suggére de l'authenticité et concerne le 'match' entre la manière dont le chercheur conceptualise l'idée et la mesure (Ibid.). Plusieurs critères sont proposés pour mesurer la qualité des études de cas. Ellram (1996) propose quatre critères, à savoir valdité conceptuelle, validité interne, validité externe et fiabilité. Ces quatre critères sont décrits par Yin (2009) comme suit:

- **La validité conceptuelle:** identifie les mesures opérationnelles correctes pour les concepts qui sont étudiés;
- **La validité interne:** cherche à établir une relation causale dans laquelle certaines conditions sont supposées de améner à d'autres conditiones;
- **La validité externe:** qui définie le domaine dans lequel les résultats de l'étude peuvent être généralisés;
- **La fiabilité:** qui démontre que les opérations de l'étude comme la collecte de données, peuvent être répetées avec les mêmes résultats.

De plus, pour répondre à chacun de ces critères, l'auteur propose une série de tactiques ainsi qu'une référence à la phase de l'étude où chaque tactique doit être utilisée (voir Tableau 5.3). Cependant, comme il a été expliqué dans l'introduction de cette thèse, le positionnement positiviste et la démarche déductive sont prédominants dans la recherche en logistique et donc, ces critères font référence à ce type de recherche. Guba and

Tableau 5.3: Tactiques de l'étude de cas pour quatre tests (Yin, 2009, p. 41)

Test	Tactique	Phase de l'étude
Validité conceptuelle	* Utiliser plusieurs sources d'évidence	Collecte de données
	* Etablir une chaîne d'évidence	Collecte de données
	* Demander aux informants clé de réviser le brouillon du rapport	Rédaction
Validité interne	* Faire un *match* des *patterns*	Analyse de données
	* Construire des explications	Analyse de données
	* Aborder des explications opposées	Analyse de données
	* Utiliser un modèle logique	Analyse de données
Validité externe	* Utiliser de la théorie dans les cas uniques	Structure de la recherche
	* Utiliser une logique de réplication dans les cas multiples	Structure de la recherche
Fiabilité	* Utiliser le protocole de l'étude de cas	Collecte de données
	* Développer une base de données pour l'étude	Collecte de données

Lincoln (1989) proposent un critère alternatif pour mesurer la qualité d'une recherche: le *trusworthiness*[4], qui vise à supporter l'idée que les résultats de la recherche "méritent l'attention" (p. 290). Le *trustworthiness* est constitué par quatre dimensions parallèles à celles décrites ci-dessus. Nous allons présenter ces quatre critères en nous référant à Halldorsson and Aastrup (2003), et nous allons expliquer comment ils ont été atteints dans notre recherche.

La crédibilité: En partant du principe que la realité est issue des répondants et de leur contexte, la crédibilité est déterminée par le *'match'* entre les constructions des répondants et l'interprétation du chercheur de ces constructions. Alors, une recherche crédible est souvent imprécise en termes de frontières, mais riche en signification et profondeur sur le phénomène étudié.

[4]Ce terme peut être traduit comme capacité à être digne de confiance.

La transférabilité: Cette dimension concerne la mesure dans laquelle la recherche est capable de faire des affirmations sur le monde. Cependant, au contraire de la validité externe, la transferabilité estime que l'applicabilité des résultats est sujet au contexte.

La constance[5]**:** Concerne la stabilité des données au cours du temps. Cette dimension est similaire à celle de la fiabilité, mais se centre sur la traçabilité du processus décisionnel au lieu de la réplication des résultats.

La confirmabilité: S'intéresse à attester que les conclusions, interprétations et recommandations représentent les résultats de la recherche et pas les biais du chercheur, l'objectif étant de démontrer comment les résultats peuvent être confirmés à travers des données.

Guba and Lincoln (1989) proposent un nombre de techniques qui peuvent être realisées dans la recherche qualitative afin d'atteindre les dimensions qu'ils proposent pour assurer la qualité de la recherche. Pour la première dimension, nous avons utilisé les techniques *d'engagement prolongé* et d'*observation persistante*. La première technique implique de dépenser le temps suffisant pour observer plusieurs aspects du contexte, de discuter et construire des relations avec plusieurs membres de l'organisation afin de développer la confiance. Cela a été obtenu grâce à une convention de recherche signée entre MSF Logistique et le CRET-LOG pour une durée d'un an renouvelé une fois. La deuxième technique a pour objectif l'identification des éléments les plus pertinents par rapport au phénomène étudié. Pendant la durée de l'étude, la discussion avec les membres de l'organisation nous a permit d'identifier certains points pertinents par rapport à notre recherche et d'aller plus loin dans notre enquête. Cela a été le cas de la participation au PPDL (Préparation Premier Départ Logistique), une formation d'une semaine qui met en situation réelle les futurs logisticiens de MSF et qui a introduit la perspective 'terrain' à la recherche. Une autre technique utilisée a été la triangulation de données (§ 5.3) et

le *peer debreifing*. Ce dernier a été atteint grâce à la participation aux différents ateliers des thèsards du laboratoire et d'autres ateliers doctoraux internationaux dans lesquels l'avancement de la recherche a été discuté. D'autres techniques comme l'analyse des cas négatives, l'adéquation référentielle ou la vérification des membres n'ont pas été utilisées.

Dans la dimension transférabilité, la technique utilisée est celle de la *description dense*, qui a pour objectif de décrire un phénomène suffisamment en détail pour qu'une personne puisse commencer à évaluer la mesure dans laquelle les conclusions tirées sont transférables à d'autres contextes, situations ou personnes. Les chapitres 6 et 7 font référence à cette technique. Pour la dimension constance, les auteurs proposent une *enquête d'audit* réalisée par un chercheur externe qui examine le processus et le résultat de la recherche. Cette technique n'a pas encore été réalisée car c'est, en l'occurence, la soutenance de cette thèse. Cependant, une partie de la recherche a été présentée lors d'une conférence internationale en logistique, fait qui nous permet d'atteindre partialement cette dimension. C'est aussi le cas de la technique *audit de confirmabilité* de la dimension confirmabilité.

Chapitre 6

Médecins Sans Frontières

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6.1 Introduction

Dans le chapitre précedant, l'utilisation des critères présentés dans l'introduction de cette thèse (cf. Figure 2 dans l'introduction) nous a amené à choisir une organisation humanitaire internationale spécialisée dans la réponse aux urgences mais qui est aussi présent dans les phases de rétablissement et développement: Médecins Sans Frontières. Comme il a été dit auparavant, MSF est une organisation reconnue par la Fondation Nobel pour son travail à vocation humanitaire. De plus, l'organisation a développé une expertise qui lui vaut d'être considérée comme une des ONG leaders du contexte humanitaire, apportant du support à ses propres missions ainsi qu'à d'autres ONGs.

L'objectif principal de ce chapitre, comme évoqué en l'introduction de la thèse, est d'identifier les compétences et capacités logistiques organisationnelles que MSF a développé tout au long de son histoire pour pouvoir répondre effectivement aux différentes urgences partout dans le monde. L'identifiation de ces compétences et capacités permettra à l'organisation de comprendre ses capacités logistiques et de mettre en place un processus d'amélioration continue de ces compétences et capacités afin d'augmenter sa performance. Pour cela, il est d'abord nécessaire de comprendre la structure de l'organisation ainsi que son fonctionnement. Ce chapitre sert donc d'introduction pour l'identification et analyse des compétences et capacités logistiques de MSF fait dans le chapitre 7. Dans les sections suivantes nous allons, dans un premier temps, présenter l'organisation (§ 6.2) pour ensuite découvrir MSF à travers son histoire (§ 6.3), afin de la positionner parmis les autres organisations humanitaires internationales. Ensuite, nous allons décrire sa structure d'un point de vue opérationnel (§ 6.4), pour ensuite découvrir la structure logistique de l'organisation (§ 6.5) avant de conclure avec quelques remarques. Tous les données et informations utilisées dans ce chapitre sont issus de la documentation interne de MSF ainsi que d'autres sources de communication de l'organisation tels que les différents sites web de l'organisation, les rapports d'activité, les reportages radio diffusés et des articles de presse.

6.2 Présentation MSF

Médecins Sans Frontières est une association médicale humanitaire internationale qui, depuis 40 ans, intervient dans des situations d'exception (conflits, épidémies, catastrophes naturelles) et de grande précarité, afin de porter assistance à ceux dont la vie ou la santé est menacée. Indépendante de tous pouvoirs politiques, militaires ou religieux, MSF agit en toute impartialité, après évaluation des besoins médicaux des populations. La garantie de l'indépendance de l'association s'enracine dans son financement, assuré par

la générosité de ses donateurs privés. En France, en 2010, 96,7% des ressources de MSF étaient d'origine privée. Aucun fonds n'est accepté du gouvernement français[1].

Réunies autour d'une même charte, les équipes de MSF sont composées de personnel médical, logistique et administratif de dizaines de nationalités différentes, expatriés ou employés localement. Elles apportent leurs secours dans le respect des principes de l'action humanitaire et de l'éthique médicale. A partir de ses activités et de la réalité observée sur le terrain, MSF rend compte de ses interventions. Elle peut être amenée à communiquer publiquement pour informer l'opinion du sort des populations, comme de l'ampleur, de l'efficacité ou des objectifs des secours engagés. Refusant l'idée d'une médecine au rabais pour les plus démunis, MSF s'efforce de prodiguer des soins de qualité et de faire évoluer ses pratiques. Par la Campagne d'Accès aux Médicaments Essentiels, et depuis quelques années grâce au DNDi[2], les actions de MSF ont contribué à faire baisser le prix des traitements contre le sida, et à relancer la recherche et le développement de médicaments pour traiter des maladies négligées comme la maladie du sommeil.

6.3 Histoire

Après son indépendance en 1960, le Nigeria peuplé d'environ quarante millions d'habitants, rentre dans l'instabilité permanente dû à sa multiplicité ethnique qui oppose notamment les Ibos, un peuple chrétien originaire du delta du Niger, région riche en pétrole, au pouvoir fédéral dominé par les Haoussas, musulmans du Nord. Début 1966, à la suite d'un coup d'Etat mené par de jeunes officiers ibos, une chasse à l'homme fait des dizaines de milliers de morts parmi les Ibos. Les rescapés fuient massivement le nord du Nigeria pour se réfugier dans leur région d'origine. La rupture est consommée. Le 30 mai 1967, le lieutenant-colonel Odumegwu Ojukwu, proclame solennellement l'indépendance de la République du Biafra. En réponse à cette sécession, le gouvernement militaire

[1] www.msf.fr
[2] Drugs for Neglected Diseases initiative

fédéral soumet le Biafra à un blocus, puis décide d'une opération de police pour le forcer à réintégrer la Fédération Nigériane. La répression de la sécession biafraise se transforme rapidement en une guerre civile aux ramifications internationales.

Au printemps 1968 le territoire biafrais s'amenuise. La population civile, coincée entre deux feux et craignant des massacres de la part de l'armée nigériane, n'a d'autre choix que de soutenir le gouvernement du Biafra et de se déplacer de camp en camp de réfugiés. C'est alors que pendant l'été 1968, deux millions de personnes environ mourront de faim, de soif et d'épidémies à cause du blocus terrestre et maritime de la poche biafraise; les photos d'enfants amaigris aux ventres ballonnés envahissent journaux et téléviseurs occidentaux, une crise humanitaire est déclarée. Sur place, les médecins de la Croix–Rouge, parmi lesquels Bernard Kouchner, sont témoin des attrocités et des masacres qui se déroulent sous leurs yeux sans pouvoir malheureusement rien dire (Maillard, 2008). Malgré le fait que le Comité International de la Croix Rouge (CICR) agit, il se refuse obstinément à parler. Ce n'est que lorsqu'une équipe de la Croix-Rouge yougoslave et des religieuses britanniques sont abattues sciemment par les soldats fédéraux à Ulli fin septembre 1968, qu'ils décident de rompre la loi du silence. Pour la première fois, les acteurs de l'urgence décident de faire appel à l'opinion publique pour essayer de mettre fin à ce qu'ils estimaient être un génocide (Brauman, 2009). Le 23 octobre 1968 aparaît dans *Le Monde* une lettre qui décrit de manière froide, le calvaire vécu par les populations. Puis, lors de sa rentrée à Paris, Bernard Kouchner cosigne une lettre ouverte aux chancelleries occidentales: *"[...] tout est mis en oeuvre pour décimer un peuple. Comment appelez-vous sa destruction systématique par des bombardements, le blocus économique utilisé comme moyen de guerre?"*[3]

[3]Cité dans *"Les French doctors sont nés au Biafra"* par Hofnung Thomas, paru le 23 mai 2008 dans le journal Libération.

Dans les mots de Bernard Kouchner, "autour de la table d'une salle de garde au Biafra naîtra, dans le mois d'octobre 1968, l'idée de Médecins Sans Frontières"[4]. Le sentiment d'insuffisance de réactivité vécu par les médecins de la Croix–Rouge Française, est à l'origine d'une première organisation appelée *Groupe d'Intervention Médico–Chirurgical d'Urgence*, une organisation de type SAMU fonctionnant selon les principes humanitaires à l'échelle international (Brauman, 2009). Puis, le 21 décembre 1971, un groupe de médecins et journalistes crée l'association Médecins Sans Frontières. Les uns sont des "anciens" du Biafra, les autres se situent dans la mouvance du journal médical Tonus qui lance un appel aux médecins pour porter secours aux victimes d'inondations au Pakistan oriental[5]:

> *"Médecins Sans Frontières est aujourd'hui un fait : il aura suffi que se lèvent, parmi les médecins français, quelques centaines d'hommes et de femmes de cœur, décidés à apaiser les cris de souffrance et de désespoir, dont, après la Jordanie et le Pérou, le sous–continent indien retentit encore. Le 22 décembre 1971, on votera donc cette mobilisation de volontés déterminées à faire tomber tous les barrages, toutes les frontières qui se dressent encore entre ceux qui ont vocation de sauver, de soigner, et les victimes de la barbarie humaine ou de ces dérèglements de la nature, raz-de-marée, tremblements de terre et autres catastrophes qui endeuillent les pays souvent les moins préparés à y faire face"*[6].

Lors de sa création, les 13 membres fondateurs définissent dans sa charte à Médecins Sans Frontières comme une association privée à vocation internationale qui rassemble majoritairement des médecins et des membres des corps de santé, ouverte aux autres professions utiles à sa mision. Tous souscrivent sur l'honneur aux principes suivants :

[4]Cité dans (Vallaeys, 2004, p. 51)

[5]Les fondateurs de MSF : Dr. Marcel Delcourt, Dr. Max Recamier, Dr. Gérard Pigeon, Dr. Bernard Kouchner, Raymond Borel, Dr. Jean Cabrol, Vladan Radoman, Dr. Jean-Michel Wild, Dr. Pascal Greletty-Bosviel, Dr. Jacques Beres, Gérard Illiouz, Philippe Bernier, Dr. Xavier Emmanuelli.

[6]"*L'appel aux médecins*" - Journal Tonus N°493, Décembre 1971

- Les Médecins Sans Frontières apportent leurs secours aux populations en détresse, aux victimes de catastrophes d'origine naturelle ou humaine, de situations de belligérance, sans aucune discrimination de race, religion, philosophie ou politique.

- Oeuvrant dans la plus stricte neutralité et en toute impartialité, les Médecins Sans Frontières revendiquent, au nom de l'éthique médicale universelle et du droit à l'assistance humanitaire, la liberté pleine et entière de l'exercice de leur fonction.

- Ils s'engagent à respecter les principes déontologiques de leur profession et à maintenir une totale indépendance à l'égard de tout pouvoir, ainsi que de toute force politique, économique ou religieuse.

- Volontaires, ils mesurent les risques et périls des missions qu'ils accomplissent et ne réclameront pour eux ou leurs ayants droit aucune compensation autre que celle que l'association sera en mesure de leur fournir.

Dans les premières années, l'objectif de MSF est certes de soigner, mais aussi de "témoigner" de l'horreur observée, et/ou des insuffisances, dysfonctionnements, manipulations constatées sur les lieux (Ryfman, 1999). Cette volonté de témoignage sera en 1979 la source de la deuxième fondation de MSF lorsque, à l'occasion de l'opération "Un bateau pour le Viêt-nam", Bernard Kouchner défend l'idée d'affréter un bateau avec des médecins et des journalistes pour témoigner des violations des Droits de l'homme dans ce pays et aussi pour évacuer les Vietnamiens qui avaient fui leur pays après que le Viêt-Nam fut devenu un pays totalement communiste. Cette position devient alors l'origine d'une scission avec la direction de MSF qui estima l'opération trop racoleuse. Comme résultat, Kouchner invente Médecins du Monde pour "soigner et témoigner" et Rony Brauman et Claude Malhuret de leur côté, entreprennent la "deuxième fondation de MSF" dont ils feront la principale organisation médicale d'urgence: mobile, efficace, professionnelle (Maillard, 2008).

À partir de sa création, Médecins Sans Frontières a porté secours aux populations en détresse lors des plus grandes crises humanitaires de l'histoire tels que les attaques à Nabora (Beyrouth) pendant la Guerre du Liban (1976), l'hiver Afghan pendant la Guerre d'Afghanistan (1980), la Famine en Èthiopie (1984), le tremblement de terre en Armenie (1988), le déplacement des Kurdes pendant la Guerre du Golfe (1991), le génocide au Rwanda (1994), le masacre de Srebrenica pendant la Guerre de Bosnie–Herzégovine (1995), la famine et l'exclusion des soins à Angola après 27 ans de guerre civile (2002), les déplacés, la famine et l'exclusion des soins pendant la Guerre civil au Darfour (2004), le Tsunamie en Asie (2004), la crise nutritionnelle au Niger (2006), les déplacés congolais pendant le conflit au Nord Kivu (2008), la méningite en Afrique de l'Ouest (2009) et plus récemment le tremblement de terre à Haïti (2010), parmi d'autres[7]. En reconnaissance de son "travail humanitaire pionnier dans plusieurs continents"[8], le Prix Nobel de la Paix a été attribué à MSF en 1999, ce qui n'a été sans causer un certain malaise au sein de l'organisation; l'inquiétude de voir dans la "nobélisation" l'institutionnalisation de leur organisation qui viendrait menacer son indépendance, tant revendiquée. La remise du Nobel est en fait l'occasion pour MSF de faire entendre sa voix, une opportunité médiatique internationale pour "pousser un coup de gueule" (voir Annexe 6). À Oslo, lors de la remise du prix, James Orbinski, président du Conseil international de Médecins Sans Frontières, dénonce publiquement les exactions de l'armée russe et demande à Boris Elstine d'arrêter ces bombardements meurtriers. Médecins Sans Frontières critique également vivement le rôle joué par les Nations unies au moment de l'attaque de Srebrenica, "zone de sécurité" abandonnées aux forces serbes de Bosnie.

> "*Les populations tchétchènes et de Grozny sont bombardées depuis plus de trois mois sans discrimination par l'armée russe. Il s'agit de vieillards, de malades, d'infirmes et d'enfants qui ne peuvent quitter la ville. (...) Il ne*

[7] http://www.msf.fr/msf/notre-histoire
[8] http://www.nobelprize.org/nobelprizes/peace/laureates/1999/index.html

> *s'agit pas d'un combat pour la paix, mais pour la protection et la dignité des personnes victimes de la guerre et des autres formes d'injustice. (...) Dès sa fondation, Médecins Sans Frontières a choisi de se battre au quotidien pour associer le secours et le témoignage en faveur des populations en danger, en rupture avec la tradition des organisations humanitaires. Autrement dit : nous ne sommes pas sûrs que la parole sauve toujours, mais nous sommes certains que le silence tue.*"

Aujourd'hui, Médecins Sans Frontières est reconnue comme une des principales ONGs dans le monde humanitaire, présente dans la plus part des crises humanitaires avec une particularité caractéristique, la volonté d'être un "cavalier seul". En effet, en 2011 MSF fête ses 40 ans avec le slogan "40 ans d'indépendence". C'est, dans les mots de Marie–Pierre Allié, Présidente de Médecins Sans Frontières, "*l'occasion pour nous de réaffirmer l'identité que notre association s'est forgée au fil des années, pour devenir un acteur médical international indépendant et reconnu. Partie de presque rien mais avec beaucoup d'aplomb et de conviction, Médecins Sans Frontières compte désormais près de 22 000 volontaires à travers le monde. C'est au gré de l'évolution du monde et de notre capacité à le comprendre que MSF a adapté son action humanitaire internationale. Résolument tournés vers l'avenir, c'est avec lucidité que nous abordons la prochaine décennie, en inscrivant nos principes fondamentaux, et en particulier notre indépendance, au coeur de cette année anniversaire*"[9]. Cette indépendance est centrée sur quatre piliers:

- **Pratique médicale autonome** : les Médecins Sans Frontières ont adapté leurs techniques et leurs pratiques médicales pour améliorer la qualité des soins apportés et les conditions dans lesquelles ils sont délivrés. Ils agissent aussi pour défendre l'accès aux médicaments essentiels et encourager les innovations médicales indispensables à l'amélioration de la santé des populations les plus démunies.

[9]Marie–Pierre Allié dans *"MSF, 40 ans d'humanitaire d'urgence, revendique un esprit de révolte intact"*, AFP, 21 Déc. 2011.

- **Indépendance financière**: grâce à ses donateurs réguliers, MSF a la capacité d'intervenir de manière autonome et de façon très réactive quel que soit le contexte.

- **Impartialité**: Les décisions d'intervention sont indépendantes des choix politiques ou économiques des états. Les réponses sont apportées en fonction des besoins des populations et évaluées en toute indépendance par les équipes.

- **Liberté de ton** : dès sa création, MSF a souhaité associer le témoignage à l'action. En 1985 lors de la famine en Ethiopie, ou en 2005 après le tsunami, l'organisation a pris la parole pour dénoncer les manipulations ou les dérives dont l'action humanitaire peut faire l'objet.

De ces quatre piliers, c'est peut être l'indépendance financière celle qui permet à MSF de "rester indépendant des pouvoirs"[10]. Cette indépendance financière permet à MSF d'intervenir immédiatement en cas d'urgence, sans attendre que des fonds institutionnels se débloquent, mais aussi d'intervenir dans des domaines négligés, comme les maladies tropicales, ou auprès de populations oubliées (MSF, 2011d). Au coeur de cette autonomie financière se trouve une forte mobilisation des donateurs. En 2010, les donations faites à MSF ont franchi le seuil de 200 millions et se montent à 229,1 M€dont 167,1 M€sont des ressources privées issues de la recherche de fonds, permettant à MSF d'agir en totale indépendance des pouvoirs politiques, économiques ou confessionnels (MSF, 2011g). Les autres ressources (54,5 M€) sont principalement composées des marchandises et prestations facturées par *MSF Logistique* et *Epicentre* aux autres sections MSF et organisations. La part des financements institutionnels publics (7,5 M€) reste marginale et représente 3,3% du total des ressources combinées.

[10]Marie–Pierre Allié dans *"MSF, 40 ans d'humanitaire d'urgence, revendique un esprit de révolte intact"*, AFP, 21 Déc. 2011.

6.4 Activités et structure

Tel qu'il a été introduit auparavant, Médecins Sans Frontières est une association médicale humanitaire internationale présente dans plus de 60 pays. Dans ces pays, MSF développe une grande varieté de programmes et projets avec l'objectif d'apporter du secours aux populations (voir Encadré 6.1 pour une explication de la terminologie MSF). Quatre types d'intervention caractérisent l'activité de MSF:

Conflits: Depuis la création de MSF, les conflits armés et leurs conséquences sur les civils représentent la majorité de ses raisons d'intervention sur le terrain. Selon les situations, l'organisation assure de la chirurgie d'urgence, s'investit dans la construction ou réhabilitation des hôpitaux et des centres de santé, déploie des équipes mobiles pour fournir des consultations médicales, intervient dans les camps de déplacés ou de réfugiés, assure des soins spécifiques comme la nutrition ou encore le choléra.

Epidémies, endémies, pandémies: Les maladies infectieuses sont les premières causes de décès dans les pays en développement. En situation épidémique, l'organisation déploie ses équipes pour vacciner la population contre la fièvre jaune, la rougeole, ou encore la méningite, ainsi que pour soigner ceux qui sont déjà malades et en danger de mort avec des médicaments efficaces. Les équipes s'investissent aussi dans le traitement de maladies spécifiques comme le sida, la tuberculose ou le paludisme, mais aussi des pathologies encore plus négligées comme la maladie de Chagas ou la leishmaniose viscérale pour lesquelles des traitements satisfaisants n'existent pas ou ne sont pas accessibles.

Catastrophes naturelles: Après un tremblement de terre, un cyclone, ou encore des inondations, MSF peut apporter des soins médicaux aux blessés, mais aussi fournir des abris, de l'eau, des couvertures, des kits d'hygiène, des biens de première

nécessité ou encore distribuer de la nourriture aux rescapés. Dans un second temps, une intervention psychologique auprès de ceux qui ont survécu mais ont tout perdu s'avère souvent nécessaire. Les interventions post catastrophes naturelles de MSF relèvent de l'urgence et non de la reconstruction.

Exclusion des soins: Dans de nombreux pays des groupes vulnérables et marginalisés tels que les étrangers illégaux, les enfants abandonnés et les personnes âgées sont privés de soins vitaux en raison de politiques d'exclusion à leur égard. MSF intervient d'une manière modeste dans ce type de situations avec des consultations, des interventions chirurgicales, de la nutrition, et des soins psychologiques, entre autres.

Encadré 6.1 : Terminologie MSF

Dans le monde MSF, il existe desormais trois niveaux de définition des activités engagées sur le terrain:

Le programme: Concerne un groupe de projets qui partagent un objectif global commun. On parlera, par exemple, d'un *programme de lutte contre la Tuberculose multi-résistante (MDR TB)* ou un *programme de nutrition*. Ces programmes peuvent être entrepris dans un ou plusieurs pays, et impliquent d'autres activités en dehors des projets, comme par exemple, la recherche, la collecte de fonds, etc.

La mission: Concerne la présence MSF dans le pays. Elle ragroupe les équipes d'expatriés (médecins, infermièrs, logisticiens, comptables, etc.), ainsi que la population locale qui collabore aux activités de l'organisation. On parlera, par exemple, de la *mission MSF Burundi* pour se référer aux équipes de MSF qui se trouvent au Burundi. Les missions peuvent être ouvertes par les différentes sections MSF et développer un ou plusieurs programmes et projets dans le pays.

Le projet: Concerne un groupe d'activités développées par les équipes MSF avec un objectif spécifique qui peut contribuer (ou pas) à l'objectif global d'un programme. Dans le cas d'un programme MDR TB, on parlera par exemple du *projet de dépistage*, du *projet de Traitement Sous Observation Directe (DOTS)* ou même d'un *projet de traitement TB pour des prisonniers*.

L'opération: Ce terme est utilisé au sein de l'organisation pour se référer principalement aux activités d'urgence. Contraire aux programmes et aux projets, les opérations sont d'une durée très courte et développées dans un endroit spécifique. On parlera, par exemple, d'une *opération de secours* ou d'une *opération de vaccination en masse*.

En outre, MSF a développé tout au long son histoire des expertises très pointues dans le traitement des pathologies comme le choléra, le paludisme, la rougeole ou la méningite, entre autres, mais aussi dans d'autres domaines comme la distribution d'abris et de matériel de premier secours, la distributions de nourriture, ou l'approvisionnement en eau potable. Pour pouvoir intervenir dans une telle quantité de pays, l'organisation a mis en place une structure internationale qui permet de déployer les équipes partout dans le monde.

6.4.1 MSF, un mouvement international

Depuis sa création en 1971, Médecins Sans Frontières a manifesté sa volonté de créer un mouvement international d'abord en Europe, puis jusqu'en Australie, au Japon et aux Etats-Unis. Aujourd'hui, MSF compte 19 sections indépendantes réunies autour d'une seule et même charte. Des 19 sections, à savoir France (création en 1971), Belgique (1980), Suisse (1981), Hollande (1984), Luxembourg, Espagne (1986), États-Unis, Grèce (1990), Canada, Italie, Japon (1992), Suède, Danemark, Allemagne, Royaume-Uni (1993), Australie, Autriche, Hong Kong (1994) et Norvège (1995), cinq sont des centres opérationnels (OC): Paris, Bruxelles, Amsterdam, Genève et Barcelone. Les 14 restants se chargent de la collecte de fonds, de la communication, du recrutement et certaines mènent des opérations sous la responsabilité d'un des cinq centres opérationnels (voir Figure 6.1). MSF compte avec un Conseil International constitué des présidents des 19 sections et d'un Bureau International (crée en 1991) qui représente l'organisation au niveau international, notamment par le biais d'un président international élu, et facilite les débats au sein du mouvement. Il est important de signaler que les ressources humaines peuvent être partagées entre sections. Cependant, chaque section mène ses projets, leur finances et gouvernance de manière indépendante, tout en assurant un échange d'information dans un souci de cohérence. Lors d'urgences de très grande ampleur, les différentes sections qui interviennent s'efforcent de se répartir la tâche pour déployer des secours plus efficaces.

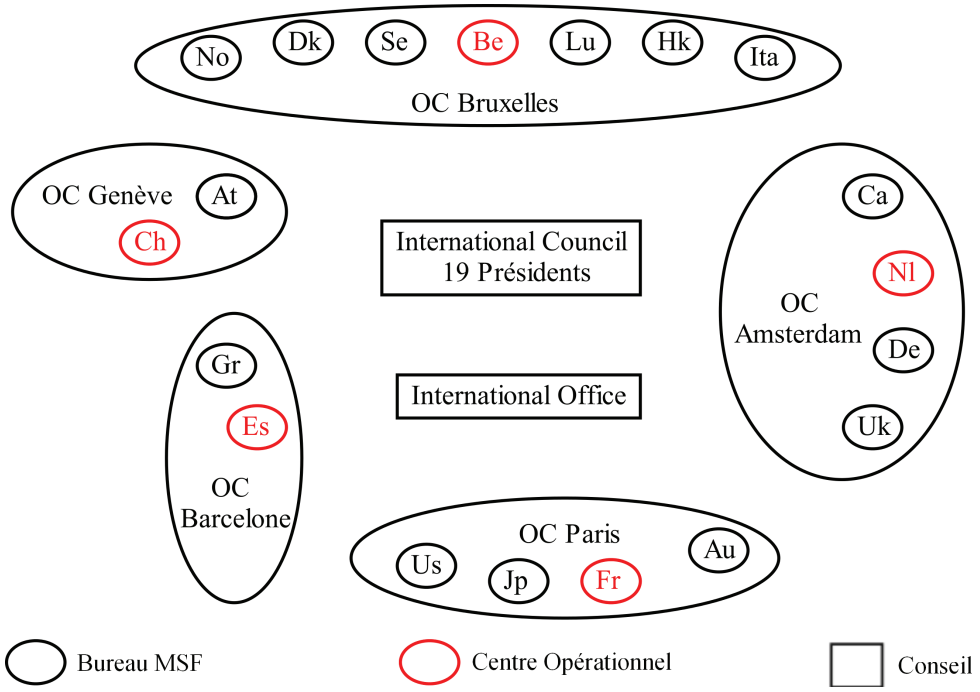


Figure 6.1: Structure organisationnelle du mouvement international MSF

6.4.2 La structure opérationnelle de MSF

Qu'il s'agisse d'accueillir des populations déplacées à cause des affrontements au Darfour ou de vacciner des millions de personnes contre la méningite en Afrique de l'Ouest, Médecins Sans Frontières suit le même schéma d'organisation pour ses missions et opérations (voir Figure 6.2). Sur place, une équipe projet assure le bon déroulement des activités au quotidien et la relation avec les autorités locales. Dans la capitale, une équipe de coordination est responsable de l'ensemble des projets menés dans le pays. Les grandes orientations des projets sont pilotées à partir de Paris, New York ou encore Tokyo ou Sydney. Autour des responsables chargés des opérations de secours et garants de leur bon fonctionnement, le département médical et les autres départements de soutien apportent leur expertise en fonction des besoins du terrain. Trois niveaux sont alors distingués:

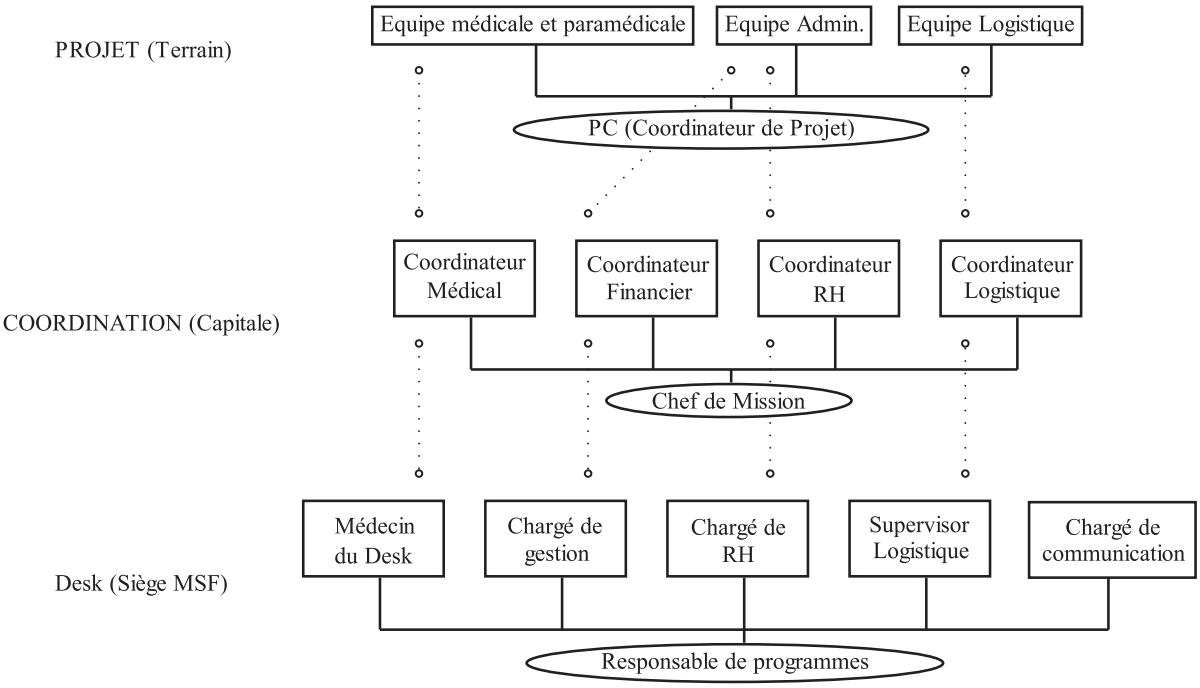


Figure 6.2: Structure organisationnelle d'une mission MSF

6.4.2.1 Le terrain

Ce premier niveau se trouve au plus près des bénéficiaires. Les équipes sont constitués de personnels nationaux et internationaux et sont dimensionnés et composées en fonction de la nature du programme et de ses objectifs. Un programme (par exemple, la lutte contre la Tuberculose) est constitué de plusieurs projets opérationnels (diagnostique, traitement, prévention, soutien psychologique et social, etc.), ou de plusieurs projets avec des cibles différentes (une population, une region, etc.). Dans chaque projet, on trouve trois types d'équipes qui regroupent plusieurs métiers:

- *Une équipe médicale* (équipe chirurgicale, équipe de médecins et d'infirmiers, techniciens de laboratoire, pharmaciens, kinésithérapeutes, psychologues et psychiatres) dont la composition varie en fonction de l'intervention,

- *Une équipe administrative* pour prendre en compte les aspects financiers et budgétaires, mais aussi les aspects de ressources humaines (règlement intérieur, contrats de travail, recrutement, licenciement, paie,...), et

- *Une équipe logistique* (logisticien général, logisticien eau & assainissement, constructeur, approvisionneur, gestion de stocks, architecte, électricien, technicien biomédical, chaufeur, acheteur, gardien, employé de maison...). L'équipe logistique est structurée en fonction de l'activité médicale (vaccination, gestion hospitalière, distribution,...) mais aussi des besoins de soutien logistiques (construction, sanitation, transports, ...).

Le coordinateur de projet supervise ainsi la mise en oeuvre des activités en lien avec l'équipe de coordination de la capitale. Il développe les contacts avec les représentants locaux des autorités et les partenaires locaux; il veille aussi au respect des consignes de sécurité.

6.4.2.2 La capitale

Dans ce deuxième niveau on trouve une équipe unique de coordination qui vient en appui technique des équipes du terrain, et qui travaille sur les orientations à court et moyen terme des différents projets et activités menés dans le pays. Quatre types de coordinateurs composent cette équipe:

- *Le chef de mission* (en lien avec l'équipe desk du siège) planifie et coordonne la mise en oeuvre des projets sur le terrain, représente l'association auprès des autorités nationales et est responsable de la sécurité des équipes sur le terrain. En équipe avec l'ensemble des coordinateurs, il définit la stratégie d'intervention et les activités qui y contribuent. Ensemble, ils maintiennent une réactivité aux urgences qui peuvent survenir dans le pays.

- *Le coordinateur médical* veille en outre à la santé des équipes expatriées et nationales dans leurs composantes préventives et curatives; il est responsable de la gestion des commandes de médicaments et de matériel médical. Il est le garant de l'adaptation sur le terrain des protocoles médicaux MSF et de leur application. Il peut s'appuyer sur les conseils du médecin du desk et des spécialistes du département médical, au siège de l'association, pour des questions techniques.

- *Le coordinateur logistique* gère l'approvisionnement, les stocks et le transport, et appuie les logisticiens sur le terrain. Il est responsable des moyens de communication, qui jouent un rôle essentiel pour assurer la sécurité d'une mission. Il s'assure également de l'adéquation des structures de santé -hygiène, énergie et eau. Enfin, il définit des réponses opérationnelles dans son champ d'activité: abris les plus adaptés à une situation de déplacement de populations, adéquation des infrastructures sanitaires, etc.

- *Le coordinateur financier* et ressources humaines est responsable de la gestion financière des programmes, et prend en charge la partie administration des personnels nationaux et internationaux (règlement intérieur, grille des fonctions, niveau des salaires, couverture médicale, contrats, etc).

6.4.2.3 Le siège

À Paris on trouve le département des opérations qui est constitué de huit desks : sept desks réguliers et un desk des urgences (voir Tableau 6.1). L'équipe de chaque desk est constitué d'un représentant de chaque département, en appui au département des opérations, auquel appartient le Responsable de Programmes. Le représentant du département médical assiste le personnel en mission sur le terrain grâce aux connaissances de plusieurs techniciens médicaux, chacun étant référent dans les domaines de la médecine générale ou spécialisée, la chirurgie, la kinésithérapie, les soins de santé mentale, la gestion

de la pharmacie, les différentes pathologies (VIH, Tuberculose, maladie du sommeil, paludisme...), etc. Les terrains d'interventions de MSF étant très nombreux, le personnel médical peut être amené à rencontrer une grande diversité de problématiques médicales, d'où l'importance du support du siège. Le représentant du département logistique fournit un support au personnel de terrain concernant les domaines de la construction, de l'hygiène-eau-assinissement, de l'approvisionnement, du fret, de la sécurité, etc. D'autres départements assistent les opérations, tels que le juridique, la comptabilité, les ressources humaines, la communication.

Tableau 6.1: Répartition des pays par Desk (2010)

Desk A	**Desk B**	**Desk C**	**Desk E**	**Desk F**	**Desk Urgences**	**Desk NY**	**Desk Tokyo**
Georgie, Kenya, Sudan	Cambodia, Colombie, RDC, Russie	France, Irak, Iran, Jordan, Kurdistan	Chad, Mali, Niger, Yemen	Centrafique, Malawi, Pakistan, Palestine	Urgences + Mission explo.	Ethiopie, Haiti, Nigeria, Somalie, Uganda	Armenia, Burkina Faso, China, India, Sri Lanka

Malgré l'indépendance de chacune des sections MSF, cette structure opérationnelle est répandue dans toute l'organisation et elle gère toute l'activité MSF (urgence et développement).

6.5 La logistique à MSF

L'histoire de MSF est pleine d'anécdotes qui sont en réalité des circonstances dans lesquelles elle s'est forgée son *éthos*, cette politique du "cavalier seul" qui s'étend partout dans l'organisation, y compris dans sa logistique. Rony Brauman raconte, lors d'un entretien, une anécdote qui est peut être à l'origine de l'autonomie logistique de MSF:

"*En 1977, nous avons eu une mésaventure avec Hôpital Sans Frontières, une association fondée par le Rotary club et qui a disparu depuis. Par contrat, HSF devait fournir à MSF la logistique médicale d'intervention – tente-hôpital, matériel médical, transports - permettant au personnel médical de MSF de faire son travail, à une époque où MSF n'avait aucun moyen. Je n'étais pas à MSF à l'époque et je ne fais que rapporter cette histoire qui avait marqué l'association. Une mission HSF-MSF avait été mise en place au Zaïre, dans la province du Shaba où avaient afflué des réfugiés d'Angola. Un jour, sans que personne n'en soit averti, l'hôpital a été enlevé par des Transalls de l'armée française, dans le cadre de manœuvres conjointes franco-zaïroises, et rapatrié en France pour être débarqué sur l'aéroport de Villacoublay en présence du président Giscard d'Estaing! Il faut dire que le président d'HSF était directeur commercial des engins Matra (fabriquant notamment des missiles...) et un proche du Président de la République. En plus, le matériel était incohérent, incomplet, la structure ne fonctionnait pas. Cette histoire, que l'on se répétait en rigolant et sans doute en l'exagérant, a contribué au développement d'une culture de l'auto-suffisance dans tous les domaines, que nos tribulations politiques ultérieures n'ont fait que renforcer*"[11].

6.5.1 De l'intendance à la logistique

Cambodge, Janvier 1979: le génocide cambodgien s'achève après quatre ans de régime Khmer rouge. En octobre, après plusieurs mois d'errance, 30.000 réfugiés franchissent la frontière dans un état catastrophique (Brauman, 2004). C'est là que Jacques Pinel, pharmacien et futur inventeur de la logistique à MSF, rencontre pour la première fois MSF en découvrant une "organisation sans organisation" et s'aperçoive des besoins logistiques

[11] *"Médecins sans Frontières ou la politique assumée du « cavalier seul »"*, entretien réalisée par Jean-Jacques Louarn, Grotius international, 3 Avril 2011

nécessaires pour permettre à une équipe médicale de faire son travail médical. Dans ses propres mots, "*il y avait des réfugiés partout, tout le monde était débordé par la situation. Dans un coin des tentes MSF, il y avait plein de cartons sous une bâche, pour les protéger de la pluie. Chacun venait se servir, chercher, voir ce qu'il y avait. Il fallait s'y coller! Ce fut pour moi la conception de « l'intendance » – on n'appelait pas encore ça la logistique à l'époque (...) Donc je suis rentré par le côté « médicaments » et puis par proximité, c'est un peu cette organisation générale que j'ai commencé à mettre en place. Il y avait une partie d'administration, et une autre d'intendance de base: que les voitures fonctionnent, que les contrats de location soient renouvelés, que les chauffeurs soient payés, qu'il y ait de l'argent en caisse, etc. Et comme ça marchait bien, deux ans après mon arrivée, les dirigeants de l'époque m'ont proposé de venir à Paris faire un peu la même chose pour le reste du monde*"[12]. C'est donc pendant les années 80 que Médecins Sans Frontières décide que, pour porter secours aux populations affectées par une crise, il est impératif de se doter d'un outil logistique de qualité.

En 1986, la section française de Médecins Sans Frontières crée une centrale d'achat, liée à son département de support technique médical et logistique, afin de pouvoir répondre rapidement aux besoins tout en gardant la maîtrise totale de la chaîne d'approvisionnement. Depuis 1992 la centrale d'achat, appelée *MSF Logistique* (§ 6.5.3), s'installe à Mérignac près de Bordeaux dans une surface de 36.000 m^2 dont 2700 m^2 d'entrepôt, avec l'objectif de faire l'approvisionnement médical (médicaments, matériel médico–chirurgical, etc.), non-médical (véhicules, réservoirs d'eau, nourriture, etc.) des missions de toutes les sections avec une grande fiabilité et qualité (MSF, 2011b). Reconnue d'Utilité Publique, Etablissement Pharmaceutique, Etablissement sous Douane, validée *Humanitarian Procurement Center* par ECHO (agence humanitaire de l'union européenne) et apte à organiser des transports dangereux et des chaînes de froid

[12] *Entretien avec Jacques Pinel : organiser l'action médicale d'urgence*, 4 Avril 2011, accesible sur www.msf.fr

spécifiques, aujourd'hui MSF Logistique met en place un projet d'agrandissement du site de Mérignac afin de doubler la capacité de stockage de 5.000 à 10.000 m^2 et de réhabiliter et construire du tertiaire supplémentaire (MSF, 2011g).

De son côté, la section belgue crée en 1989 sa propre centrale d'approvisionnement, *MSF Supply*, à Merchtem près de Bruxelles. Cette centrale d'achat est en charge de la livraison du matériel médical et des médicaments sur le terrain, de son conditionnement et du dédouanement des marchandises pour les différentes sections de MSF ainsi que d'autres ONGs. Dans son entrepôt de 6.500 m^2, MSF Supply offre entre autres la gestion des stocks, l'approvisionnement en urgence et la fabrication de kits. Simultanément, la section hollandaise a créé un bureau d'achat, Amsterdam Procurement Unit (APU), basé à Amsterdam. À la différence de MSF Logistique et MSF Supply, centres logistiques et de stockage, l'APU est un bureau d'achat qui s'approvisionne en fonction de ce que commandent les missions. Les activités de réception, stockage et de logistique de distribution sont sous-traitées à des transitaires et la plupart des produits sont achetés auprès de distributeurs, tandis que MSF Logistique et MSF Supply s'approvisionnent directement de lots entiers chez les fabricants. Cependant, des partenariats existent entre les différentes entités. MSF Supply et MSF Logistique sont les premiers fournisseurs d'APU concernant les kits et la gestion des stocks d'urgence.

Avec une telle quantité de missions à approvisionner, un grand nombre de fournisseurs de tous types localisés par tout dans le monde et des contraintes géographiques et politiques importantes, il serait possible de dire que la logistique à MSF devient de plus en plus complexe, ayant besoin d'une approche différente de celle de la logistique classique tel qu'il a été expliqué dans le Chapitre 3. À travers son histoire, MSF a développé une structure logistique adaptée aux différentes contraintes issues du terrain.

6.5.2 La structure logistique MSF

L'objectif principal de la logistique à MSF est d'assurer un approvisionnement de qualité aux missions et opérations, que ce soit en situation d'urgence ou pour un approvisionnement régulier (MSF, 2011b). Cependant, l'activité médicale étant le cœur de métier de Médecins Sans Frontières, sur le terrain, la logistique prend en charge un grand nombre d'activités en support à l'activité médicale. On peut donc distinguer deux types de logistique à MSF: une logistique d'approvisionnement et une logistique de support aux équipes qui se trouvent sur place.

6.5.2.1 La logistique d'approvisionnement

L'approvisionnement des programmes est un volet important de l'activité logistique d'une mission. Cette activité consiste à fournir aux missions le matériel nécessaire pour répondre aux besoins opérationnels exprimés par le terrain. Afin de garantir la qualité des produits et des services fournis, MSF a mis en place un mode opératoir pour les achats selon le type de matériel: logistique ou médical. Le matériel logistique comprend un grand nombre d'articles qui sont regroupés par familles telles que *administration* (informatique, matériel de bureau, norriture pour les équipes), *camp* (construction, abris, équipement pour l'eau), *program support* (communication, électricité, éclairage, outillage) et *transport* (accessoires véhicules, bateaux, véhicules, consommables véhicules). Ce type de matériel peut être acheté localement à condition de respecter les spécifications MSF trouvables dans le *catalogue logistique* (voir Annexe 7). De son côté, le matériel médical comprend des *produits pharmaceutiques* (médicaments, matériel stérile) et *médico-nutritionnels* (Ready-to-Use Therapeutic Food ou RUTF). Ces produits nécessitent pour leur achat des compétences techniques très spécialisées et sont soumis à des règles nationales et internationales, par conséquent ce type de produits est acheté à l'international. Pour la gestion, le matériel acheté et utilisé par MSF se divise en deux catégories (MSF, 2011b):

- Matériel consommable: C'est le type de matériel avec une valeur d'article généralement basse, une gestion faite par quantité et non à la pièce, une durée d'utilisation limitée, une notion de consommation et sans suivi après la sortie de l'entrepôt (e.g médicaments, pièces détachées, carburant, nourriture, etc.)

- Matériel d'équipement: C'est le type de matériel avec une valeur d'article généralement élevée, une gestion à la pièce, une durée d'utilisation étendue, une notion de parc et d'inventaire pour la gestion et un suivi après la sortie de l'entrepôt (stérilisateurs, générateurs, motopompes, ordinateurs, etc.)

Quel que soit le type d'article, un certain nombre de critères techniques (e.g. politique d'achat, standards MSF, technicité), économiques (e.g. coût global d'acquisition, budget et trésorerie disponibles, impact sur le marché local) et logistiques (article en stock, délais, procédure d'importation, poids/volume) doivent être pris en compte pour déclencher la commande du matériel. Comme résultat, deux grands types d'approvisionnement sont possibles (Figure 6.3).

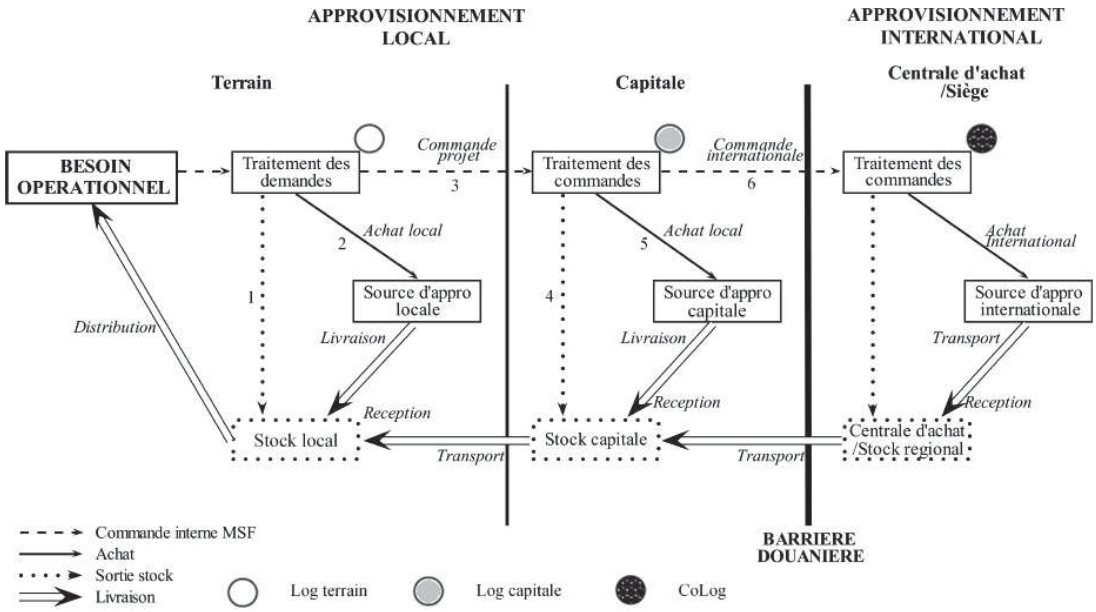


Figure 6.3: Schéma global chaîne d'approvisionnement MSF

Approvisionnement local

L'approvisionnement local peut représenter une part non négligable du budget d'une mission. Cela est effectué quand l'interdiction des importations impose l'achat sur le marché local, quand le projet prévoit une reprise par des acteurs locaux qui devront s'approvisionner sur le marché local ou pour tous les articles lourds, volumineux, fabriqués localement ou ne présentant pas de risques particuliers sur le plan technique. Neanmoins, un certain nombre de critères, comme les spécifications MSF, la disponibilité des pièces détachées pour les équipements nécessitant une maintenance, ou la famille du produit, doivent être respectés.

Lorsqu'une mission exprime un besoin opérationnel, l'équipe de terrain déclenche une commande afin d'approvisionner la mission. Dans un premier temps, la commande est traitée par le responsable d'approvisionnement de la mission. Après vérification de l'état du stock et des possibilités d'achat local selon les critères mentionés auparavant, le responsable appro doit mesurer le niveau d'urgence de la commande et choisir entre faire une sortie du stock local (1) ou acheter localement (2) et assurer le transport et la distribution. Si aucune de ces deux options est envisageable, la commande est transmise au **logisticien de terrain** (log terrain), chargé de coordonner les activités de l'équipe logistique de sa mission et de gérer les commandes nationales et leur réception, entre autres. La commande devient alors une *commande projet* (3) et elle est envoyée à l'équipe en capitale.

À ce niveau, le **logisticien assistant de capitale** (log capitale) chargé de coordonner les activités de l'équipe logistique de capitale, de gérer la partie administrative de la logistique et de gérer les commandes nationales, a trois options: l'utilisation du stock de la capitale (4), l'achat en capitale (5) ou la réaffectation entre missions. Si aucune des options est envisageable, la commande est transmise au **Coordinateur Logistique** (Colog), chargé d'organiser et superviser le travail de l'équipe logistique de capitale afin de

garantir le meilleur support logistique des missions et de centraliser et gérer les commandes internationales. La commande devient alors une *commande internationale* (6) et elle est envoyé au siège ou à la centrale d'achat pour faire un approvisionnement international.

Approvisionnement International à travers la centrale

Toute commande qui dépasse une barrière douanière, fait partie du circuit d'approvisionnement international. Pour MSF France, la centrale d'achat utilisée c'est *MSF logistique* (§ 6.5.3), basée à Merignac. La vocation de cette centrale d'achat est d'approvisionner les missions MSF au meilleur coût, dans les meilleurs délais et en facilitant la tâche des missions (MSF, 2011b). Cependant, l'approvisionnement international peut être fait à travers d'autres entités différentes à MSF Logistique. Par example, dans le passé MSF France a utilisé une centrale d'achat basée à Bangkok (Asia Logistic) entre 1990 et 1993, et actuellement il existe une unité d'approvisionnement regionale basée au Kenya (SUN – Supply Unit Nairobi) et une base logistique basée à Dubai.

Pour le cas d'un approvisonnement international de produits médicaux ou non-médicaux à travers la centrale MSF Logistique, il existe deux types de commande internationale et par conséquent, deux circuits de validation/envoi:

- Les commandes **hors programme** (urgence, nouveau programme, commande hors budget initialement prévu) qui doivent impérativement être transmises par le terrain au desk MSF Paris en charge du pays ou au desk urgence. La commande est prise en charge par le **superviseur logistique** (Superlog) responsable du desk qui contrôle ces commandes, les valide et les transmet avec accord pour préparation au secteur Opérations de MSF Logistique.

- Les commandes **de programme** (réapprovisionnement des programmes existants, connus et suivis par les desk Paris) qui peuvent être envoyées directement au secteur Opérations MSF Logistique. Certaines commandes nécessitent un accord préalable du desk.

Dans le cadre de ce fonctionnement, le secteur Opérations de MSF Logistique est en charge de l'analyse des commandes, de leur validation interne, et du suivi de la préparation et de l'acheminement fait par les services de production et transport, respectivement. D'autres services comme le technique, la pharmacie ou le magasin peuvent intervir à différentes étapes ou sur des questions spécifiques si nécessaire. Cependant, les choix définitifs concernant les articles commandés (type, quantités, possibilité d'importation), le mode de transport et l'adresse de livraison restent sous la responsabilité de la coordination de la capitale (Colog).

6.5.2.2 La logistique de support

Bien que l'approvisionnement soit un aspect important dans le développement d'une mission, la logistique au sein de MSF ne se limite pas à la gestion des flux physiques. Un grand nombre de métiers servent de support à l'activité principale de l'organisation (la médecine d'urgence), mais aussi aux autres activités développées par MSF comme l'abri, la sanitation, la nutrition et la vaccination entre autres. Les métiers sont regroupés par domaine et pour chacun des domaines il existe un référent technique au siège, et des responsables, des superviseurs, des spécialistes, des consultants et du personnel qualifié et non qualifié sur le terrain[13]. Les domaines décrits dans ce qui suit montrent à quel point la logistique à MSF va au-delà de l'approvisionnement et intégre d'autres fonctions nécessaires aux différents projets développés par MSF.

[13]Le descriptif de chaque domaine a été développé à partir des descriptions de poste du 26 Juin 2010

Administration

Les métiers regroupés dans ce domaine ont pour objectif l'assistance et le support aux équipes dans les différentes aspects administratives rencontrés sur le terrain. Parmi les tâches principales on trouve la gestion administrative du personnel national (établissement des contrats, bulletins de salaire et paiement, respect de la législation, suivi des contrats et des journaliers, suivi du personnel et des mouvements, entre autres), la comptabilité (réalisation de la clôture de fin de mois, envoi comptable, inventaire de caisse, suivi du journal de caisse et du cahier des avances, entre autres), la supervision et organisation du travail de l'assistant-administration (contrôle du travail de l'assistant: vérification des écritures, libellés et codes comptables, suivi mise à jour régulière du journal de caisse et respect des procédures concernant les avances, suivi du poste frais de vie ; accord des dépenses et du budget prévu, suivi des contrats de bail, entre autres), et la gestion du personnel international (suivi des mouvements, formalités administratives locales et visas en règle avec les autorités locales, entre autres).

La mission du responsable logistique-administration comporte deux grands axes: les secours non médicaux apportés par MSF (abris, nourriture, eau-hygiène-assainissement et biens de première nécessité) et le support aux secours médicaux (infrastructures, matériel, stockage, approvisionnement et transport). Il rend compte au coordinateur logistique en capitale et au coordinateur de projet sur le terrain, et encadre le superviseur du garage et/ou le(s) mécanicien(s), chauffeur (s) et autres superviseurs. Ainsi, il est en charge de la gestion des ressources humaines (composition et encadrement d'équipes, bilan individuel, formation continue et cadre administrative).

Construction

Dans ce domaine, ont trouve tous les métiers liés aux activités de constructions et/ou de réhabilitations du projet pour les besoins des programmes développés par MSF. Les principales tâches sont la préparation des travaux (élaboration des projets de construction dans leur globalité, identification des ressources en matières premières disponibles localement, planification détaillée des différentes phases de travaux, définition des besoins et des moyens pour la réalisation du projet, devis budget et appui technique au responsable approvisionnement pour la validation de fournisseurs locaux et/ou régionaux), la supervision des travaux (bonne exécution des travaux en respect avec les procédures MSF, contrôle de la qualité sur le chantier, contrôle de l'état d'avancement des travaux), la gestion des commandes et de l'approvisionnement (réception et validation des commandes relatives à son domaine d'activité, gestion du stock, contrôle des inventaires mensuels avec le magasinier et les superviseurs, contrôle des consommations, et appui technique à l'acheteur pour l'approvisionnement local), la constitution des budgets et gestion des dépenses (reporte mensuel de l'état d'avancement de travaux, facturation en relation avec l'état d'avancement de travaux,trésorerie et paiements mensuels à l'entreprise de construction), et la transmission de l'information et analyse de l'activité (état d'avancement de travaux, rapport de suivi financier, rapport technique de suivi de chantier, suivi administratif de la construction).

La mission du responsable construction est de planifier à court et moyen terme les projets à mettre en place en collaboration avec l'équipe de coordination. Il élabore les projets, coordonne le montage des études, suit les travaux de construction et/ou de réaménagement dans les différentes structures prise en charge par MSF, et supervise et gère toutes les équipes de construction dans le pays. Il rend compte au coordinateur logistique et au coordinateur de projet, et encadre l'architecte, le superviseur de travaux, les techniciens spécialisés (e.g. l'électricien) et les chefs d'équipes.

Flotte véhicules et garage

La gestion de parc véhicules doit garantir la bonne adéquation des moyens aux regard des besoins en termes de véhicules. Ici sont réunis tous les métiers en rélation aux véhicules et d'autres engins motorisés. Les principales tâches sont la gestion des véhicules et d'autres engins motorisés (organisation et réalisation des services standard de la flotte de capitale et sur les projets, opérations de maintenance et des réparations poussées, évaluation technique de tous les véhicules et engins de location et des compagnies de transport, suivi de la consommation mensuelle des véhicules, entre autres), la gestion du matériel et des pièces détachées (gestion de la commande annuelle internationale de pièces détachées, identification des fournisseurs, approvisionnement local, gestion du stock des pièces détachées en capitale et sur le terrain, approvisionnement des projets, entre autres), la gestion du garage, outillage et équipements (organisation du travail et la répartition des tâches, plannification des services et des interventions, entretien des locaux et des infrastructures, inventaire mensuel de l'outillage de l'atelier et des différents véhicules, entre autres), et la constitution des budgets et gestion des dépenses (budget annuel du fonctionnement du garage et du coût d'utilisation des véhicules et autre engins, des interventions sur les véhicules et autres engins et de la consommation en carburants et consommables).

Le responsable de flotte véhicules, parc mécanique et garage assure la gestion du parc véhicule et des engins motorisés de la mission (générateurs, pompes, etc.), le fonctionnement correct de tous les véhicules de la mission, la supervision du stock des pièces détachées et consommables dans la capitale et sur le terrain ainsi que l'outillage et les équipements (atelier), le suivi de consommation des carburants, la supervision du garage. Il sélectionne aussi les chauffeurs, assure l'encadrement des équipes qu'il supervise, et assure le suivi administratif de la flotte (taxes, assurances, immatriculation, etc.) et du garage. Il rend compte au coordinateur logistique ou au colog adjoint et encadre le

superviseur du garage et/ou le(s) mécanicien(s) et chauffeurs.

Eau, hygiène et assainissement (EHA)

Ce domaine est responsable du bon approvisionnement en eau du (des) projet(s), tant en quantité qu'en qualité, de l'assainissement des différentes structures prise en charge par MSF et de la lutte anti-vectorielle. Les principales tâches sont l'approvisionnement en eau des projets (planification et organisation de l'approvisionnement et le traitement de l'eau sur les projets, entretien du matériel d'approvisionnement, suivi des consommations en eau et en réactifs, entre autres), l'assainissement (planification et organisation de la mise en place des structures pour l'élimination d'excreta, planification et organisation de la mise en place des systèmes d'évacuation et de traitement des eaux usées, planification et organisation de la collecte et le tri des déchets par structure et/ou par services, entre autres), la lutte anti-vectorielle (planification et mise en oeuvre des mesures nécessaires pour lutter contre les différents vecteurs en fonction de l'environnement et des individus), et la gestion des commandes et stocks (organisation physique du matériel, établisement des commandes EHA en fonction du matériel en stock, du calendrier des travaux et des contraintes du terrain, réception des commandes EHA, vérification des quantités reçues et sorties, réception des inventaires mensuels et des analyses).

Le responsable Eau, Hygiène et Assainissement (LogEHA ou LogWatsan) garantie le bon approvisionnement en eau et est chargé du suivi des installations hydrauliques et d'assainissement en lien avec le(s) responsable(s) logistique(s) terrain. Il rend compte au coordinateur logistique et au coordinateur de projet et encadre le superviseur de forage, le superviseur EHA, les techniciens spécialisés, et agents d'assainissement, entre autres.

Afin d'assurer la fourniture de la logistique d'approvisionnement et de support, les missions se reposent sur les différentes centrales d'achat MSF selon l'affectation de la mission.

6.5.3 La centrale d'achat MSF Logistique

L'une des centrales d'achat que possède Médecins Sans Frontières pour approvisionner ses équipes au terrain, est **MSF Logistique** (MSFLog), une centrale d'achat et d'approvisionnement créée en 1986 par la section française afin de pouvoir répondre rapidement aux besoins tout en gardant la maîtrise totale de la chaîne d'approvisionnement. Recconue comme établissement pharmaceutique par le Ministère de la Santé Français, soumis au respect des Bonnes Practiques de Distribution (BPD),et validé Humanitarian Procurement Center par ECHO, MSFLog dispose d'un important stock en matériel d'urgence très varié (voir Tableau 6.2), maintenu opérationnel en permanence, disponible 24h/24, 7 jours sur 7, et mobilisable immédiatement grâce à un statut d'entrepôt sous douanes pour des opérations d'urgences (MSF, 2011b). Cette structure a pour objet de permettre l'approvisionnement direct en matériels divers (médicaments, dispositifs medicaux, et matériel médical et 'non-médical') nécessaires à l'accomplissement de leurs missions humanitaires à l'étranger, pour toutes les sections de MSF ainsi que pour d'autres ONG ou agences internationales à vocation humanitaire et but non lucratif. Cet approvisionnement s'entend d'une prestation incluant l'achat, le stockage, la préparation, et l'acheminement des dits matériels.

Tableau 6.2: Stock d'urgence à Mai 2012

	Lignes de produit	Qté. Articles	Prix en €	Poids en Kg.	Volume en m^3
MSFF	502	432.496	934.101,03	58.517,08	392,36
TB MSFF	8	217.500	590,41	2,99	0,01
MSFCH	479	186.660	739.386,4	39.730,66	264,866
MDM	130	266.721	190.954,78	5.941,91	38,675
CICR	28	29.380	9.947,01	1.473,09	8,51

MSFF = Médecins Sans Frontières France
TB MSFF = Tuberculose MSFF
MSFCH = Médecins Sans Frontières Suisse
MDM = Médecins Du Monde
CICR = Comité International de la Croix-Rouge

6.5.3.1 Activités de MSF Logistique

À travers son histoire, MSF logistique a développé un certain nombre d'activités qui permettent d'assurer l'approvisionnement des missions et de répondre aux besoins exprimés par les différents centres opérationnels. Ces activités, définies comme des processus, représentent le périmètre d'intérvention de la centrale et sont divisés dans deux grands groupes, à savoir les *activités de réalisation* et les *activités support*, en plus de l'activité de direction générale (voir Figure 6.4). Chacune de ces activités implique l'intervention des différents secteurs et services pour sa réalisation (cf. § 6.5.3.2).

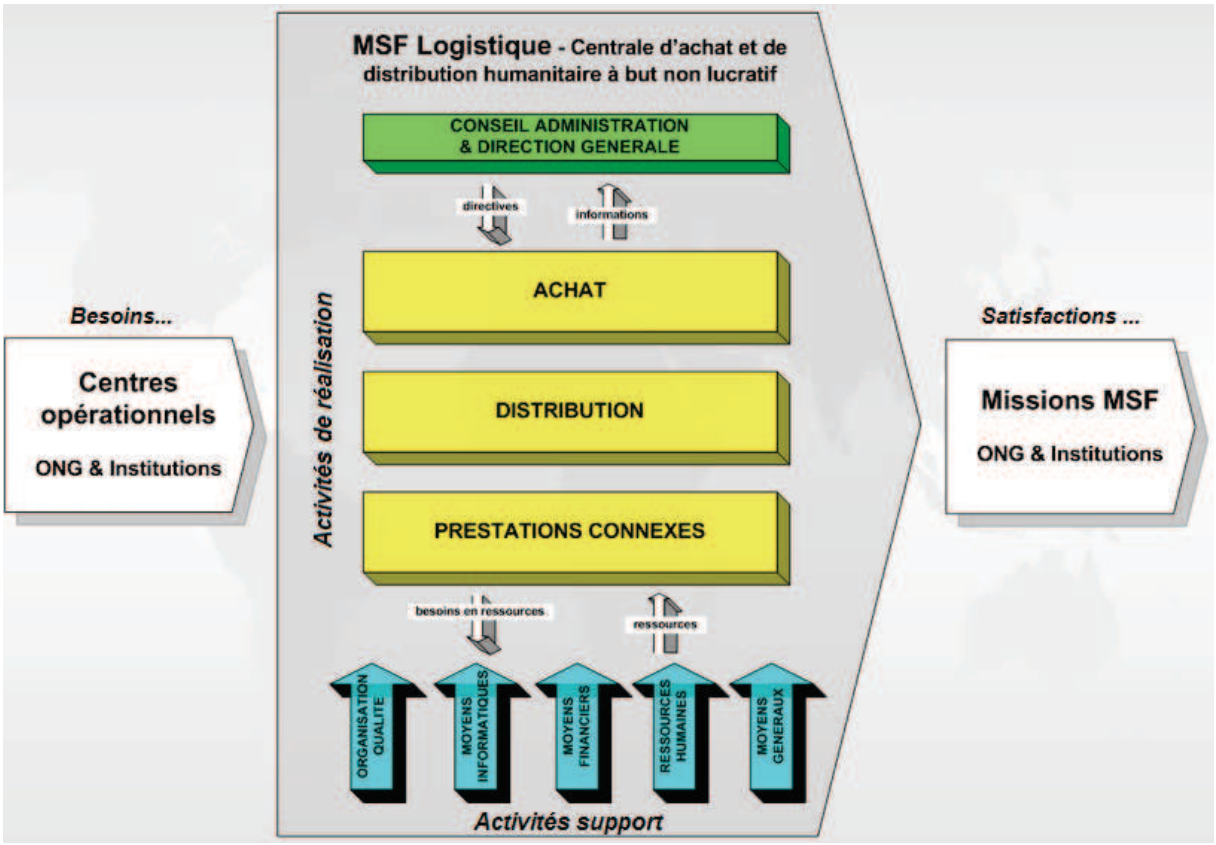


Figure 6.4: Périmètre d'intervention MSF Logistique

Dans le groupe d'activités de réalisation, on trouve trois processus qui décrivent le cœur de métier de la centrale: le processus 'achat', le processus 'distribution' et le processus 'prestations connexes'. Le processus achat est en charge d'analyser le marché de fournisseurs des différents produits et services utilisés par l'organisation, de selectionner les produits, les services et les fournisseurs, ainsi que de négocier les conditions, et d'assurer la performance des fournisseurs et de l'adéquation du produit/service aux besoins. Pour cela, un nombre d'informations comme les besoins exprimés du terrain, le marché de fournisseurs, les réglementations nationales et internationales, ainsi que les données propres à MSF (contraintes logistiques, procédures, structure, politique, etc.) sont nécessaires afin de participer à la définition des besoins des utilisaters et pouvoir, comme résultat, proposer une liste de fournisseurs qui répondent aux besoins avec les meilleures conditions possibles, et établir les différents contrats.

Le processus distribution est en charge principalement d'assurer le traitement de la demande de la manière la plus efficiente possible. En partant des demandes des différents clients (missions, centres opérationnels ou autres ONGs) et des prévisions, le processus prend en compte les différentes contraintes (pays, produit et/ou fournisseur), ainsi que les éxigences réglementaires et la politique interne de l'organisation, afin de garantir la satisfaction du client. Pour cela, le processus est divisé en huit sous-processus avec des finalités très particulières (voir Tableau 6.3).

Tableau 6.3: Composants du processus distribution

Sous-processus	Finalité
Analyse	Assurer le traitement de la demande de manière efficiente pour obtenir la satisfaction du client. Garantir l'existance et la fiabilité des données nécessaires en interne pour le traitement de la commande.
Stockage	Garantir la maintenance du stock de produit tout en respectant les réglementations en vigueur propres du statut de la centrale (établissement pharmaceutique et entrepôt sous douane).
Appro-planification	Assurer la mise en œuvre de la réponse à apporter pour satisfaire le carnet de commande, en collaboration étroite avec les secteurs associés.
Réception et contrôle qualité	Enregistrer la réception (opération physique et informatique) des livraisons fournisseurs et identifier les produits non-conformes.
Préparation	Assurer la préparation (colisage, étiquetage) des commandes confirmées.
Facturation marchandise	Valoriser les produits packés à la vente.
Organisation du transport	Préparer l'expédition des commandes packées.
Comptabilité	Intégrer dans le système d'information comptabilité les factures et avoirs marchandises et transport. Envoyer pour réglement, les factures et avoir marchandise et transport aux clients. Suivre et enregistrer les paiements client.

Finalement, le processus prestations connexes est en charge de l'appui technique des missions et participe à la formation du personnel qui se trouve sur le terrain. Le processus répond aux besoins en compétences et expertise métier de la part des différents clients, ainsi que aux propositions d'intervention dans les domaines de compétence de la centrale, et comme résultat, assure le fonctionnement des missions. Dans le groupe d'activités support, on trouve cinq processus qui contribuent au bon déroulement des activités de réalisation. Ces processus incluent les moyens informatiques, les ressoruces humaines, les moyens généraux, l'organisation qualité et les moyens financiers (voir Figure 6.5).

Qu'il soit des activités de réalisation ou support, les différents processus réalisés au sein de la centrale nécessitent la participation d'un nombre important de professions qui contribuent à l'accomplissement des objectifs de l'organisation.

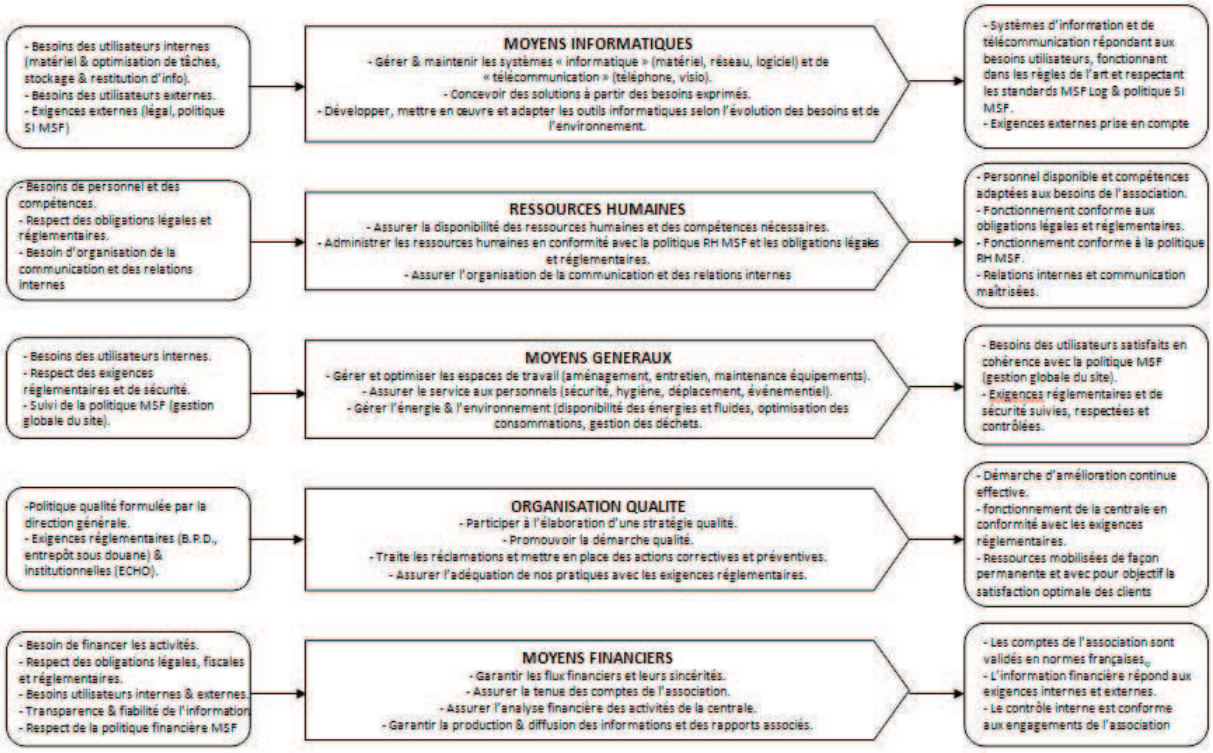


Figure 6.5: Processus activités support MSF Logistique

6.5.3.2 Structure organisationnelle

La centrale MSF Logistique articule une grande variété de métiers autour d'un objectif précis: la qualité du produit et du service. Des spécialistes dans chaque domaine se chargent du choix des articles et des sites de fabrication (dans le cas des produits pharmaceutiques), de leur adaptation (le cas échéant) pour satisfaire les besoins des équipes sur le terrain et faire face aux contraintes du contexte, en plus des opérations propres de la logistique. La centrale est composée de 3 directions (Supply Chain, Finances et Établissement Pharmaceutique) qui sont le support de la direction générale (voir Annexe 8). Le cœur de métier étant l'achat, l'approvisionnement (distribution) et les prestations connexes, les directions financière et établissement pharmaceutique, ainsi que les services Qualité, Qualité fonctionnelle des Systèmes d'Information, Informatique, Ressource Humaines et Services Généraux, servent de support à l'activité de MSF Logistique. La direction Supply Chain est composée de 6 secteurs structurés comme suit:

Opérations

Le secteur des opérations, joue le rôle d'interface entre les équipes de terrain et l'approvisionnement, et est en charge d'améner le produit sur le terrain avec l'accord et la validation du siège (§ 6.3.2.3). Quand il s'agit d'une urgence, la demande vient directement du desk urgence et le secteur coordone l'expédition du matériel. S'il s'agit de l'approvisionnement régulier, la demande vient du terrain (avec une validation du desk pays) et le secteur est responsable de la gestion de la prise en charge de la commande depuis l'approvisionnement du matériel jusqu'à la livraison sur le terrain y compris le service après vente en cas de réclammation. Quelle que soit la source de la demande, le secteur des opérations transmet la commande au secteur stock (préparation/expedition) pour préparer la commande et déclencher si nécessaire une demande d'approvisionnement et/ou l'achat d'un produit.

Issus pour la plupart du terrain, les opérateurs du secteur sont divisés en deux groupes, médical et non médical, sous la direction du responsable du secteur. L'équipe d'opératrices médicales est composée de quatre infirmières et une pharmacienne, toutes avec une expérience terrain importante dans le domaine médical, des connaissances en logistique et un fort sens de l'organisation. Elles sont en charge de toutes les commandes médicales (équipement et médicaments) et leur objectif est de satisfaire les besoins des équipes terrain avec un intérêt particulier sur la qualité du service fourni. De son côté, l'équipe d'opérateurs non-médicaux est composée de deux logisticiens avec une très vaste experience terrain dans le domaine de la logistique et une connaissance importante du domaine médical. Son objectif est de répondre aux demandes non-médicales du terrain en assurant aussi une bonne qualité du service. Repartis par pays, les opérateurs médicaux et non médicaux ont une forte connaissance du contexte où les produits sont envoyés (contraintes logistiques, situation géopolitique, etc.) et portent conseil aux équipes terrain sur le choix des articles.

Achats - Technique

Le secteur achats-technique est le résultat de l'évolution du contexte humanitaire et plus spécifiquement de MSF Logistique. Anciennement appelé seulement 'technique', le secteur était chargé de trouver le produit le mieux adapté pour répondre aux besoins du terrain exprimés par le secteur des opérations, tandis que l'activité achat était intégrée au secteur approvisionnement. Aujourd'hui, le secteur combine ces deux activités, inclut les caractéristiques du fournisseur dans le choix du produit et établi des indicateurs de performance au niveau achat afin d'améliorer la relation fournisseur. L'objectif étant toujours la qualité du produit et du service fourni, le secteur achats-technique identifie partout dans le monde les fournisseurs capables de répondre aux exigences de MSF en termes de qualité et délai, fait une analyse des différentes offres produit/fournisseur et négocie constament le prix. Lié directement au secteur des opérations, l'achat-technique répond aux demandes d'achat des nouveaux produits ou des produits qui ne sont plus en stock et fait une proposition au secteur approvisionnement. Le secteur se charge aussi du conseil technique des différents produits qui se trouvent sur le terrain.

Tout comme le secteur des opérations, le secteur achats-technique est divisé en deux groupes, médical et non médical, sous la direction du responsable du secteur. L'équipe médicale est composée de quatre référents produit, deux acheteurs et un acheteur-référent. Issus du domaine médical (infirmiers, pharmaciens) et ayant une expérience terrain, les référents produits sont en charge de la validation technique des produits, divisés par familles (§ 6.4.2.1), l'assurance qualité et la composition et suivi de l'évolution des kits. Les acheteurs pour leur part, n'ont pas une formation au domaine médical et se chargent de la partie commerciale du choix des produits. Finalement, l'acheteur-référent est un ingénieur bio-médical chargé tant de la validation technique que de la partie commerciale de ce domaine très spécifique. D'autre part, l'équipe non médicale est composée d'un référent produit, un acheteur et de deux acheteurs-référents. Les trois fonctions répondent aux

mêmes exigences que pour l'équipe médicale, mais leur expérience terrain est beaucoup plus importante et ils sont en charge de tous les produits considérés non médicaux.

Planification approvisionnement

Le secteur planification approvisionnement, résultat aussi de l'évolution du contexte et issu de l'ancien secteur achat/approvisionnement, est en charge de la gestion de stock de tous les produits avec lesquels travaille MSF et de plannifier, sur la base des historiques de consomation et des prévisions, l'approvisionnement des missions de l'organisation. Suite à une demande d'approvisionnement de la part du secteur des opérations, le secteur planification approvisionnement choisit en fonction des propositions du secteur achat-technique, les couples produit/fournisseur qui répondent le mieux à la demande du terrain, le critère le plus important étant le délai.

Au contraire des secteurs opérations et achat technique, le secteur plannification approvisionnement ne travaille pas par groupe (médical et non médical) mais distribue les produits MSF par famille. L'équipe est composé de 5 approvisionneurs plus le responsable du secteur, ayant tous une large expérience dans l'approvisionnement (la plupart dans le secteur privé) et ayant participé au moins à une mission terrain. Chaque approvisionneur est responsable de gérer le stock de produits de ses familles ainsi que les fournisseurs de ces produits. Pour l'approvisionnement régulier, l'intérêt du secteur c'est de maintenir le niveau de stock à jour afin de répondre aux demandes du secteur des opérations. Cependant, lorsqu'une urgence est déclenchée le stock s'avère par fois insuffisant, l'approvisionneur est alors chargé de trouver parmi ses fournisseur celui capable de fournir le plus rapidement les produits requis.

Stock (Réception)

Au cœur de l'activité logistique, un des premiers secteurs a avoir évolué est le secteur stock qui, dans le passé, gérait les différents flux d'entrée et sortie de MSF Logistique.

Aujourd'hui, et dû à l'augmentation des flux, l'activité est divisée en deux: le secteur stock qui prend en charge la réception et le stockage des produits MSF et le secteur production qui se charge des flux sortants. Entre autres tâches, le secteur stock est reponsable du contrôle de la qualité des produits ainsi que de la traçabilité des produits pharmaceutiques (médicaments, psychotropes, matériel stéril, etc.) et médico-nutritionnels.

Sous la direction du responsable du secteur, trois chefs d'équipe se chargent de la gestion des magasiniers (6 en permanence) ainsi que de la gestion de l'entrepôt. Ses tâches principales sont l'optimisation du stock en fonction de la rapidité de la préparation des commandes, le suivi du stock, et l'organisation générale de l'entrepôt. De leur côté, les magasiniers sont divisés selon l'activité: un groupe se charge de la réception de la marchandise et du contrôle physique, un deuxième groupe prend en charge la marchandise déchargée, fait un contrôle (quantité, n° lot, date de péremption, etc.) et saisit les informations dans la base de données, un troisième groupe se charge de la mise en stock dans les différentes zones (chambre froide, produits dangereux, médicaments, matériel logistique, etc.) et finalement un quatrième groupe se charge des activités de maintenance de l'entrepôt.

Production (Préparation de commandes et kits)

Chargé des flux sortants de l'entrepôt, le secteur production est responsable de l'ordonnancement de la préparation des commandes, la fabrication des kits et l'expédition. Lié directement au secteur stock, le secteur production répond aux commandes faites par le terrain à travers du secteur des opérations. La commande validé par le secteur stock, les équipes de production font le ramassage (*picking*) à l'aide de l'application de gestion d'entrepôt du progiciel de gestion intégré Nodhos qui indique l'emplacement du produit dans l'entrepôt ainsi que l'information de la commande (quantité de produit, numéro de lot, etc.). Une fois les produits ramasés, ils sont ensuite emballés dans des cartons homologués par les Nations Unies, selon les spécifications des pays où les produits

sont expédiés (date de péremtion, pays d'origine du produit, normes sanitaires, etc.). Les produits classés "sous chaîne de froid" (produits sensibles à la chaleur ou au froid) nécessitent un transport et un stockage sous une température contrôlée et donc, ils sont emballés dans des cartons isotherme susceptibles de mieux résister aux variations de température pendant les temps de transport vers les terrains.

Sous la direction du responsable stock, l'équipe du secteur production est composée de 10 magasiniers préparateurs chargés de la préparation des commandes, d'un magasinier expéditeur étant chargé de l'expédition, d'un responsable atelier et quatre chefs d'équipe.

Frêt (transport)

Le dernier acteur de la direction Supply Chain MSFLog (hors le service après vente), le secteur frêt est en charge d'organiser le transport des marchandises au niveau international par mode aérien, par voie maritime ou éventuellement par transport routier pour les pays qui sont accessibles par la route. Avec les informations sur les pays où les produits doivent être expédiés (accessibilité, douane, etc.) transmises par le secteur des opérations, et l'information sur la commande (nombre de colis, volume, poids, etc.) transmise par le secteur production, le frêt choisit la meilleure option en fonction du délai et du prix, ayant comme but de faire parvenir la marchandise à l'adresse convenue afin de garantir la bonne qualité du produit. Si nécessaire, et souvent utilisé dans le cas d'une urgence, le secteur a la possibilité d'affréter un avion complet pour le faire atterrir dans des aéroports qui se trouvent à proximité de la zone affectée.

Afin de distribuer la charge de travail des expéditions, le secteur frêt est divisé en trois équipes. Une équipe d'exploitants frêts composée de quatre exploitants, tous avec une formation en transport et expérience terrain, est chargée de l'organisation du transport international (choix de type transport, contact avec les compagnies et transitaires, douanes, etc.), l'affrètement des avions complets et de résoudre les problèmes sur le terrain

à travers des missions d'appui. Une deuxième équipe d'agents de transit se charge aussi de l'organisation du transport, mais à une échelle plus réduite, et une équipe d'agents transport/aide frêt qui sert de soutien aux deux autres équipes. La cellule avion, qui n'est pas rattachée au secteur, mais qui travaille en collaboration avec les équipes du secteur, est en charge de l'affrètement des petits avions (moins d'une tonne) et des avions entre une et sept tonnes.

6.5.3.3 Chiffres

En moins de dix ans, la capacité de MSF Logistique a été doublée. Entre 2003 et 2011, la centrale est passée d'un effectif de 47 salariés à 90, et d'une capacité de stockage de 5.000 m^2 à 8.200 m^2. En outre, l'activité a été multipliée par trois, avec une quantité totale de 5.600 Tonnes expédiées en 2011 contre 1.500 en 2003, et un revenu d'activité de 64 M€ contre 20 M€ en 2003. Les figures 6.6 et 6.7 montrent l'évolution de l'activité en termes des commandes traitées par la centrale dans la période 2007 – 2012. Ainsi, la Figure 6.8 montre la répartition de toutes les commandes terrain en fonction de leur origine, c'est-à-dire, le lieu de stockage d'où les articles ont été expédiés, tandis que la Figure 6.9 montre le mode du transport utilisé pour acheminer les différentes commandes terrain.[14].

[14]Les différentes graphiques ainsi que d'autres données sont accessibles par l'intranet de MSF Logistique

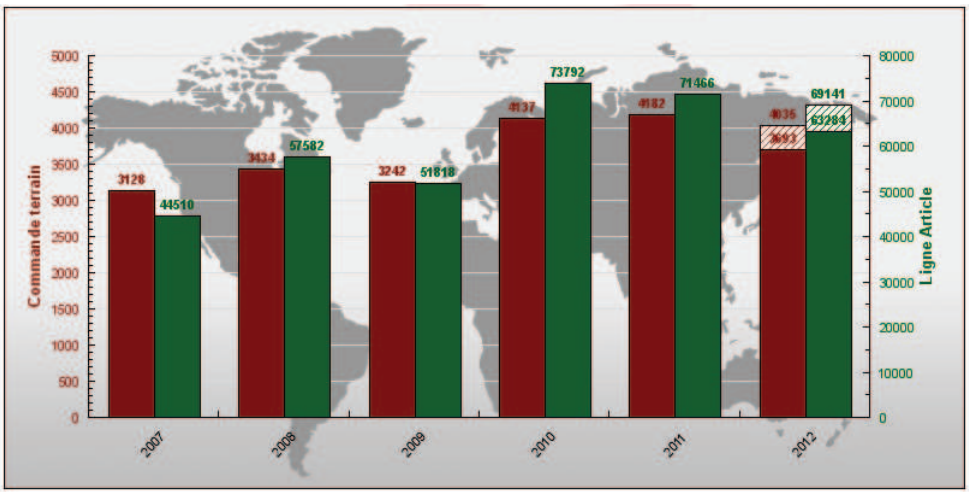


Figure 6.6: Commandes terrain confirmées à Nov. 2012

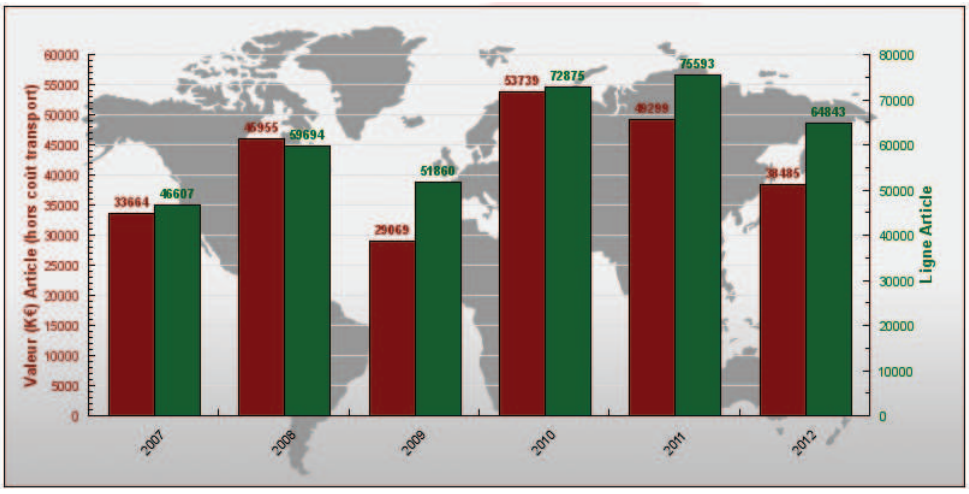


Figure 6.7: Commandes préparées à Nov. 2012

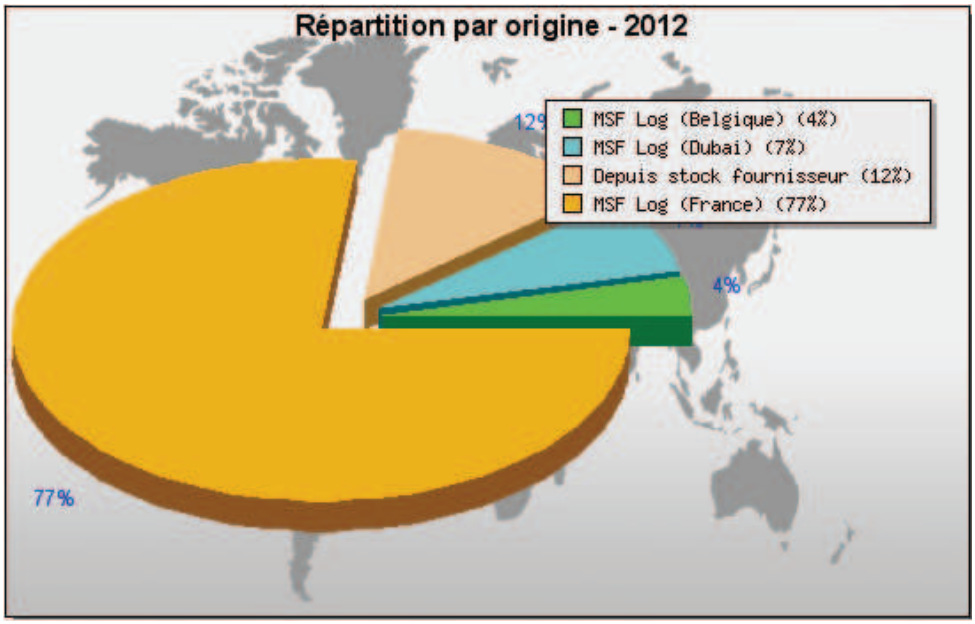


Figure 6.8: Répartition commandes par origine 2012

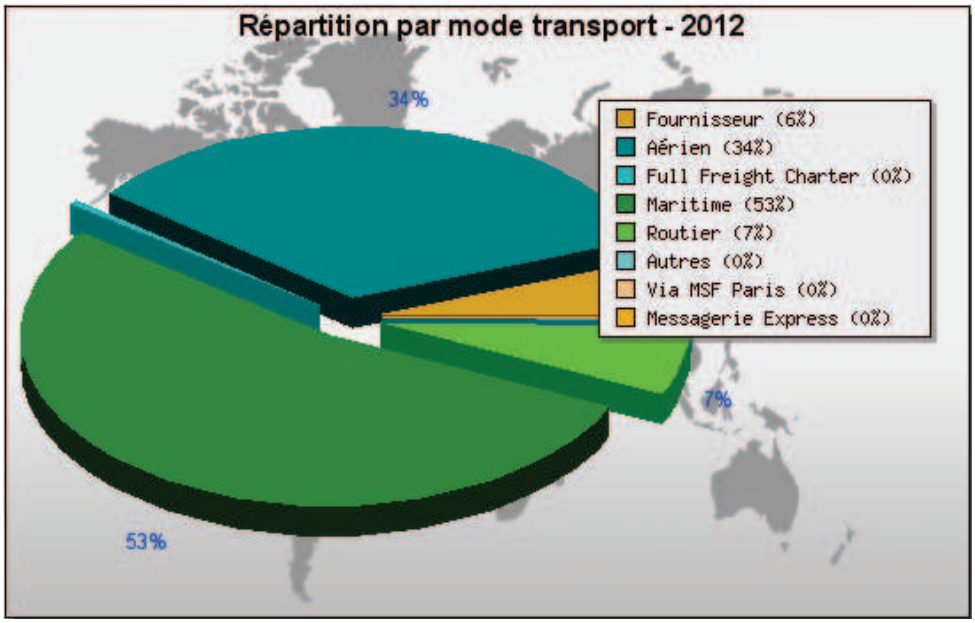


Figure 6.9: Répartition commandes par mode de transport 2012

6.6 Conclusion

Le sixième chapitre de cette thèse introduit Médecins Sans Frontières, une organisation humanitaire internationale spécialisée dans la médicine d'urgence qui, depuis 1971, est présente dans les plus grandes crises humanitaires mais aussi dans les urgences silencieuses et dans des crises peu médiatisées. Le chapitre a présenté un panorama de l'histoire de MSF depuis ses débuts pendant la guerre de Biafra jusqu'à nos jours, et a précisé les quatre pilliers de l'indépendance de MSF, la caractéristique potentiellement la plus évidente de l'organisation. Tel qu'il a été expliqué dans la synthèse de la partie II, la plupart des organisations humanitaires internationales de grande taille spécialisées dans l'urgence, font partie d'un mouvement plus important et sont souvent sujets à des contraintes politiques. Le statut d'association de MSF permet à l'organisation de travailler en toute liberté sans avoir aucun label politique ou religieux. Cependant, cet esprit d'indépendance répandu dans toute l'organisation peut être perçu comme un frein, car toutes les sections sont indépendantes les unes des autres, tant en termes financiers comme au niveau de la gouvernance. C'est pour cela qu'il est nécessaire de connaître en détail la structure organisationnelle et opérationnelle de l'organisation.

Au niveau organisationnel, MSF compte 19 sections dans tout le monde, réunies autour de cinq centres opérationnels (OC) et un bureau international. Chaque centre opérationnel est responsable de la définition des missions et projets menés sur le terrain. Les sections pour leur part sont en charge de la collecte de fonds, du recrutement et de la communication. Au niveau opérationnel, l'organisation est divisée en trois niveaux (terrain, capitale et siège), ayant chacun des équipes médicales, administratives et logistiques. Tel qu'il a été dit auparavant, chaque section (et chaque centre opérationnel) agit de manière indépendante et donc, le système d'approvisionnement peut varier d'une mission à une autre. Par exemple, l'OC Amsterdam a décidé d'externaliser toute sa logistique à des prestataires de service logistique, tandis que les OC Paris et Bruxelles

ont créé leur propre plate-forme logistique. Avec une telle structure, la logistique à MSF mérite d'être approfondie.

Depuis ses origines en 1979, la logistique à MSF a toujours eu une culture de l'autosuffisance, une adaptation continue des connaissances de plusieurs domaines à un contexte où les moyens ont toujours été limités. Avec l'évolution du contexte, MSF a dû mettre en place uns structure logistique fiable capable d'approvisionner les équipes sur le terrain dans des délais très courts mais aussi, d'apporter un support à l'activité médicale. Alors, deux types de logistique sont distinguées: la logistique d'approvisionnement et la logistique de support. La première est responsable de la gestion des flux physiques (matériel médical, équipement, et fournitures) depuis le fournisseur, en passant par les plateformes logistiques, et jusqu'à la mission sur le terrain, tandis que la logistique de support met à disposition de l'activité médicale un grand nombre de métiers nécessaires pour le bon fonctionnement des activités médicales sur le terrain. Ce panorama de l'organisation et du fonctionnement de la logistique de MSF nous permet de faire une première analyse sur le statut de la logistique au sein de MSF.

Dans la conclusion du chapitre 3, nous avons discuté sur le possible décalage qu'existe entre la logistique humanitaire et celle du secteur commercial et nous avons pu constater que, loin de n'être qu'une logisitique 'antique' ou archaïque, la logistique humanitaire a su adapter les pratiques de la logistique commerciale selon les besoins du contexte. Ce constat est appuyé par l'évolution que la logistique à MSF a suivi tout au long son histoire, issue de la nécessité d'une logistique performante capable de faire face aux contraintes du contexte. En outre, la logistique à MSF semble être plus qu'une simple activité ou un processus de gestion des flux de l'organisation. Elle apparaît comme une partie primodiale de la structure organisationnelle et opérationnelle de MSF, avec des responsabilités semblables à celles de la logistique militaire, évoquées dans le début du chapitre 3. Dans ce qui suit, nous allons approfondir l'analyse de la logistique MSF en adoptant une vision interne en

ligne avec la posture intra-organisationnelle présentée dans l'introduction de cette thèse.À partir de l'analyse des données recueillies et présentées dans le chapitre 7, nous allons discuter l'impact de ces résultats empiriques dans le modèle intégrateur des compétences et capacités logistiques présenté dans la synhtèse de la deuxième partie, pour enfin proposer un modèle de compétences et capacités logistiques pour le contexte humanitaire dans le chapitre 8. Ainsi, une discussion plus approfondie sur la role de la logistique est effectuée dans le dernier chapitre de cette thèse.

Chapitre 7

Résultats

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7.1 Introduction

Tout au long de cette thèse, nous avons identifié et construit les bases pour pouvoir analyser les données empiriques qui vont nous aider à répondre à notre question de recherche. La première partie a permis de présenter le contexte humanitaire avec ses principales caratéristiques et celles de la logistique et des chaînes logistiques humanitaires. Dans la deuxième partie, les définitions académiques de la logistique et des supply chains, l'identification des compétences et capacités logistiques issues de la littérature, ainsi que

la compréhension de ce que sont les compétences nous ont permis de proposer un cadre intégrateur de compétences et capacités logistiques. Le chapitre antérieur nous a présenté MSF comme une organisation spécialisée dans la médicine d'urgence, capable de répondre de manière efficace à un grand éventail de crises, mais aussi d'apporter son expertise dans des situations hors urgence. Avec cet 'arrière-plan', nous sommes maintenant en mesure d'identifier des éléments empiriques qui vont nous permettre de répondre, dans la quatrième partie, à notre question de recherche.

Comme cela a été annoncé dans l'introduction de la thèse, l'objectif principal de ce chapitre est d'identifier les compétences organisationnelles logistiques de MSF. Pour cela, et comme il a été expliqué dans le chapitre 5, nous avons conduit une série d'entretiens avec le personnel de MSFLog ainsi que des informateurs cles du département logistique de MSF France au siège. Dans les sections suivantes, nous allons présenter les résultats de ces entretiens à partir de l'analyse fait à l'aide du logiciel NVivo 8. Nous commencerons avec une analyse de la notion de compétence (§ 7.2) et du succès (§ 7.3) vue par les membres de l'organisation. Ensuite, nous allons présenter l'analyse des compétences organisationnelles de MSF (§ 7.4) pour après rentrer dans la dimension logistique (§ 7.5). Pour ces deux analyses, nous avons utilisé l'outil *tree map* du logiciel NVivo qui montre en ordre hiérarchique l'ensemble des *nodes* construits à partir des données (QSR, 2008). Chaque *node* est représenté par un rectangle qui montre dans sa taille et sa couleur, le nombre de références liés au *node* et donc son importance. Ainsi, un *node* avec un grand nombre de références sera affiché comme un grand rectangle, et la couleur montrera son importance par rapport à l'ensemble de *nodes*, allant de rouge (plus important) au bleu (moins important). Nous conclurons le chapitre avec des remarques.

7.2 La compétence au sein de MSF

Afin de pouvoir identifier les compétences logistiques que MSF possède, il est d'abord nécessaire de comprendre comment la compétence au sens large est perçue par les membres de l'organisation. Comme il a été discuté au Chapitre 4, la notion de compétence peut prendre plusieurs définitions et est souvent accompagnée d'adjectifs comme 'distinctive' ou 'centrale', faisant la différence entre une ou plusieurs activités (ou groupe de connaissances et aptitudes) qui permettent à l'organisation de se distinguer des concurrents, et une ou plusieurs activités (ou groupe de connaissances et aptitudes) qui sont considérées comme centrales pour la raison d'être de l'organisation (§ 4.3.2).

Pour les membres de MSF de manière générale, la compétence est perçue comme une **capacité à faire**, « *le moyen de réaliser quelque chose* »[1], et elle est fortement attachée à un objectif. Elle est aussi perçue comme une capacité à répondre « *à une demande bien particulière* »[2], « *aux besoins qui nous sont exprimées* »[3] ou même « *à une question*»[4]. Liée à la notion d'action, la compétence au sein de MSF présente des éléments qui relèvent de la bonne utilisation des ressources et de la dextérité, dans le sens où la compétence permet de « *réaliser un objectif en ayant le moins de mal possible à le faire* »[5]. Néanmoins, cette perspective très 'tangible' de la compétence fait appel à deux autres niveaux d'abstraction.

Si la compétence apparait bien comme la réalisation d'une action, elle est d'abord acquise et puis mise en pratique, et c'est la mise en pratique de manière récurrente qui va créer une **expérience** « *qui permet d'apporter une plus-value dans un travail bien défini* »[6]. La compétence est ainsi perçue comme « *la capacité de pouvoir réproduire quelque chose par*

[1]Responsable des Ressources Humaines, MSFLog.
[2]Approvisionneur, MSFLog.
[3]Technicien Aéronautique, MSFLog.
[4]Technicien non-médical, MSFLog.
[5]Responsable Stock, MSFLog.
[6]Responsable Frêt (ff), MSFLog.

rapport à une situation analysée »[7] Dans le cas des opérations humanitaires, il existe un avis commun que, pour certain postes, il est nécessaire de savoir « *comment ça fonctionne sur le terrain [...] des postes techniques pour lesquels il faut connaître le produit mais il faut connaître aussi comment on les utilise ou dans quel contexte on les utilise* »[8], et cela ne peut apparaître que par l'utilisation régulière des outils sur un contexte spécifique. Un des domaines où l'expérience joue un rôle important dans la compétence c'est le *technique*, où les techniciens font appel à leur expérience terrain et à leurs souvenirs « *de ce qu'ils ont su faire* »[9] pour choisir le bon matériel qui doit être envoyé. La compétence se construit donc grâce à un aller-retour entre la réalisation d'une action et l'accumulation de cette expérience de réalisation qui va permettre, dans le temps, d'améliorer la façon dont l'action est réalisée.

Ces deux perspectives de la compétence sont accompagnées d'une perspective plus abstraite: le **savoir**. Un sentiment collectif que l'on trouve au sein de MSF est que le savoir est acquis par le parcours académique et/ou professionnel, mais que le savoir tout seul ne suffit pas, c'est à partir du savoir qu'il faut construire une expérience MSF. « *Je n'avais pas au départ la compétence, à part les formations de la chaîne d'approvisionnement* » nous raconte le Directeur Supply Chain de MSFLog, « *mais la compétence pure du fonctionnement de la centrale moi je l'avais pas, parce que la vision que j'avais depuis le terrain, c'était une vision d'utilisateur, seulement, donc je me suis peu servi de mes compétences MSF pour acquérir plus rapidement la compréhension du fonctionnement ici*». C'est au travers de ce parcours, qui est par ailleurs le parcours de la plupart des membres de MSF Logistique, que l'on arrive à comprendre la compétence comme un tout, l'union entre une capacité de faire issue du terrain, du savoir acquis par le parcours professionnel ou académique et une expérience construite autour de l'action qui valorise le savoir.

[7] Directeur Général Adjoint, MSFLog.
[8] Responsable des Ressources Humaines, MSFLog.
[9] Acheteur-Technicien, MSFLog.

Compte tenue des différentes dimensions identifiées au sein de l'organisation (capacité à faire, expérience et savoir), la compétence est donc perçue comme un savoir-faire ou plus spécifiquement, « *le savoir-faire mis à disposition* »[10] d'une manière collective. Elle apparaît comme un « *inconscient collectif* » qui est contruit à partir de la « *mémoire* » de l'organisation mais qui est « *difficilement décorticable en catégories, qui est un tout [...] c'est la première richesse d'une entreprise* »[11]. Cette vision collective de la compétence, très liée au fait que MSF est constitué comme une association, se manifeste comme la force de l'organisation (§ 7.4.4). Cependant, à l'intérieur de cette compétence collective, l'étude a identifié un certain nombre de compétences organisationnelles qui permettent de considerer MSF comme une ONG compétente (§ 7.4).

7.3 La notion de succès

Dans le premier chapitre de cette thèse, nous avons discuté sur la definition du succès d'une opération humanitaire et nous avons conclu que pour la plupart, la littérature parle de performance en termes d'efficience et d'efficacité, que de succès. Ainsi, nous avons pu constater que cette performance est mesurée en grande partie par la logistique, étant donné que celle-ci représente une partie très importante de l'aide humanitaire. Dans le cas de MSF, si la compétence au sein de l'organisation est définie comme le savoir-faire mis à disposition, derrière il existe l'idée d'accomplissement de l'action, de la réussite dans mise à disposition. Cette notion de succès apparaît de manière générale comme « *la bonne réponse aux besoins* »[12]. Dans les mots du Responsable Frêt (ff), « *le succès pour MSF c'est vraiment de répondre aux besoins en respectant la déontologie MSF, en respectant des critères, en respectant les pays dans lesquels on va intervenir, en respectant les différences [...] le succès de la mission MSF, la réussite, c'est la réponse aux besoins* ». Néanmoins, il existe une différence entre succès et réussite.

[10] Directeur Supply Chain, MSFLog.
[11] Directeur Général Adjoint, MSFLog.
[12] Technicien Aéronautique, MSFLog.

« *Je parlerais plus de réussite que de succès d'ailleurs* », nous explique le Directeur Supply Chain, « *parce que j'ai réussi quelque chose, tandis qu'un succès c'est vraiment quelque chose d'affirmé [...] une réussite c'est plus ponctuel, on peut réussir cette fois ci et perdre d'autre côté.* Alors, sous cette perspective, le succès de l'organisation est créé à partir de la réussite des missions entreprises sur le terrain. À ce niveau, « *la réussite c'est de pouvoir prendre en charge le plus rapidement possible, les populations en détresse ou les victimes* »[13], ou bien « *c'est quand tout simplement, la population qui demande l'aide humanitaire reçoit cette aide en temps et en heure, en quantité suffisante* »[14].

Malgré le fait que la réussite d'une mission, et donc le succès de l'organisation, est lié à l'atteinte (ou pas) d'un objectif principal, répondre aux besoins du terrain, les critères pour mesurer le succès ou la réussite sont nombreux. Un certain nombre de critères sont liés à l'activité médicale, au fait de prendre en charge la population. Ces critères sont sous la forme du « *nombre de personnes qu'on a soigné* »[15], du « *pourcentage de mortalité, couverture vaccinale* »[16], ou même de « *l'utilisation des médicaments* »[17]. De plus, un nombre important de critères sont liés à l'approvisionnement. Ces critères incluent « *le délai entre le moment où on a reçu le premier coup de téléphone et le moment où on a livré la ou les commandes, le taux de reliquat qu'il y a eu, le fait que pour la commande on a été capable d'approvisionner tous les articles demandés [...]* »[18], les « *délais du fournisseur, le niveau du stock d'urgence, [...] les quantités minimum chez le fournisseur* »[19], ou « *les commandes qui ont été livrées effectivement et qui ont été livrés dans les 5 semaines et complétes* »[20]. Autres critères font référence au coût (financier et humain), à l'allocation des ressources, et à l'image que l'organisation a construit et qui permet de la différentier des autres ONGs (cf. § 8.3). Les critères trouvés au sein de MSF rejoignent ceux discutés

[14]Responsable Production, MSFLog.
[15]Responsable Plannification Approvisionnement, MSFLog.
[16]Responsable Production, MSFLog.
[17]Responsable Frêt (ff), MSFLog.
[18]Responsable Qualité, MSFLog.
[20]Gestionnaire Frêt, MSFLog.

dans la section 1.4 de cette thèse. Cependant, il existe un critère qui englobe la notion de succès au sein de l'organsiation: la satisfaction.

Qu'il soit médical, logistique ou financier, le critère le plus cité par les membres de MSF c'est la satisfaction. Pour certains, le fait que les équipes sur le terrain «*ne se plaignent pas, c'est pas mal comme critère*»[21]. Un gestionnaire frêt nous explique, «*si je dois organiser un transport du matériel jusqu'au Zimbawe, je saurais que j'ai bien fait mon boulot si j'ai pas des plaintes du logisticien qui est à l'autre bout. [...] Qu'on a pu satisfaire les besoins des terrains et que en même temps, chaque maillon de la chaîne a l'impression d'être satisfait de la manière dont ça c'est passé*». Globalement, la réussite c'est «*lors qu'on obtient un moyen de satisfaction des acteurs de l'urgence correcte*»[22]. Nonobstant, la satisfaction des équipes sur le terrain et donc la réussite des projets et des opérations, est atteinte grâce à un nombre de compétences organisationnelles qui font que MSF soit considérée comme une organisation humanitaire à succès.

7.4 Les compétences organisationnelles de MSF

L'objectif primordial de Médecins Sans Frontières c'est de **répondre aux situations d'urgence** et d'atténuer les souffrances des populations en danger grâce à une **action médicale adéquate** renforcée par une **logistique appropriée** (MSF, 2011b). Toutefois, cet objectif ne peut être atteint sans l'aide d'autres domaines d'expertise. La Figure 7.2 montre une comparaison des *child nodes* appartenant au *node* « Compétences MSF » par rapport au nombre de références codées issues des entretiens. Tel qu'il a été expliqué dans l'introduction de ce chapitre, le *node* est représenté par un rectangle qui montre dans sa taille et sa couleur, le nombre de références liés au *node* et donc son importance. Sans surprise, les *child nodes* les plus importants sont ceux liés aux compétences médicales et logistiques (en rouge). Cependant, d'autres compétences comme la capacité à répondre

[21] Référente Produit, MSFLog.
[22] Directeur Supply Chain, MSFLog.

(en orange), ainsi que l'engagement ou la remise en cause (en vert opaque) ont été identifiées. Une description des trois compétences principales et de celle qui apparaît comme clé pour le succès est faite ci-après.

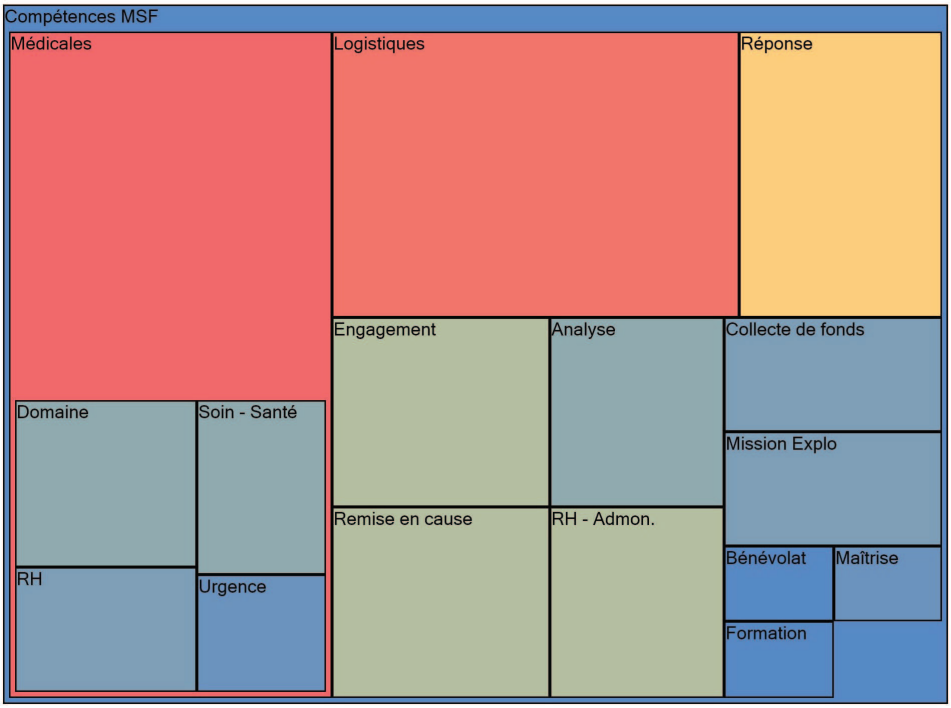


Figure 7.1: Résultats du *node* « Compétences MSF »

7.4.1 Le Medical

En tant qu'ONG médicale, Médecins Sans Frontières apporte des secours aux populations en détresse, aux victimes de catastrophes d'origine naturelle ou humaine, de situations de belligérance, sans aucune discrimination de race, religion, philosophie ou politique. Au cours des années, la pratique médicale au sein de l'organisation a beaucoup évolué. D'une pratique centrée sur les soins primaires dans des contextes d'urgence, l'activité médicale de MSF a englobé ensuite la prise en charge à long terme des patients atteints de Sida et Tuberculose, et plus récemment la gestion d'hôpitaux où l'organisation pratique l'ostéosynthèse interne (MSF, 2011f). Aujourd'hui, cette activité couvre sur plusieurs domaines d'intervention, parmi lesquels on trouve la chirurgie d'urgence, la réponse

aux épidémies, endémies et pandémies (choléra, dengue, fièvres hémorragiques, maladie du sommeil, méningite, paludisme, rougeole, tuberculose, SIDA), les programmes de vaccination, la nutrition, et les soins psychiques, entre autres.

Afin d'atteindre son objectif, MSF fait appel à des spécialistes dans chacun des domaines. Au siège, le département médical a pour vocation de collaborer avec le département des opérations et les autres départements de support aux opérations, afin de garantir les meilleures pratiques médicales dans les projets de MSF. Le département, partagé entre trois sites (Paris, New York et Sydney), joue un rôle clé en orientant la création de projets de terrain, en conseillant sur les stratégies médicales, ainsi que sur les risques et les limites concernant les activités médicales spécifiques au sein d'un projet. Ainsi, il accompagne, pilote et soutient le projet de terrain dans sa mise en oeuvre, conseille pour y apporter des améliorations, discute des enjeux et des obstacles rencontrés et cherche des solutions adaptées dans le but de procurer les meilleurs soins aux patients dont MSF a la responsabilité (MSF, 2011f). Sur le terrain, une équipe médicale composée d'une équipe chirurgicale, une équipe de médecins et d'infirmiers, des techniciens de laboratoire, des pharmaciens, des kinésithérapeutes, des psychologues et des psychiatres, est deployée pour répondre aux différentes besoins des populations en détresse. Ces équipes sont animés par le Coordinateur Médical dans la capitale, qui est en charge de définir les activités médicales, d'évaluer les besoins humains et techniques nécessaires sur le plan médical et de définir les protocoles médicaux, entre autres tâches (MSF, 2011b).

En 2010 pour faire face aux urgences, le département a réussi à augmenter de 22% le nombre de départs des spécialistes, soit 101 médecins et 59 infirmiers anesthésistes (MSF, 2011a). 16 opérations ont été prises en charge sur l'année dont 44% on été des réponses à des épidémies, 25% consécutives à des conflit et 19% en réponse à des catastrophes naturelles (MSF, 2011g). Parmi les urgences les plus importantes se trouvent le tremblement de terre et l'épidémie de choléra à Haïti, les épidémies de rougeole au

Yemen, au Tchad et au Malawi, et les conflits en Côte d'Ivoire, Yémen et Lybie. Le bilan d'activités pour l'année 2010 indique un total de 25.516 interventions chirurgicales pratiquées sur 12.663 patients, l'admission de 73.345 enfants malnutris de 6 mois à 5 ans, 2.459.655 doses de vaccins anti-rougeoleux, le traitement de 3.622 malades tuberculeux, 327.817 patients victimes d'un accès de paludisme, 45.513 cas de choléra grave dont 28.754 à Haïti et la consultation 80.817 patients du Sida (MSF, 2011a). Cette capacité à répondre aux différentes crises est possible non seulement grâce à l'expérience que l'organisation a développée pour agir en situation d'urgence, mais aussi au support des différentes structures que MSF a créé indispensables à la pratique d'une action humanitaire indépendante et de qualité.

Le Crash: Abrité par la Fondation Médecins Sans Frontières, le Centre de Réflexion sur l'Action et les Savoirs Humanitaires (Crash) est une structure originale dans le monde des ONG. Sa raison d'être : animer le débat et la réflexion critiques sur les pratiques de terrain et le positionnement public afin d'améliorer l'action de l'association. Les membres du Crash réalisent et dirigent des études et analyses concernant l'action de MSF. Ils participent aux sessions de formation interne ainsi qu'à des missions d'évaluation de terrain. Enfin, ils représentent l'association dans des réunions, colloques et autres lieux de recherche et de réflexion liés en particulier à des universités, des organismes intergouvernementaux et des ONG[23].

Epicentre: Créée en 1987 par des médecins de MSF, Epicentre est une association à but non lucratif. Son expertise est requise dans divers types de programmes comme l'investigation d'épidémies, la surveillance, l'estimation de la mortalité et les activités de vaccination, parmi d'autres. Les missions d'Epicentre s'articulent à la fois autour de la recherche et de la formation. Epicentre contribue à concevoir et promouvoir des projets opérationnels médicaux originaux dans les

[23] http://www.msf-crash.org/

contextes d'intervention de MSF ou équivalents. L'association participe également à la formation des équipes en appuyant MSF dans la conduite de la réponse opérationnelle[24].

La CAME: Dans les années 1990 le constat fait par MSF sur le terrain était catastrophique : des médicaments trop chers contre le sida, inefficaces contre le paludisme, archaïques contre la tuberculose. C'est dans ce contexte qu'est née, en 1999, la Campagne d'Accès aux Médicaments Essentiels (CAME), qui se bat pour que les équipes médicales aient les moyens de soigner correctement leurs patients. La CAME vise à améliorer l'accès aux médicaments essentiels. Ses missions s'articulent autour de trois axes : surmonter les obstacles à l'accès aux médicaments essentiels, stimuler la recherche et le développement pour les maladies négligées et promouvoir des 'exceptions sanitaires' aux accords du commerce mondial[25].

Le DNDi: Le DNDi (Drugs for Neglected Diseases initiative) ou initiative pour obtenir des médicaments contre les maladies négligées, est un partenariat public/privé indépendant à but non lucratif. Le DNDi est engagé dans la recherche et le développement de traitements nouveaux et plus efficaces contre les maladies dites 'négligées', comme la leishmaniose, la maladie du sommeil, la maladie de Chagas ou encore le paludisme[26].

Plusieurs années d'action médicale ont permis à MSF de compiler ses expériences dans un certain nombre de guides qui indiquent la manière la plus efficace de faire face à un problème dans un environnement dont les ressources sont limitées. Cependant leur usage n'est pas réservé à la sphère MSF, ils proposent un éventail plus large que ce qui est réellement disponible sur le terrain. Parmis eux on trouve le guide *Médicaments essentiels*,

[24]http://www.epicentre.msf.org/
[25]http://www.msfaccess.org/
[26]http://www.dndi.org/

le *Guide clinique et thérapeutique* et le *Rapid health assessment of refugee or displaced populations*, entre autres. Ces guides font partie des Livres de Référence MSF et sont édités par les sections qui les ont rédigés. Des versions électroniques sont centralisées par l'ITC (International Technical Coordination) et sont accèssibles par l'intranet international MSF (Tukul).

Bien que la compétence médicale soit au cœur de l'action de MSF, l'évolution constante de cette activité et des conditions dans lesquelles elle se déroule nécessite un support capable de fournir tout le matériel médical nécessaire ainsi que toutes les provisions pour pouvoir porter le secours aux bénéficiaires et qui constitue aujourd'hui une des compétences les plus importantes de l'organisation: la logistique.

7.4.2 La Logistique

La logistique au sein de MSF est considérée comme « *un support indispensable aux actions de santé humanitaire* »[27]. Comme cela a été présenté auparavant, la logistique MSF outre l'approvisionnement, prend en charge un grand nombre de métiers qui font le support à l'activité médicale (§ 6.4.2.2). Pour le Responsable frêt (ff), la logistique MSF est très « *vaste [...] c'est le gars qui creuse un trou pour faire les toilettes, c'est le mec qui va brancher les fils pour l'electricité dans un campement, et c'est les gens qui affrettent les avions ou qui preparent les commandes au magasin* », ce qui renvoie à la notion d'intendance et à une vision très large de la logistique MSF (approvisionnement + support). En résumé, elle est « *indispensable pour que l'assistance médicale puisse aboutir* ». Cependant, la capacité «*d'amener sur le terrain tout ce qu'il faut pour mener toutes [les] opérations [médicales]*»[28] se révèle comme un des « *piliers* »[29] pour le succès des opérations.

[27]Responsable des Opérations, MSFLog.
[28]Coordinateur Logistique opérationnelle, MSFF.
[29]Responsable Production, MSFLog.

Quand il s'agit d'une grande catastrophe, comme ça a été le cas du Tsunami en 2004, le tremblement de terre au Pakistan en 2005 ou le tremblement de terre en Haïti en 2010, l'approvisionnement international joue un rôle clé dans la réponse à l'urgence. Lors de l'opération en Haïti, par exemple, des milliers de tonnes de matériel ont été envoyées en quelques semaines, et la compétence logistique a été démontré quand MSF a été capable « *de remplacer un hôpital qui [était] par terre par un hôpital opérationnel complet* »[30] (voir Encadré 7.1). De plus, pendant les six premiers mois après la catastrophe, MSF a distribué 35.350 kits de biens de première nécessité, 26.971 tentes et 723 m^3 d'eau par jour, a construit 16 bloc opératoires, 880 latrines et 415 douches (MSF, 2010), le tout sans mettre en danger l'approvisionnement des missions régulières, un des raisons pour lesquelles la réponse au tremblement de terre à Haïti est considérée au sein de l'organisation, d'un point de vue logistique, comme un succès.

[30]Directeur Supply Chain, MSFLog.

Encadré 7.1 : Réponse d'urgence après le séisme en Haïti (MSF, 2010; 2011a)

Le tremblement de terre du 12 Janvier 2010 a mis un coup d'arrêt brutal au lent redressement haïtien, entrepris depuis 2004 avec le support de la Mission des Nations-Unies pour la stabilisation en Haïti (Minustah). Avec un bilan approximatif de 250.000 morts, 300.000 blessés et 1,5 million de sans-abri, cette catastrophe a transformé la capitale en un immense camp de déplacés. Après une première phase d'interventions en urgence dans la rue sous des bâches ou dans un container de fret transformé en bloc opératoire, MSF a développé la plus grande intervention chirurgicale de son histoire.

Pendant les six premiers jours, 17 avions affrétés par MSF ont permis l'acheminement de matériel pour l'implantation d'un hôpital gonflable sur un terrain d'athlétisme de 7.000 m^2 et à J13 les blessés y étaient transférés. À la fin du premier mois, l'hôpital était composé d'une quarantaine de tentes dont 13 gonflables comprenant une salle de triage, une salle d'urgence, une salle d'observation, 3 salles d'interventions - dont une réservée à l'ostéosynthèse et aux chirurgies propres -, un secteur pour la stérilisation, une salle de réveil, une salle de soins intensifs, plusieurs salles d'hospitalisation et un secteur de soins de suite et de rééducation. Un centre spécifique de traitement des brûlés avec son bloc opératoire dédié a été créé au 3ème mois de l'intervention.

Depuis l'ouverture de l'hôpital jusqu'à fin Mars 2011, plus de 16.000 consultations ont été réalisées en salle durgence, dont 12% en moyenne étaient liées à des actes de violence. La chirurgie, spécialité rare et coûteuse, demeure le cœur de l intervention de MSF à Port-au-Prince. De janvier 2010 àmars 2011, plus de 8.500 actes chirurgicaux ont été réalisés, dont 20% d'orthopédie. L'hôpital a pris aussi en charge l'ensemble des soins postopératoires, avec suivi médical et chirurgical, physiothérapie et assistance psychosociale. Depuis l'ouverture, près de 40.000 séances de physiothérapie ont ainsi été effectuées ainsi que plus de 15.000 consultations de santé mentale.

Pour approvisionner en matériel les urgences ainsi que les différents programmes, MSF compte avec 16.736[31] références d'articles regroupés dans trois types (alimentation, logistique et médical) et divisés dans 6 familles de produit (§ 6.4.2.1). Pour gérer une telle quantité d'articles, MSF a mis en place un système de codification standard (Figure 7.3) pour toutes les sections MSF (§ 6.3.1). Indispensable pour harmoniser l'approvisionnement sur le terrain, le processus de standardisation consiste à définir clairement l'équipement plus approprié pour une situation donnée, selon les critères suivants:

[31] Quantité total en Mai 2012.

- Le respect des politiques définies par les directeurs médicaux et logistiques de MSF
- La qualité et l'efficacité dans le cadre des programmes de MSF
- Facilité de maintenance et approvisionnement des pièces de rechange et consommables

La liste des articles MSF est accessible par l'intranet de MSF Logistique, l'intranet international MSF (Tukul) ou dans les différents catalogues. Edités une fois par an par l'ITC, les catalogues représentent la mémoire collective des techniciens médicaux et logistiques de toutes les sections MSF dont les années d'expérience ont été rassemblées dans un but de standardisation. A ce jour, il existe 7 catalogues MSF: Le catalogue logistique (1 volume) et les catalogues médicaux (5 volumes), qui constituent la référence incontournable en ce qui concerne la sélection, l'utilisation, l'entretien et l'entreposage des articles standard qui sont utilisés dans les missions de MSF, plus le Guide des Kits et articles d'urgence (1 volume), qui permet de concevoir et de chiffrer une opérations d'urgence grâce à une description du type d'utilisation, des chiffres (prix, poids, volume) et le contenu détaillé de chaque Kit. Ces derniers sont la base de la réponse MSF à une urgence.

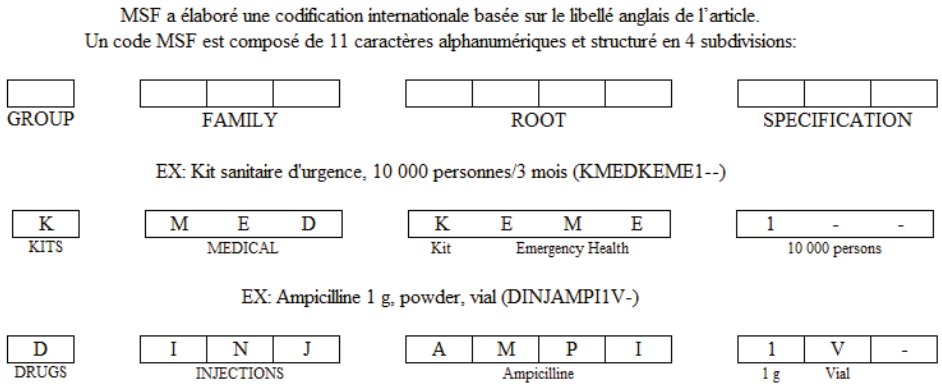


Figure 7.2: Codification MSF des articles standard (ITC)

Créés au début des années 80[32], les Kits sont le résultat de plusieurs années d'étude, d'essais sur le terrain et de modifications, des listes standardisées de médicaments essentiels et de matériel médical, pour permettre de répondre de manière efficace et rapide à une situation d'urgence (OMS, 1999). Adopté par de nombreuses organisations et autorités nationales, dans la pratique le kit est une boîte solide en métal léger, contenant le nécessaire en matériel et médicaments pour secourir un nombre spécifique de gens dans une situation spécifique. Ce système est très utile pour pouvoir faire rapidement les calculs de ce qu'il faut quand, quelque part au monde, quand on voit surgir une catastrophe naturelle, l'éclosion d'une épidémie ou un conflit.

Actuellement, MSF compte approximativement 300 kits regroupés dans deux types: Médicaux, où on trouve des kits médicaux (KMED), des sets d'instruments chirurgicaux (KSUR) et des sets d'instruments de chirurgie dentaire (KSUD), et logistiques où on trouve des kits d'administration (KADM), des kits pour la construction et la maintenance des camps (KCAM), des kits de communication (KCOM), des kits pour le support aux programmes (KPRO), des kits pour le transport (KTRA) et des kits pour l'eau et l'assainissement (KWAT). En outre, depuis 2011 MSF compte avec un kit hôpital qui est composé d'un certain nombre de kits de type modulaire afin d'adapter la structure selon le contexte et les activités planifiées (voir Encadré 7.2). La compétence que MSF a développé dans la conception et composition des kits a permis qu'aujourd'hui d'autres ONG internationales comme Médecins du Monde (MDM), OxFam ou le CICR utilisent les kits MSF dans leurs différentes missions d'urgence et programmes.

[32]Le premier Kit sanitaire d'urgence a été créé en 1980 par l'OMS en collaboration avec le UNHCR, puis révisé en 1988 en collaboration avec le Programme de Préparation aux Situations d'Urgence (OMS, Genève), l'Unité des Préparations pharmaceutiques (OMS, Genève), le UNHCR, l'UNICEF, MSF, la Ligue des Sociétés de la Croix-Rouge et du Croissant-Rouge (Genève), la Commission médicale chrétienne du Conseil cuménique des Eglises et le CICR (OMS, 1999).

Encadré 7.2 : Description Kit Hôpital (MSF, 2011c)

4 activités de support obligatoires

1. Mod. stérilisation centrale (KMEDMHST1CO)

2. Mod. laboratoire (KMEDMHLA1CO)

3. Mod. pharmacie (KMEDMHPH1CO)

4. Modules divers (KMEDMHMI1CO)

KMEDMHST1CO	KMEDMHLA1CO	KMEDMHPH1CO	KMEDMHMI1CO
KMEDMAUT90- KMEDMSTE1E- KMEDMSTE1D- KMEDMSTE1S-	KMEDMHLA11- KMEDMHLA12- KMEDMHLA13-	EHOECABI1M- KMEDMHPH11- KMEDMHPH12- KMEDMHPH13- KMEDMHPH14-	KMEDMHMI11- KMEDKFAI4– KMEDMPEP01- KMEDMHMI12- KMEDMHMI15- KADMMHMI16-

4 centres d'activités principaux

1. Triage / consultations externes (T)

2. Service d'hospitalisation (W)

3. Bloc opératoire (O)

4. Unité de soins intensifs (I)

	Mod. T	Mod. W	Mod. O	Mod. I
Équipement.	KMEDMH**TE**	KMEDMH**WE**	KMEDMH**OE**	KMEDMH**IE**
Matériel.	KMEDMH**TS**	KMEDMH**WS**	KMEDMH**OS**	KMEDMH**IS**
Médicaments.	KMEDMH**TM**	KMEDMH**WM**	KMEDMH**OM**	KMEDMH**IM**

Exemples d'utilisation

- Centre de santé important
  - Triage + 4 activités de support obligatoires
- 20 lits dans un camp
  - Triage + 4 activités de support obligatoires
  - Partie hospitalisation
- Hôpital de district
  - Triage + 4 activités de support obligatoires
  - Partie hospitalisation
  - Partie bloc opératoire (1 salle d'opération)
- Hôpital avec activité importante et personnel qualifié en grand nombre
  - Triage + 4 activités de support obligatoires
  - Partie bloc opératoire (2 salles d'opération)
  - Partie unité de soins intensifs (USI)

Cette structure logistique développée par MSF permet aux équipes médicales « *de se concentrer sur leur part du métier qui est la médecine* »[33], sans se préoccuper du matériel nécessaire pour exercer parce que « *quoi qu'il arrive, ça (la logistique) roule!* »[34]. La compétence logistique de MSF est telle que même « *dans l'excès, on peut livrer du matériel sans qu'il y ait une équipe médicale sur place, on donne ça aux médicaux sans que ça soit des médicaux de MSF* »[35]. La combinaison des compétences médicale et logistique permet à l'organisation de répondre à tout type de crise, urgence ou pas, partout dans le monde. Cette capacité à répondre à l'urgence se révèle donc comme un des piliers de MSF.

7.4.3 La Réponse

Depuis sa création, Médecins Sans Frontières a été présent lors des plus grandes crises humanitaires de l'histoire (§ 6.2) en portant du sécours aux populations affectées. La réponse aux urgences, plus précisement aux catastrophes naturelles, a été dès l'origine au centre de la scène sur laquelle MSF intervient. Cependant, c'est l'échec vecu par les médecins français[36] au tremblement de terre au Pérou en 1970, qui va créer la nécessité de répondre aux urgences de manière rapide. Rony Brauman, interviewé par Claudine Vidal (2011) raconte:

> *"[...] arrivés sur les lieux une semaine après le séisme, les médecins français n'y avaient trouvé aucun blessé en dépit de l'ampleur du désastre. Tout juste avaient-ils pu constater que les États de la région, États-Unis compris, avaient déjà déployé des secours. La leçon tirée de cette première tentative d'intervention s'imposa durablement, généralisée à l'ensemble des tremblements de terre : pour assurer sa mission de sauvetage dans de telles situations, l'aide médicale devait être mise en oeuvre dans les quarante-huit*

[33]Responsable Frêt (ff), MSFLog.
[34]Directeur Général Adjoint, MSFLog.
[35]Responsable Production, MSFLog.
[36]Alors divisés dans deux associations: le Groupe d'Intervention Médico-Chirurgical d'Urgence (GIMCU) et le Sécours Médical Français (SMF) (Brauman, 2009).

premières heures. Ce délai passé, les victimes emmurées, les blessés souffrant de traumatismes multiples accompagnés ou non de syndromes d'écrasement étaient condamnés. L'effort réalisé au cours de l'existence de MSF a donc d'abord consisté à tenter de raccourcir les délais de déploiement en tenant prêt le matériel d'urgence sous forme de kits, et en essayant de faire partir des équipes opérationnelles dans les vingt-quatre heures suivant l'alerte".

L'évolution du contexte humanitaire ainsi que des characteristiques des catastrophes ont eu un grand impact dans la façon comme le secours doit être porté. Continue Brauman:

"Il nous a fallu du temps pour nous apercevoir que les séismes faisaient en réalité peu de blessés, et qu'en outre la plupart de ceux-ci étaient immédiatement traités dans les structures locales situées en marge de la zone atteinte. Sauf à être sur place au moment de la catastrophe, les équipes médicales étrangères y étaient finalement superflues. Le tremblement de terre était en fait bien loin de ce lieu d'exercice par excellence de la médecine d'urgence que nous imaginions, en dépit des chiffres imposants évoquant des milliers, voire des dizaines de milliers de blessés. Cependant, étant donné l'importance symbolique des catastrophes naturelles dans l'aide d'urgence, il était difficilement pensable de ne pas en être pour une organisation revendiquant l'urgence comme culture et comme savoir-faire. C'est pourquoi MSF, dès le début des années 1990, a réorienté son action vers la logistique, son autre point fort avec la médecine, en mettant l'accent sur la fourniture d'eau potable et, le cas échéant, en organisant des consultations médicales dans des lieux de regroupement de sinistrés".

Ce que Brauman considère comme 'culture' ou 'savoir-faire' de l'urgence c'est ce qui est perçue comme la compétence **réponse** au sein de l'organisation, une capacité à

répondre rapidement à tout type de crise humanitaire partout dans le monde, en déployant différents types de ressources (physiques et humaines) appartenant à des différents métiers (médicale, logistique eau et assainissement, nutrition, construction, etc.) par ses propres moyens et sans avoir un impact trop important sur le déroulement des différents programmes et projets. Dès les catastrophes naturelles très (par fois trop) mediatisées aux crises silencieuses[37], dès les conflits armées aux crises nutritionnelles, MSF a démontré que, même avec un accès très restreint (voir Encadré 7.3), elle est capable d'agir et d'atteindre son objectif qui est d'apporter une assistance médicale à des populations dont la vie ou la santé est menacée.

[37]Une situation de crise qui accable la capacité d'une société pour faire face à l'aide de ses seules ressources, où le niveau de réponse, y compris politique, humanitaire, multilatérale et la presse, est insuffisant pour atteindre le niveau de immédiat besoins humanitaires (Save the Children UK).

Encadré 7.3 : 1980 - l'aventure Afghane (MSF, 2011d)

Fin décembre 1979, avec l'entrée des troupes soviétiques en Afghanistan, le nombre de réfugiés au Pakistan ne cesse de s'accroître. Ils seront bientôt 700.000. Médecins Sans Frontières envoie une mission exploratoire dans les camps pakistanais afin d'évaluer les besoins de ces populations vivant dans des conditions extrêmement précaires, au cœur d'un hiver glacial. Alors qu'une équipe de seize personnes s'apprête à partir, le gouverneur pakistanais interdit toute présence étrangère dans les camps. MSF entreprend alors de partir à l'intérieur même du territoire afghan afin d'apporter directement une aide médicale là où les besoins sont les plus urgents.

Si apporter une aide aux exilés au Pakistan reste impossible, « *au moins une consolation nous reste-t-elle, mais elle est de taille* », écrit Claude Malhuret cette année-là. « *C'est la satisfaction de pouvoir apporter concrètement notre soutien à l'intérieur du pays, dans les zones libérées. Tous [les volontaires] ont accepté de prendre le risque de la clandestinité, celui de l'isolement à l'intérieur du pays, le danger d'être surpris dans un combat, emprisonnés, blessés ou pire encore. Ce risque ils le connaissaient en partant, ils savaient que leur formation universitaire ne les avait pas préparés à ce genre un peu spécial d'exercice de la médecine.* »

L'histoire de MSF en Afghanistan se prolonge. Après le retrait des troupes soviétiques en 1989, des équipes continuent de se relayer pour apporter des soins aux populations affectées par les guerres inter-afghanes, puis par la férule du régime taliban. Après l'intervention de la coalition internationale qui chasse les Talibans du pouvoir, MSF est toujours présente, mais subit les conséquences de la confusion croissante entre forces armées et acteurs humanitaires.

A la fin du mois de juillet 2004, et après 24 ans de présence, Médecins Sans Frontières a dû annoncer la fermeture de tous ses programmes en Afghanistan. Cette décision fait suite à l'assassinat de cinq de nos volontaires au cours d'une attaque le 2 juin dernier, alors qu'ils circulaient au nord-ouest de l'Afghanistan, dans la province de Badghis, à bord d'une voiture clairement identifiée MSF. Médecins Sans Frontières ne retournera en Afghanistan qu'en juin 2009.

Les différents développements faits par MSF au niveau médical, main dans la main avec l'évolution de la logistique (approvisionnement et support) au sein de l'organisation, et l'adaptation de ces deux compétences au contexte humanitaire, créent ensemble cette compétence 'réponse' qui permet à MSF d'accomplir son objectif. Cependant, l'étude révèle que plus que des compétences séparées, c'est l'ensemble de compétences ce qui fait « *la force* »[38] de l'organisation.

[38]Responsable Stock, MSFLog.

7.4.4 La combinaison de compétences comme clé du succès

Á travers son histoire, MSF a développé une forte compétence en médecine d'urgence accompagnée d'une forte compétence en logistique pour pouvoir répondre aux différentes crises humanitaires. Cette capacité de réponse apparaît dans notre étude aussi comme une compétence issue d'une « culture de l'urgence » qui se trouve partout dans l'organisation. Cependant, la notion de compétence collective est très présente au sein de MSF, au point qu'elle est considérée comme la clé du succès de l'organisation. La Figure 7.4 présente une comparaison des résultats du *node* « Compétence Clé » et identifie clairement l'importance que la combinaison de compétences, appelée 'l'ensemble' (en rouge), prend sur la logistique ou même la réactivité, deux compétences identifées comme des compétences clé pour le succès de l'organisation.



Figure 7.3: Résultats du *node* « Compétence clé »

Le Responsable Qualité MSFLog, considère que « *la compétence d'un système est toujours superieure à l'addition de compétences individuelles, et [cela] est particulièrement vrai pour MSF* ». Pour le Directeur Supply Chain, il s'agit d'une « *polyvalence de compétences au niveau adapté* ». « *Pour tout ce qui compose l'activité de MSF* », explique, « *que ça soit depuis le programme médical jusqu'au roulement de la voiture, les niveaux de compétences doivent être également bien répartis parce que, même ici (MSFLog), si on n'a aucune notion de ce qui est une patologie X ou Y c'est pas bon! On ne peut pas être que "ça c'est une pillule blanche et voilà", donc nous aussi on doit avoir [un] certain niveau de compétences, bien inferieur à celui du médecin qui est au siège, mais quand même, quand il veut nous parler d'une épidemie de "palu" ou leishmaniose on doit savoir de quoi il nous parle* ».

Cette combinaison de compétences considerée comme « *indissociable* »[39] commence avec une compétence dans la collecte de fonds car, dans les mots d'un Coordinateur Logistique MSF France « *c'est ce qui nous donne [...] notre indépendance financière et ça c'est pas une compétence que possèdent toutes les ONG* », mais aussi une compétence dans la gestion de ressources humaines car MSF est capable « *d'identifier les bonnes personnes pour agir* »[40]. Sur le terrain, les équipes ont une compétence dans l'évaluation des besoins pour informer l'organisation de « *ce qu'ils ont besoin* »[41] et au siège une capacité d'analyse et prise de décision pour répondre à ces besoins. Au niveau logistique, l'organisation dispose des compétences techniques « *comme la construction, la sanitation [et] les communications* »[42] et la capacité de « *développer tout un moyen d'approvisionnement* » pour « *répondre aux besoins de chaque section opérationnelle* »[43]. Finalement, sur le terrain les équipes médicales ont les compétences nécessaires pour «*intervenir sur des populations qui ont des besoins dans une situation d'urgence* »[44]. Le succès repose donc

[39] Opérateur Médical, MSFLog.
[41] Chef d'équipe Stock, MSFLog.
[43] Responsable Frêt (ff), MSFLog.
[44] Ibid.

sur la combinaison de compétences vue comme « *une chaîne qui fait que ça puisse aboutir, fonctionner et répondre à peu près à ce qu'on attend.* »[45].

7.5 Les compétences logistiques organisationnelles de MSF

Dans la dernière section (§ 7.4) nous avons décrit les différentes compétences organisationnelles trouvées au sein de MSF. Parmi elles, la compétence logisque apparaît comme un facteur clé pour le bon déroulement de l'activité de l'organisation et par conséquent, un des piliers du succès des opérations humanitaires (§ 7.4.2). Néanmoins, afin de répondre à la question de recherche présentée dans l'introduction de cette thèse, il est nécessaire d'approfondir les compétences logistiques qui permettent de considérer cette activité comme une compétence organisationnelle. La Figure 7.6 montre une comparaison des résultats trouvés pour le *node* « Compétences Logistiques MSF ». Des compétences dites 'techniques', regroupées dans chacun des secteurs de la centrale d'achat (§ 6.4.3.1) s'avèrent pertinentes, cependant, les compétences ou capacités *adaptation* et *réactivité* apparaissent comme les plus importantes, suivies de l'intégration logistique, la communication interne, et la flexibilité, et puis de la motivation, la polyvalence et la professionalisation. Dans ce qui suit, nous allons présenter chacune de ces compétences en nous apuyant sur les résultats de l'analyse des entretiens, ainsi que de la documentation et l'observation directe faite pendant l'étude.

7.5.1 La réactivité

Dans la section antérieure, nous avons présenté la capacité à répondre aux urgences comme une des compétences organsationnelles de MSF, résultat de la combinaison des compétences médicale et logistique (§ 7.4.3). Si une très bonne connaissance des différentes patologies ainsi qu'une large expérience dans le contexte humanitaire sont indispensables

[45] Opérateur Médical, MSFLog.

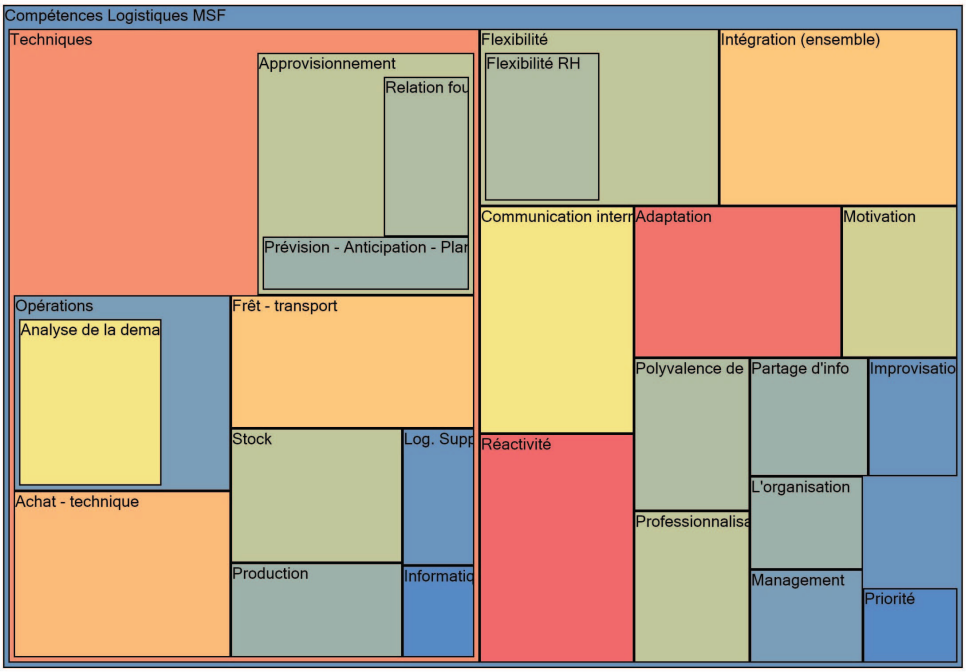


Figure 7.4: Résultats du *node* « Compétence Logistique MSF »

pour le bon déroulement d'une opération humanitaire, la capacité à répondre ne peut être considérée comme compétence que si elle est accompagnée de l'action (§ 7.2). Ici, la logistique s'avère indispensable car « *même les meilleures [médecins] du monde, s'ils n'ont pas le matériel pour [travailler], ne pourront pas satisfaire le besoin* »[46]. Cette action est obtenue grâce à la réactivité du système logistique, qui apparaît comme la compétence logistique la plus importante au sein de l'organisation.

Lors de la réponse au tremblement de terre à Haïti en 2010 par exemple, considérée comme « *la plus grosse urgence de l'histoire de MSF* »[47], «*il y a eu de la réactivité immédiate*», nous raconte le Responsable des Opérations à MSF Logistique. « *le tremblement de terre c'était le 12 Janvier, le premier avion est parti le 14 Janvier avec tout ce qu'il fallait* » et en fin de comptes, « *en 5 jours y avait tout* »[48]. Si tout cela a été possible, c'est grâce à un certain nombre d'éléments que pour le Directeur Supply Chain à MSF logistique,

[46] Technicien Aéronautique, MSFLog.
[47] Responsable Plannification Approvisionnement, MSFLog.
[48] Approvisionneur, MSFLog.

sont considéres comme « *cachés* », et qui ont permit une telle réactivité à l'urgence Haïti. Parmi ces éléments on trouve la conception de l'hôpital gonflable quelques annés auparavant, et une reflexion profonde sur l'opérationnalité du stock qui permet ça bonne **gestion**[49]. Cette réflexion a amené à la délocalisation du stock des Non-Food Items (NFIs) à Dubaï, une décision qui a permit de profiter d'une localisation stratégique pour le transport, et dans le cas d'Haïti, d'affréter un 'Full Charter' (Boeing 747) en vol direct qui a mis moins de temps que l'Iliouchine - 76 envoyé depuis Bordeaux. Cependant, parfois le niveau de stock n'est pas suffisant pour répondre à une urgence, comme cela a été le cas de la crise choléra à Haïti suite au tremblement de terre. À ce moment là, la réactivité se trouve au niveau approvisionnement et touche même aux fournisseurs. Le Responsable Plannification Aprovisionnement à MSF Logistique nous raconte ce qui s'est passé pour cette crise.

> « *(en parlant des urgences) [...] s'il y a une urgence et qu'on a pas ce qu'il faut en stock - ça peut être en 48 heures ou le lendemain - il faut se débrouiller pour trouver un fournisseur qui va être capable de livrer en 24 heures. On a fait beaucoup de ca pendant Haïti, parce que le transport reservait des avions complets, des 'full charters' qui partaient. Par exemple, on est lundi et on avait un 'full' qui partait jeudi donc ça va être chargé le mercredi, donc nous sur les articles manquant qu'on n'avait pas en stock, sur quelques articles, on essayait de négocier avec le fournisseur pour qu'on puisse mettre les produits dans l'avion, d'une façon ou d'une autre. Alors, là ça dépend beacoup de la réactivité du fournisseur parce que si le fournisseur même laisse trainer une demi-journée c'est mort [...] à l'appro [la mediatisation] nous a beaucoup aidé, parce que beaucoup de fournisseurs se sont investis en dissant "nous, on veut*

[49]Contraire au contexte industriel, les niveaux du stock sont souvent élevés afin d'être capable à répondre rapidement aux urgences. Cependant, les gestionnaires doivent veiller à maintenir ces niveaux de stock au niveau souhaité, entre un minimum qui permet d'assurer l'approvisionnement des missions, et un maximum qui facilite un déploiement rapide

faire quelque chose pour Haïti" [...] J'ai vu un directeur d'une grosse boîte qui a mis lui même les produits dans sa voiture et qui est allé les porter chez DHL le vendredi soir ».

Actuellement, la centrale d'achat et d'approvisionnement MSF Logistique, est capable de répondre sous 24 heures aux urgences et dans moins de 4 semaines aux commandes régulières du terrain, des délais qui peuvent être considérés comme 'courts' compte tenu des contraintes du contexte. Cette réactivité est dû principalement à la capacité développée par l'organisation à **prioriser** les urgences. Lors d'une crise, « *toutes les ressources sont prioritairement mises sur l'urgence*[50] et donc (d'une manière figurative) « *on arrête tout, ça passe avant tout le reste* »[51]. Sur une commande planifié, « *on va mettre une personne et s'il met une semaine à la faire, il met une semaine. Mais dans l'urgence on va mettre 4 ou 5 personnes pour réduire le temps parce qu'on a un délai beaucoup plus court. Après, dans les autres activités [...], tout le reste est mis en stand by, pas trop longtemps, mais au moins pendant la durée de l'urgence* »[52]. Cette disponibilité en ressources humaines est due à la forte **motivation** qu'engendre le contexte humanitaire, l'envie de faire. « *On a construit des bateaux pour le Tsunami, on a construit des maisons au Kosovo* » relate le Responsable RH à MSF Logistique, des activités qui ne concernent pas directement l'organisation, mais « *c'est parce que peut être des fois, quand on se sent impuissant, y a quand même une envie de faire quelque chose* ». Cette finalité « *d'aider les victimes* »[53], pousse l'organisation à s'adapter constamment aux contraintes.

7.5.2 L'adaptabilité

En 2011, le nombre de missions développés par MSF France était évalué aproximativement à 63, reparties dans 29 pays dont 17 ont une situation instable ou sont sous conflit

[50] Responsable Qualité, MSFLog.
[51] Référente Produit, MSFLog.
[52] Responsable Stock, MSFLog.
[53] Ibid.

armé (MSF, 2011e). Dans certain cas, la situation du pays entraîne des contraintes qui rendrent difficile (ou par fois impossible) l'accés et donc l'approvisionnement des missions. Dans d'autre cas, c'est la nature de l'urgence et l'ampleur qui peuvent rendre l'approvisionnement difficile. Pour faire face à autant de facteurs, l'organisation a dû développer une forte capacité d'adaptation aux différents contextes, types d'urgence et volumes demandés qui engendrent des choix logistiques très différents. Le Responsable Stock à MSF Logistique nous explique:

> « *Le Tsunami, ça a été plusieurs pays, ça a touché plusieurs regions et ç'a été sur la longueur. À Haïti il fallait intervenir et c'était un point et on s'est concentré surtout sur la capitale au début, ça a été beaucoup plus facile à gérer que dans plusieurs pays (Indonesie, Sri Lanka, etc.) et ça a été beaucoup plus compliqué. En fait [pour le Tsunami] on envoyait, mais on savait pas exactement les besoins, il fallait envoyer et après on voyait sur place. À Haïti je crois que ça a été beaucoup plus mesuré. Après dans le Kurdistan, ça a été plutôt de l'ampleur... ça a été des montagnes remplies, ça a été gigantesque comme besoins et la réponse a été beaucoup de volume, d'articles à envoyer de la part de MSF Logistique, du plastique, des couvertures... des fois par avion, on faisait qu'un seul type de produit, tandis que en Haïti il peut avoir 500 ou 600 produits différents qui rentrent par envoi. C'est pas du tout la même logistique et c'est pas la même façon de l'appréhender [...] Après, ça dépend des programmes, c'est pas seulement les catastrophes, si on s'occupe de tout ce qui est sanitation c'est différent, s'y a d'autres ONG qui s'occupent de la sanitation, on va pas envoyer des tuyaux ou ce type de produits qui prennent beaucoup de volume...* »

Au niveau du transport, ces mêmes caractéristiques ont un impact important sur l'organisation. Le Reponsable frêt (ff) nous explique:

> *« Si je prends l'exemple des catastrophes naturelles, si les infrastructures sur la destination où on veut aller sont complétement détruites, ça a été le cas pour Haïti, si l'aéroport est fermé, il est cassé et tu peux pas atterrir, tu peux pas aterrir et donc il faut que tu trouves une solution. C'est notre contexte de trouver l'aéroport le plus proche, savoir quel support on a derrière... Un pays en guerre, si on voit la Côte d'Ivoire, l'aéroport d'Abdijan est fermé, mais on a besoin sur place d'envoyer des médicaments pour faire des premiers soins sur les blessés, comment on fait? Il faut qu'on trouve un aéroport le plus proche avec le support des sections opérationnelles aussi, parce que on peut bien faire le transport mais on peut pas s'assurer que la marchandise sera bien livrée. En Haïti, par exemple, on a envoyé au début les avions sur Santo Domingo, et si il n'y a pas l'équipe sur place pour receptionner la marchandise et la réenvoyer... Après, il faut voir ce qu'on est capable de faire ensemble pour intervenir. Forcément y a une communication qui est différente, un choix opérationnel qui va être différent, des recherches qui vont être complétement différentes mais on s'adapte. L'idée c'est toujours d'apporter notre support dans l'urgence et d'être capable d'acheminer la marchandise dans les délais les plus courts possibles mais en s'assurant des contraintes qui sont liées forcément à des situations différentes ».*

Les expériences que l'organisation a vécu pendant ses 40 ans d'existence, ont permit à MSF d'adapter ses ressources aux caractéristiques du contexte humanitaire pour le bon déroulement de son activité. Cependant, c'est grâce à la capacité d'adaptation, l'adaptabilité de ces ressources, que l'organisation est capable de répondre à un grand éventail de crises (urgentes ou pas) n'importe où dans le monde.

Un très bon exemple du rapport entre adaptation et adaptabilité au sein de l'organisation c'est le stock d'urgence. *« Y a tout un cadre qui est défini et qui est commun à toute*

urgence. C'est ça le principe du stock d'urgence ». Nous explique le Directeur Supply Chain. « *Ils sont calibrés en gros pour répondre à la fois à la catastrophe naturelle, à la fois à l'épidémie*». Tous ces années d'action humanitaire en situation d'urgence ont permit une adaptation à ces conditions, en termes de délais, de besoins et de ressources. Cependant, au-delà des contraintes du contexte, certains pays rajoutent une dimension à laquelle MSF doit savoir s'adapter, c'est le cas du Pakistan. « *Au Pakistan, il refusent tous les produits Indiens, donc ça pour nous à l'appro c'est une énorme contrainte, parce qu'on a beaucoup de médicaments Indiens, donc même dans les kits qu'on envoie t'as des médicaments Indiens où t'es obligé de l'ouvrir le kit, l'enlever le médicament indien, de changer etc.* »[54]. Tout le travail de conception des Kits adaptés aux caractéristiques d'un type d'urgence et d'établisement du stock d'urgence pour répondre aux urgences n'est valable que s'il existe une 'marge' pour adapter la réponse au contexte dans lequel la crise a lieu.

Sur le terrain, les équipes rencontrent souvent des difficultés techniques, liés à l'utilisation des produits, qui ont un impact sur la chaîne d'approvisonnement. L'objectif étant de garantir l'approvisionnement ainsi que la qualité du produit, la logistique (dans le sens large, c'est à dire, support) s'adapte constamment aux contraintes du contexte. Un Référent Produit à MSFLog nous donne un exemple. « *Souvent quand il y a une campagne de vaccination, on a beaucoup de réfrigérateurs et congélateurs, et comme y a pas toujours de l'électricité de ville on utilise des générateurs. Quand on passe de l'un à l'autre, souvent il faut débrancher tous les appareils parce que si on branche tout en même temps sur le générateur, le générateur n'y arrive pas. Donc j'ai fait fabriquer un petit temporisateur qui fait démarrer les uns après les autres toutes les 5 secondes les réfrigérateurs pour éviter de surcharger le générateur* ». Des fois, c'est la stratégie des missions, qui est déterminé par les médicaux, qui varie très souvent et la logistique doit être très adaptable pour pouvoir

[54]Responsable Approvisionnement, MSFLog.

répondre aux besoins des équipes. «*Au Mali, par exemple* » continue, « *on est parti au départ pour une campagne de vaccination de 25 équipes et au final ça s'est terminé par une campagne de 85 équipes. Ca veut dire que le matériel qu'on a envoyé était prévu pour 25 et pas du tout pour 85. Donc il a fallu trouver sur le marché local des congélateurs, des glacières, des voitures, tout le matériel pour instaler les sites... c'est pas facile mais on se débrouille toujours* ».

En amont, l'approvisionnement des produits depuis le fournisseur peut aussi entraîner des contraintes auxquelles la logistique de MSF doit constamment s'adapter. La qualité du produit étant le premier critère pour le choix du fournisseur, le délai d'approvisionnement ne prend pas (pour l'instant) beaucoup d'importance. De plus, même si Médecins Sans Frontières est une organisation internationale reconnue mondialement, le poids dans la relation avec le fournisseur n'est pas de son côte et donc, la logistique doit être capable de réaliser son activité en s'adaptant aux contraintes impossées par le fournisseur. La crise de choléra à Haïti après le tremblement de terre, par exemple, a généré un grand effort d'approvisionnement au sein de MSF. Le stock mondial des produits phares comme le Ringer[55], a été presque vidé. Un approvisionneur nous explique les contraites qu'il a dû surmonter lors de cette crise. « *Pour la crise choléra à Haïti on travaille beaucoup sur les perfuseurs et les catétères, j'ai un fournisseur qui est en Allemagne et le délai est de 2 à 3 semaines. Par contre j'ai un autre fournisseur qui est un peu plus chér qui est en Belgique, et pour lui je sais que en 3 jours j'aurai le produit. [...] Sur les perfuseurs, par exemple, on a un nouveau fournisseur et je lui ai passé la commande la semaine dernière et il m'annonce deux mois de délai donc il faut s'adapter* ».

L'adaptabilité logistique apparaît donc comme multidimensionnelle, avec une première dimension fixe qui est le **contexte humanitaire** auquel MSF a su s'adapter, une deuxième dimension dynamique liée aux contraintes des **pays** en termes de délais de

[55]Il s'agit d'une solution cristalloîde isotonique destinée au remplissage vasculaire et à la rééquilibration hydroélectrolytique avec apport calorique glucidique (Baxter, 2008)

dédouanement et même l'accès, une troisième dimension dynamique liée au difficultés du **terrain**, une quatrième dimension dynamique issue des demandes **médicales** et finalement, une dimension dynamique en amont avec le **fournisseur**. Au milieu la logistique, dans les mots du directeur Suppply Chain, « *c'est comme le sommet d'une montagne, d'un côté on a tout ce qui est opérationnel (définition des programmes, choix médicaux, etc.) et de l'autre côté on a tout le monde industriel avec qui on est en contact, la réalité commerciale [...] ces deux mondes là normalement ne se connaîssent pas et nous on fait le tampon par rapport à la demande du monde MSF et la réalité de la mise en œuvre de ce qui est pensé* ». Pour faire face à ces deux 'mondes', la logistique dite d'approvisionnement à MSF s'appuie sur un certain nombre de compétences techniques qui complémentent les autres compétences de l'organisation.

7.5.3 Les compétences techniques

Les résultats de la recherche montrent les compétences techniques comme étant importantes pour le bon déroulement de l'activité de MSF. Cette notoriété au sein de l'organisation est le résultat d'un processus de **professionnalisation** des différentes activités réalisées tout au long la chaîne d'approvisionnement. Ces compétences représentent chacun des métiers qui composent la logistique de MSF. La plupart d'entre elles, comprennent les différents secteurs de la centrale d'achat et d'approvisionnement MSF Logistique (§ 6.4.3.1), non sans reconnaître l'importance des métiers qui composent la logistique de support (§ 6.4.2.2). Cependant, certains d'entre eux semblent être plus développés que d'autres. Dans ce qui suit, nous allons présenter, basés sur les résultats du *node* «Compétences Logistiques MSF» (Figure 7.5), les compétences les plus importantes.

7.5.3.1 L'achat-technique

Comme il a été dit tout au long de la recherche, la caractéristique la plus importante pour le choix d'un produit c'est la qualité. « *Une des premières compétences* », nous explique

un technicien aéronautique, « *c'est de déterminer tous les produits que l'on envoie [...] de déterminer au niveau médical notamment tout ce qui est valable* ». Des experts dans chaque famille de produit ont développé une « *maîtrise de l'identification de sources, des appel d'offre* »[56] pour répondre aux besoins des médicaux. C'est cette compétence 'technique' qui permet de choisir « *le bon produit, qui soit utilisable au bon moment, qui soit disponible au bon moment* »[57]. L'expérience acquise pendant tous ces années permet aujourd'hui à MSF de bien négocier avec plusieurs founisseurs partout dans le monde les quantités par fois très importantes de produit, et de sélectionner celui qui garantit une capacité de production et une réactivité en accord avec les standards de l'organisation, tout en gardant un bon rapport prix/qualité de produit et service. En outre, la logistique à MSF prend en charge le conseil technique des produits envoyés au terrain, allant parfois jusqu'à la création de guides d'utilisation communs pour toutes les ONGs. Si elle reste à développer, la compétence en achat-technique au sein de l'organisation représente un des outils les plus importantes de MSF.

7.5.3.2 Le transport

L'objectif de la structure logistique de MSF c'est de soutenir l'activité médicale en approvisionnant les équipes qui se trouvent sur le terrain. Pour accomplir cet objectif, l'organisation a développé une capacité d'organisation du transport au point d'être capable d'intervenir dans des choix du transport propre d'un transitaire. Le Responsable frêt (ff) nous explique sa vision de la compétence en transport de MSF par rapport au monde commercial.

> «*Dans le milieu professionnel t'as finalement très peu de gens qui sont confrontés à l'affrètement des avions, parce qu'on le sous-traite complètement: le transitaire le sous-traite au broker, le brokeur s'en occupe et on suit. Nous,*

[56] Responsable Qualité, MSFLog.
[57] Responsable Ressource Humaines, MSFLog.

> *on aime le faire directement avec le broker et comme on a des compétences au sein de MSF Logistique et qu'on veut s'assurer que les choses se passent bien, on veut s'assurer que l'avion correspond bien à nos critères de sélection, on veut choisir l'aéroport de départ on fonction du prix, on fait toute une analyse, on veut savoir où il va aterrir exactement, on veut connaître l'équipage... un tas de choses sur lesquelles on fait attention pour le choix opérationnel, le choix de cette compagine ou pas. Donc, c'est pas évident d'avoir ces compétences là à l'extérieur*».

Un des éléments qui démontre la compétence en transport développée par MSF est la cellule avion, qui dans les mots du Responsable RH est une « *compétence qui n'existe nul part* ». Elle a été créée pour *améliorer la sécurité des opérations aériennes pour les avions qui son affrétés par MSF, pour répondre aux urgences et pour apporter plus de solutions aux sections MSF en petit cargo* »[58]. Actuellement, MSF a 7 avions en contrat répartis dans le monde, et le but de la cellule avion est de « *rédiger l'appel d'offre, donner une avis technique sur l'appel d'offre, participer au choix d'opérateur et assister à la mise en place et le suivi du contrat* »[59].

7.5.4 L'intégration

Dans la section 7.4.4 nous avons montré que la combinaison des compétences organisationnelles de MSF apparaît comme la compétence clé pour assurer le bon déroulement des opérations d'aide humanitaire. Comme on pouvait s'y attendre, et conforme à la vision collective de la compétence au sein de l'organisation (§ 7.2), une vision 'd'ensemble' de la chaîne d'approvisionnement est considérée comme une des compétences logistiques de MSF. Comme l'explique in pharmacien à MSF Logistique, « *un département achat est crucial, un département 'appro' aussi, la gestion de stock, la gestion des flux*

[58] Technicien Aéronautique, MSFLog.
[59] Ibid.

dans l'entrepôt, la partie technique de validation des produits qu'il faut... en fait, tout le monde est important ». Cette vision est confirmée par un chef d'équipe stock pour qui « *toute la chaîne est importante, donc s'il y en a un qui ne marche pas, l'opération elle marchera jamais* ». Une approche unifiée des différrentes activités logistiques est connu sous le nom d'intégration, un processus qui se trouve au cœur de l'évolution de la logistique (§ 3.2.2).

À travers son histoire, MSF a enrichi son système logistique avec les fonctions nécessaires pour assurer une activité médicale de bonne qualité et aujourd'hui, l'organisation profite d'une cohésion interne des activités logistiques et qui va par fois au-délà des frontières de l'organisation. Un approvisionneur nous explique que à MSF « *la logistique englobe beaucoup de choses, c'est les commandes, le frêt, la préparation... après ça peut être plus loin, ici tu vas jusqu'à la création d'articles* ». Un référent produit à MSF Logistique nous fait connaître le cas de la chaîne de froid:

> « *Dans un moment on avait beaucoup de ruptures de chaîne de froid, et j'ai fait un cahier de charges pour des nouveaux emballages qui étaient très contraignants. J'ai fait un appel d'offre et tous les fournisseurs m'ont dit "c'est beaucoup trop contraignant, ça sert à rien..." Finalement, on a travaillé ensemble avec notre founisseur, on lui a fait faire des nouveaux emballages et on est passé de 100.000€ de produit détruit en 2008 à moins de 200€ en 2010* ».

Grâce à une vision globale de l'approvisionnement, la logistique au sein de MSF est actuellement considérée comme intégrée en interne et présente pour certain cas, comme la chaîne de froid, une intégration externe avec les fournisseurs qui sont par fois considérés comme des « *partenaires* »[60]. C'est cette synergie entre les différentes activités qui fait une des qualités de la logistique MSF. Pour le Responsable Production à MSF Logistique,

[60] Responsable Stock, MSFLog.

« la principale compétence c'est d'avoir une bonne vision globale de l'approvisionnement, ce n'est pas être un bon spécialiste du transport, un très bon spécialiste de l'entreposage, un très bon spécialiste de l'achat, de l'approvisionnement en général... pour moi la principale compétence c'est d'être moyen sur l'ensemble de la supply ».

Un des facteurs qui permet cette intégration c'est le **partage de l'information** entre les différentes secteurs qui comprennent la logistique d'approvisionnement à MSF. «*C'est surtout un problème d'organisation* » explique le Directeur Supply Chain, « *de façon dont va communiquer, de façon dont va pouvoir comprendre que l'information que j'ai si je la garde pour moi elle sert à rien, donc il faut la partager et la partager très vite avec un maximum de clarté sachant que l'autre ne comprends pas ce qu'on lui dit donc, il faut être sûr que la chose est comprise et que le message est bien passé* ». Outre, « *la* ***communication*** *entre le siège et MSF Logistique est très importante pour que tout se passe bien* »[61].

7.6 Conclusion

Le septième chapitre de cette thèse est centré sur le traitement et l'analyse des données collectés au sein de MSF. Dans les premières sections, le chapitre introduit les concepts de compétence et succès vu par les membres de l'organisation. La compétence est percue comme une capacité à faire, capacité qui est acquise par l'experience et qui résulte dans un savoir collective au sein de l'organisation. Cependant, l'étude n'a pas révelé des éléments sur la relation entre la **compétence individuelle** des membres de l'organisation et la **compétence collective**. Une discussion autour de ce sujet sera présentée dans la partie 4 de cette thèse (cf. § 9.2.1). De plus, la notion de succès trouvée dans l'organisation rejoint la discussion de la section 1.4, mais introduit la satisfaction comme critère global de la réussite d'une opération et donc, du succès de l'organisation.

[61] Responsable Opérations, MSFLog.

Le chapitre continue avec une description des principales compétences organisationnelles de MSF, parmis lesquelles on distingue la compétence médicale, la compétence logistique et la capacité à répondre aux urgences. À travers son histoire, Médecins Sans Frontières a évolué d'une pratique centrée sur les soins primaires dans des contextes d'urgence, jusqu'à la prise en charge à long terme des patients atteints de Sida et Tuberculose, et plus récemment la gestion d'hôpitaux. Ainsi, la compétence médicale de l'organisation a permit à MSF d'élargir son champ d'action vers d'autres domaines tels que la chirurgie d'urgence, les épidémies, la vaccination et la nutrition, entre autres. De son côté, la logistique a permit en grande partie le développement de l'activité médicale, en obtenant une place importante dans la structure de l'organisation. Cet alignement entre **compétence et structure** issue de l'analyse des données a réveillé notre attention, car il peut apporter des éléments de réponse aux interrogations présentées à la fin du chapitre 3 (cf. § 3.5). Une discussion sur ce sujet est donc présentée dans le chapitre 9. Finalement, les résultats montrent que la combinaison des compétences médicale et logistique donnent comme résultat la capacité de l'organisation à répondre à tout type d'urgence, mais c'est la combinaison de toutes les compétences qui apparaît comme la clé de la réussite et du succès de l'organisation.

La dernière section de ce chapitre présente les résultats des compétences logistiques organisationnelles de MSF. Un certain nombre de compétences sont regroupés autour des domaines techniques de la logistique, tels que l'achat, le frêt et l'approvisionnement. Cependant, l'étude a montré que la capacité à répondre (réactivité), la capacité à s'adapter (adaptation) et l'intégration des différentes domaines de la logistique sont considérées comme les compétences logistiques les plus importantes au sein de l'organisation. D'autres compétences incluent la communication interne, la flexibilité et le partage de l'information. À partir de ces résultats, nous sommes maintenant en mesure d'apporter des éléments pour répondre à notre question de recherche dans la dernière partie de cette thèse, ainsi que de répondre aux différentes sous-questions formulées dans la synthèse de la deuxième partie.

Part IV

The strategic role of logistics for humanitarian relief

Chapter 8

A logistics competence & capability framework for humanitarian relief

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8.1 Introduction

Throughout this research, we have identified and built the foundation for the analysis of empirical data that will help us answer our research question (R.Q.), based on an abductive reasoning. In the first part, we identified the main characteristics of the humanitarian context and we took a first look at the role that logistics and supply chains play in humanitarian relief. The second part allowed us to match the description of logistics presented in chapter 2, to theoretical definitions for further use in the analysis of the empirical data. Here, the organizational logistics competences and capabilities that contribute to a firm's competitive advantage were identified from academic literature. Moreover, through the Resource-Based literature, we were able to understand the relation

between competences and capabilities, a distinction that turns out to be very of important for this research. Nevertheless, some questions regarding the strategic role of logistics for humanitarian relief were raised and have not been answered. The previous part presented MSF as an international humanitarian organization, capable of effectively respond to a wide range of emergencies thanks to 3 organizational competences: Medical, Logistics and Responsiveness. The MSF case study also allowed us to identify the organizational logistics competences that enable the organization to effectively respond to emergencies and to develop continuous aid programmes. It is now the time to give answer to our research question.

As it was presented in the structure of the thesis, the objective of this chapter is to answer to our research question: *what are the organizational logistics competences and capabilities needed to ensure the success of humanitarian relief operations?* The direction and redirection process (Dubois and Gadde, 2002), between the empirical world (Part I) and the theory (Part II) led us to an integrative framework of logistics competences and capabilities (Fig. 4.6), which for the systematic combining approach constitutes "the framework". The MSF case study in Part III gave us an empirical perspective of MSF's logistics competences used to ensure the success of their operations. This new element gives us the basis for evolving the framework through the matching process (Ibid.). The following section, in which we attempt to answer the R.Q., the results found in the MSF case study are explained through academic literature that provide theoretical explanations of these results. This analysis allows us to evolve the framework to include the empirical perspective and propose a Logistics Capability and Competence framework for Humanitarian Relief. The chapter will conclude with some final remarks and some hints for further analysis on the next chapter.

8.2 Logistics capabilities and competences for humanitarian relief

As it was defined in section 4.3.2, competence refers to those functional areas, critical activities or organizational processes that differentiate an organization from its competitors, and/or through which the strategy of the organization is implemented. On the other hand, capabilities refer to those skills, mechanisms, processes and knowledge that allow resources to be deployed and when combined, create competences. Although the terms 'competence' and 'capability' are found interchangeably in logistics and SCM literature (Morash et al., 1996), most authors agree that indeed logistics competences are built around capabilities. Consequently, capabilities can be gathered according to their focus or orientation, in which we find supply orientation, process orientation, demand or customer orientation, information orientation and process orientation, among others (§ 3.4.2). Based on this perspective, we presented in the synthesis of Part II an integrative framework of logistics competences and capabilities (Figure 4.6) that classifies the overall logistics competences and capabilities found in the literature (cf. Table 3.7). The framework presents logistics capabilities gathered by orientation (supply, demand, information and coordination) and a number of competences that result from combining capabilities, following the definition of competence and capability and their relation found in RBV literature (cf. § 4.3.2). Nonetheless, the framework does not include the results from the empirical study and thus, it does not reflect the needs of the humanitarian context.

Systemically combining the characteristics of the humanitarian context (§ 1.2), the characteristics of humanitarian logistics and supply chains (§ 2.3 and 2.4), the logistics capability and competence literature review (§ 3.4.1 and 3.4.2), the findings from the Resource-Based View literature (§ 4.3.2), and the results from the MSF case study (§ 7.5), it is possible to propose a set of organizational logistics capabilities and competences

needed to ensure the success of humanitarian relief operations. As it was the case for the integrative framework (Figure 4.6), the following set of capabilities are gathered according to their orientation, while the competences are considered as the result of combining such capabilities. Moreover, as previously stated, this research aims to fill an existing gap of humanitarian logistics capabilities and competences from an organizational perspective, therefore the proposed set include only organizational logistics capabilities and competences. No direct contribution is made at an individual level (i.e. skills), although organizational capabilities are the result of the interaction of individual competences (Durand, 2006)[1]. The proposed organizational logistics capabilities and competences are described as follows.

8.2.1 Supply-oriented capabilities

As it was shown in the first part of this thesis, one of the characteristics of humanitarian relief is the uncertainty of supply, characterized by either scarcity of resources or oversupply (Balcik et al., 2010). For instance, after the 2010 Haiti earthquake, the lack of access to clean water and sanitation led to a Cholera outbreak, infecting 150.000 people and killing 3.500 between October and December 2012[2]. This threat almost caused a global Ringer's solution[3] stockout, leaving humanitarian organizations without supplies to treat the patients. In other cases, organizations have to deal with an unprecedented response from the international community as it was the case for the 2004 Indian Ocean Tsunami, where five months after the emergency, about a third of the containers with relief items (mostly from small volunteer donors) were still blocked at customs (van Wassenhove, 2006).

[1] A discussion on this subject is held in the next chapter

[2] Source: "Haiti cholera 'far worse than expected', experts fear", Michelle Roberts, BBC News, 16th March 2010.

[3] A sterile aqueous solution of calcium chloride, sodium chloride, and potassium chloride that provides a medium essentially isotonic to many animal tissues and that is used especially to replenish fluids and electrolytes by intravenous infusion or to irrigate tissues by topical application (Merriam-Webster, 2012)

To cope with such factors, humanitarian organizations have developed a number of capabilities that focus on managing upstream flows, enabling them to effectively perform their activities. The MSF case study showed that during the Haiti cholera breakout, the relation that the organization has with its suppliers played an important role when procuring the material and solutions for intravenous drip. A procurement manager at MSF Logistique remembers that during the breakout "*one of the CEOs of a pharmaceutical company transported some boxes of Ringer's Solution on the trunk of his car to the airport in his way home to speed up the delivery [...]this was possible thanks to the close relationship that MSF has with this supplier*". This shows that through their **supplier relation** capability, MSF is capable of better responding to an emergency, specially when supplies are scarce. However, this capacity to respond is also the result of a good **stock management** capability, maintaining good levels of relief items (vaccines, drugs, food and NFIs), but also, to the identification of suppliers capable of producing and delivering these goods, and the development of a **purchasing** capability (cf. § 7.5.3.1).

In some cases, suppliers are more than just actors in the supply chain. For instance, when MSF wanted to redesign their cold chain, they established very restrictive requirement specifications for their vaccine transportation boxes, only to find that no supplier was able to match their requirements. As a result, MSF co-designed with its former supplier a isothermal box that matched MSF's field specifications and permitted the supplier to extend their product line. MSF's **supplier partnering capability** has allowed the organization to maximize the value and cost efficiency of some of the purchased materials and services to the point that some of these partners have integrated (at some level) their supply chain to that of MSF. Nevertheless, some improvements can be done with regards to this issue. Although MSF's independent position is considered to be the milestone of their success, it is possible to argue that further development of supplier relations can lead to **strategic alignment**, when both supplier and organization establish a common

vision of the total process and agree to share responsibility (Bowersox et al., 1999). The development of this capability in humanitarian organizations can improve the overall performance of the response to emergencies and the development of continuous aid programmes.

In the introduction of this thesis we explained that most international humanitarian organizations are present both during emergencies (response) and between emergencies (development). These organizations have an important number of teams deployed nearly in every country, needing great amount of supplies to be delivered. This requires a very specific capability that allows the organization to ensure the provision of supplies for every team. In MSF, this is achieved thanks to the operational structure (cf. § 6.4.2) that the organization has built throughout the years, and the procurement policies implemented by the organization with regards to international procurement (cf. Figure 6.3). All teams working in the field place their orders to the logistics coordinator (Co Log) in the country office, which reunites all orders from all teams and place a global order to the logistics platform (e.g. MSF Logistique). The operations officer in the platform receives and validates the order and is then passed to the production department that consolidates all orders and delivers the requested supplies. This **supply chain unification** results very advantageous, as it links operational interfaces and systems to reduce duplication and redundancy and maintains process synchronization. Moreover, purchasers and procurement managers in the platform are able to take advantage of **low-cost supply**, as these two activities are performed by a single organization that aggregates the orders of every country office, achieving scale economies. In conclusion, supply-oriented capabilities in the humanitarian context involve:

- Total cost minimization so that resources can be better allocated by using them to increase the volume of products delivered, or enhance the quality of the products used by the teams and given to the beneficiaries,

- Effective management of time to reduce waste and contribute to preparedness,
- Response to fluctuating demand with less or no distortion of the regular process, and
- The use of resources to enable modularity so that these can be used in any given situation.

In addition to supply oriented capabilities, a series of capabilities related to internal processes are needed to plan, coordinate and integrate cross-functional activities (MSUGLRT, 1995).We refer to these capabilities as coordination capabilities.

8.2.2 Coordination capabilities

Humanitarian logistics literature is mostly based on the assumption that humanitarian supply chains differ (to a great extent) from commercial supply chains (cf. Beamon, 2004), at the point that their are considered as "unique" (Kovacs and Spens, 2007b). Although this may be true at a field level and mostly during the response to an emergency, this is not the case for the 'permanent' side of humanitarian logistics (development programmes and continuous aid work). On the contrary, the functioning of an humanitarian logistics platform can be compared to any classic logistics platform, not without some specificities. Nevertheless, due to the characteristics of the context in which the activity is performed, some specific logistics capabilities need to be developed in order to both cope with the constraints of the supply and be able to efficiently respond to the needs from the field.

One of the characteristics of humanitarian relief is the unpredictability of demand during the response to an emergency in terms of timing, location, type of products and size (cf. Table 2.2). In addition to this, most international NGOs carry out continuous aid and development programmes, which require a totally different supply chain configuration and a totally different internal organization from the one used in emergency relief (§ 2.4.1). The

MSF case study showed that in order to cope with these two facets of humanitarian relief, the organization has developed what they call **prioritization capability** or the capacity to prioritize the activities according the degree of emergency. The Production Director at MSF Logistique explains that "*at a time, when an emergency arrived we were obliged to stop the order preparation for continuous aid work. Today, we have learned to deal with the emergencies' degree and we are capable to organize the activities so as to ensure both emergency and continuous aid work*". This capacity to respond to an emergency without affecting the continuous work is possible thanks to both **personnel** and **operational flexibility**. Personnel flexibility is represented by the personnel's capacity to work extra hours and even perform activities that are not included in the job description. During the emergency response, most material handling personnel, the warehouse coordinators and even the stock and production directors perform order preparation tasks like picking and packaging, enabling internal operations to be executed in a different manner in order to prioritize the emergency. MSF's close internal collaboration between departments allows the organization to manage activities as processes developing a **cross-functional unification** that is nourished by good **internal communication**.

Moreover, The MSF case study showed that over the past years, the organization has reached an important level of **standardization** in different aspects (products, medical procedures and logistical procedures), that are constantly updated in a series of guidelines that are shared through MSF's intranet (cf. § 7.4.2). The use of standards facilitates synchronicity of operations and enables flexibility, as it establishes cross-functional procedures that can be performed by any member of the organization. Nevertheless, although most standards exist for the whole MSF movement (§ 6.4.1), an effort should be done in the establishment of cross-section standards so as to avoid incompatibility of procedures during the response to an emergency.

As it was mentioned in section 2.4.2, most international NGOs source goods globally so as to ensure the quality of the product. In some cases, they decide to open a warehouse strategically located to be near to important suppliers. MSF is not the exception. Throughout the years, MSF has developed local supply units such as the Kenya Supply Unit (KSU) in Nairobi and the Dubai logistics platform, so as to be close to both the beneficiaries and the suppliers. The Supply Chain Director at MSF Logistique explains the interest of developing the Dubai Logistics platform: "*For Haiti, all the Non-Food Items (NFIs) that we had were in Dubai given that most suppliers are located there. When the emergency arrived, we thought that the distance between Dubai and Haiti was going to be a handicap for the response and that wasn't the case. We managed to ship full charters from Dubai at lower costs than from Bordeaux, to consolidate our orders with other NGOs [...] it was a success*". This capacity of modifying the network to facilitate integration with their suppliers is considered as a **structural adaptation** to new and better ways of performing the activity. However, an important aspect is to measure how the activity is being performed. Although the case study did not show much evidence on formal performance measurement systems, the development of comprehensive functional performance measurement, i.e. **functional assessment**, must be developed so that the the overall performance of the activity can be analyzed and thus, identify possible problems and propose ways of improvement.

In addition to supply oriented capabilities, and coordination capabilities, the framework (Figure 4.6) presented a number of capabilities related to customer service, time-advantage and market responsiveness (Morash et al., 1996), referred to as demand-oriented capabilities. Although most of these capabilities are needed or applied specifically in for-profit settings, some are found in humanitarian relief.

8.2.3 Demand-oriented capabilities

One of the most prominent characteristics of humanitarian relief is the uncertainty in demand, which is often generated from random events that are unpredictable in terms of timing, location, type, and size (Beamon, 2004). To cope with these factors, humanitarian organizations have developed a number of logistics capabilities that facilitate the fulfillment of the organizations' goals. As it has been previously said, most emergency responses begin with little or no prior warning of the nature, size, time and location of the catastrophe. Yet, the MSF case study shows that the organization is capable of responding instantly to any type of emergency and to deliver the first supplies in less than 48 hours. This **speed on delivery** was demonstrated during the Haiti emergency response to the earthquake, when in less than 2 days the first MSF full charter was taking off, and in 6 days all the material needed to set up an inflatable hospital, was in the location (cf. Box 7.1). This capability developed by MSF contributes to reduce the time between the impact of the disaster and the delivery to the beneficiary to as close to zero as possible. In the case of continuous work, on the other hand, to be the fastest is not always the best solution. The circumstances in which the relief effort is undertaken, can make an early delivery a problem. This is why, MSF has achieved the capacity to be **reliable** and exactly meet the delivery dates and quantities requested by the missions.

One of the most important logistics capabilities identified in the case study is MSF's 'reactivity' or **responsiveness**, the capacity to respond to the needs from both, the teams on the field and the beneficiaries. As it was shown in the case study, MSF Logistique has developed the capacity to identify the products that match the requirements of the teams in the field and be able to deliver "*the good product, which can be used at the right time, which is available at the right place*"[4]. With regards to the beneficiaries, MSF has created several structures that are considered essential to the practice of independent

[4]Head of Human Resources, MSF Logistique

humanitarian action and quality (cf. § 7.4.1). Whether it is the research on epidemics (Epicentre), the debate on humanitarian practices (CRASH) or the development of new solutions to treat neglected diseases (DNDi), the organization constantly works to improve their activity and respond to the needs of the beneficiaries. Nevertheless, given the evolving characteristics of the environment, these needs change rapidly, this is why MSF has also developed the capacity to provide the **relevant** solutions to the requirements at a specific time and place that match the beneficiary's changing requirements. It is worth noting that while academic literature do not consider **transportation management** as a capability in commercial settings, this represents a major factor of success for humanitarian relief operations, as it allows to identify and provide the required transportation means to deliver (cf. § 7.5.3.2).

Despite the characteristics of the demand, it is possible to forecast, to some extent, the requirements from the field. Recently, MSF Logistique realized this possibility and the former procurement department evolved in 2010 to a planning-procurement department (cf. § 6.5.3.1), where **demand-driven planning** is performed systematically based on historical data of orders from the field. This trend is also attested by academics in humanitarian logistics literature (e.g. Everywhere et al., 2011), arguing that forecasts allow to "predict the unpredictable" and be better prepared to respond. Further developments on this should include **collaborative forecasting and planning** between the customers (in this case the field missions and the beneficiaries) and the organization, as well as suppliers, in order to understand the users' (doctors, nurses, etc.) and beneficiaries' needs for proactively offer solutions. For this, a number of information-oriented capabilities must be developed.

8.2.4 Information-oriented capabilities

Although the orientations presented above, as well as the capabilities composing each orientation, are important for ensuring the success of humanitarian operations, humanitarian relief organizations require a set of information-oriented capabilities that link the capabilities found in other orientations. In the first chapter of this thesis, we presented the activities performed in the humanitarian context based on practitioners' experience and we pointed out the importance that **information management** had in linking these activities (cf. § 1.3.2). Regarded as a logistics capability, information management facilitates resource allocation through uninterrupted transactions across the organization (Bowersox et al., 1999). This capability is supported by a willingness to exchange key technical, operational and strategic information within and across the organizations boundaries. One of the main logistical problems that appeared during the response to the 2004 Asian Tsunami, was the lack of information sharing that caused a coordination and logistical nightmare (Thomas and Kopczak, 2005). Since then, international organizations realized the importance of information when responding to an emergency situation. Several initiatives of information sharing have been developed during the past years among which we find the global mapping of emergency stockpiles, the consolidated appeal process (CAP), the financial tracking system and the logistics cluster's information sharing platform.

Although the MSF case study results show few information-related activities/functions as capabilities/competences, probably due to the informality of the processes and the "youth" of information systems in the organization, it is worth noting that some information-oriented activities and technologies have been implemented in the organization and that, in order to be considered as capabilities, these deserve further attention. For instance, the case study showed the importance of **information sharing** for the good functioning

of the organization (cf. 7.5.4). The "systemic"[5] vision of the organization encourages members to share information among departments, in order to develop a global vision and effectively respond to the needs that come from the field. For this, MSF has implemented the software *Nodhos*, an ERP that manages all the internal activities of the Supply Chain, such as procurement, warehousing, transportation, planning and client relationship. This **integrated information system** enables the organization to effectively perform the delivery of goods, and contributes to the collaborative planning of the activity. Moreover, MSF has invested in **advanced technologies** such as scanning technology for order picking, that have impressively improved the accuracy of the orders and reduced the time of order preparation. Nevertheless, some further developments can be performed.

An interesting point for improvements can be the collaboration with suppliers and other NGOs through the ERP system, boosting connectivity among the members of the supply chain, and enabling the external integration. Moreover, the effective use of the integrated information system can contribute to the regular measurement and analysis of supply chain performance (Gilmour, 1999), a process that has recently caught MSF's and that can be used to improve the effectiveness of the organization's activities. The combination of these and other capabilities create, as it was shown in previous chapters, competences that contribute to the success of the organization and its operations.

8.2.5 Logistics competences

In the chapter 3 of this thesis, we introduced the concept of logistics competence as a combination of a specific set of capabilities (§ 3.4.1). This was further supported by Teece et al. (1991) in chapter 4, who state that capabilities are the mechanisms and processes by which new competences are developed. The MSF case study presents some of these logistics competences and/or capabilities but, as it was the case for logistics literature, no distinction is made between these two terms. Nevertheless, our analysis allows us

[5]Head of Quality, MSF Logistique

to perform the distinction of these two concepts based on the results of the case study and the framework presented in the synthesis of Part II. The following sections present five logistics competences that result from the combination of logistics capabilities. These include Positioning, Integration, Measurement and Agility, the four competences identified by the MSUGLRT's (1995) work, and Resilience, a new competence that was not found in the logistics and SCM competences and capabilities literature review, but that some of its elements emerged from the case study, although not explicitly, and that deserve some further attention and explanation as a part of the matching process.

8.2.5.1 Positioning

Strategic positioning is broadly defined as "performing *different* activities from rivals, or performing similar activities in *different ways*" (Porter, 1996, p. 62), and is considered as essential to logistics as it is a *differentiator* that can lead to sustained competitive advantage (MSUGLRT, 1995). In logistics literature, positioning refers to the selection of strategic and structural approaches to guide logistical operations (Stank and Lackey, 1997). The MSF case study showed that throughout the years, the organization's logistics structure has evolved from an unorganized function such as the *intendance* or general administration (§ 6.5.1), to the creation of specialized logistics platforms such as MSF Logistique and MSF Supply that ensure logistical operations for the entire movement. The evolution of this activity has recently resulted in the creation of strategically located warehouses such as Dubai and Nairobi, to improve the effectiveness of the organization's logistics.

Anderson et al. (1998) state that a positioning competence encompasses strategic planning, supply chain alliances, and several employee components including empowerment, learning and teaming. Moreover, Stank and Lackey (1997) include customer focus, organizational control and organizational implementation as capabilities that contribute to the positioning competence. From the capabilities presented in the

previous section, we can relate the strategic alignment, planning and organization as some of the capabilities that contribute to the positioning competence.

8.2.5.2 Integration

Integration is not a new concept in the field of management. In logistics and Supply Chain Management, integration is considered as the most fundamental shift in thinking (Bowersox et al., 1999), and is defined as "the degree to which logistics tasks and activities within the firm and across the supply chain are managed in a coordinated fashion" (Chow et al., 1995, p. 291). Logistics integration is found internally, i.e. across boundaries within a firm, or externally, i.e. across firm boundaries (Stock et al., 2000), and it can be either (Fabbe-Costes and Jahre, 2007):

- Limited dyadic (downstream),
- Limited dyadic (upstream),
- Limited dyadic (with both suppliers and customers but separately),
- Limited triadic, or
- Extended

The MSF case study showed that internal integration of functions is considered to be a key element for the success of the organization (§ 7.4.4), and presented internal logistics integration as one of the most important capabilities (§ 7.5.4). This holistic approach involves all the different activities performed in the logistics platforms (cf. 6.5.3.1), namely purchasing, procurement, stock, transportation, among others, all along the internal supply chain. The capabilities found in the MSF case study and that contribute to internal integration are the integrated information systems and information sharing. Moreover, as it has been previously shown, MSF's operational structure (§ 6.4.2) enables downstream external integration (to some extent) with the organization's first customers,

i.e. the teams on the field, while the relation with some of its suppliers enables upstream external integration (see, for example, the case of MSF's cold chain § 7.5.4). Taking this into account, it is possible to consider integration (both upstream and downstream) as a logistics competence that contributes to the success of humanitarian operations. Nevertheless, for the case of MSF, this should be further developed to the point of achieving extended integration.

8.2.5.3 Measurement

Measurement refers to the degree to which a firm monitors internal and external operations (Stank and Lackey, 1997). With regards to logistics, Lambert et al. (1985) propose that the evaluation of logistics functions should be divided in three areas, namely productivity (the ratio of real output to real input), utilization (the ratio of capacity used to capacity to available capacity), and performance (the ratio of actual output to standard output). As stated by Lambert et al. (1988), performance measurement is an analysis of both effectiveness, the extent to which the goals are accomplished, and efficiency, the measure of how well the resources expended are utilized, in accomplishing any given task. As it was discussed in section 7.3, MSF has established an important number of performance indicators mostly related to the medical activity, e.g. number of patients treated, mortality and vaccination coverage percentages, or medicine utilization, among others. Moreover, the organization has recently put further attention into logistics performance measurement systems, but there is still an important amount of work that needs to be done in this area.

Literature in supply chain performance measurement has proposed over the past years an important number of measurement systems that include as measures cost, activity time, customer responsiveness and flexibility (Beamon, 1998). Arguing that most systems are single based on a single performance measure, (Beamon, 1999) proposes a multi-dimensional approach for measuring supply chain performance, including the measurement of resources, output and flexibility. Although the organization's goals can

be complex to define (number of lives saved, number of patients, tons of distributed food), measurement is essential for monitoring the overall performance of the activity and be able to give account to both donors and beneficiaries of the operations and choices that the organization undertakes.

8.2.5.4 Agility

Considered as "business-wide", agility "embraces organizational structures, information systems, logistics processes, and, in particular, mindsets" (Christopher, 2000, p. 37). In logistics literature, agility addresses how well the firm responds to customers' changing needs and is marked by the abilities to meet unique customer requests and adapt to unexpected circumstances (Goldsby and Stank, 2000). Some of the components of agility include market sensitivity, process integration and network structure (Christopher, 2000); response, flexibility and speed (Christopher and Towill, 2001); and customer sensitivity, virtual integration, process integration and network integration (Van Hoek et al., 2001), among others. As it was presented in the case study results, MSF has learned and developed the logistics capacity to constantly adapt to country regulations, field constraints, medical requirements and suppliers' conditions (§ 7.5.2), and yet effectively respond to the needs from both, teams on the field and beneficiaries (§ 7.5.1).

Stank and Lackey (1997) argue that both operational and personnel flexibility contribute to a firm's agility competence, and have an impact on the overall logistics performance. This is particularly true for MSF. The case study revealed that the staff's capacity to perform different tasks and the organization's capacity to perform operations differently, are two key elements to rapidly respond to an emergency. However, these two are not the only capabilities that contribute to agility. MSF's ability to create and manage a network of potential suppliers enables the organization to adapt the requirements of their 'customers', either in time, quantities, types of products, and quality, among others, through multiple sourcing. This is supported by a transportation management

capability that helps to identify the different transportation modes that match the product characteristics.

8.2.5.5 Resilience

Resilience can be defined as the ability of an individual or organization to expeditiously design and implement positive adaptive behaviors matched to the immediate situation, while enduring minimal stress (Mallak, 1998). In management sciences, resilience is defined as "the ability of a system to return to its original state or move to a new, more desirable state after being disturbed" (Christopher and Peck, 2008, p. 2). As it was shown in the MSF case study, the organization has developed the ability to respond to emergencies and continue to provide logistics support to continuous aid programmes and projects. This capacity to adapt to change without having a great impact in the permanent structure is what allows MSF to be considered as a successful humanitarian organization, and to be present in both, emergency relief and development.

With regards to supply chains, resilience refers to being capable of not only managing risk, but also being better positioned than competitors to deal with –and even gain advantage from– disruptions (Sheffi, 2005). One example of this is MSF's response to the Afghanistan War in the early 80s, were MSF medical teams clandestinely crossed the Pakistani–Afghan border and traveled by mule for several weeks to reach injured civilians living in remote areas, becoming the only international NGO present in the territory (cf. Box 7.3). As it can be seen in this example, the concept of resilience implies a certain degree of flexibility and also adaptability, as sometimes the required configuration may be different from the original (Christopher and Peck, 2008). Resilience thus appears as a critical competence for humanitarian action, given that organizations must be capable to respond to emergencies without affecting the provision of support for development programs.

8.3 The framework

Until now, we have presented the organizational logistics capabilities and competences for humanitarian relief, based on our analysis from the academic literature and the results from the MSF case study. This process led us to answer to our research question (R.Q.) by identifying and explaining the organizational logistics capabilities required in humanitarian relief, gathered by orientation, and to present five logistics competences that result from the combination of these logistics capabilities. As it was presented in the introduction of this chapter, the matching process (Dubois and Gadde, 2002) aims to evolve the framework, presented on Part II, including empirical evidence from the MSF case study to propose a Logistics Capability and Competence framework for Humanitarian Relief. The framework, presented in Figure 8.1, is thus based on the integrative framework of logistics competences and capabilities (Figure 4.6), which reunites all competences and capabilities found in logistics and SCM literature, gathered by orientation, and includes the concepts of core and distinctive competence. Taking this as a starting point, the findings from the empirical study were used to confirm or disprove some of these competences and capabilities and new literature was used to interpret and explain these findings from a theoretical perspective.

As previously explained, logistics capabilities are gathered by orientation following Figure 4.6. Nevertheless, some differences must be explained. First, in the integrative framework, the concept of organizational logistics competence and the nature of logistics competence (core and/or distinctive) were included. However, in order to show the gradual evolution of the framework, these elements were not included as they refer to **sub-questions** raised in the synthesis of Part II that will be answered in chapter 9. The ambition behind separating chapter 8 and 9 is to give significance to the answer of our main research question (R.Q.), but also to provide special attention to the elements that emerged from the abductive reasoning process, an important feature of this research.

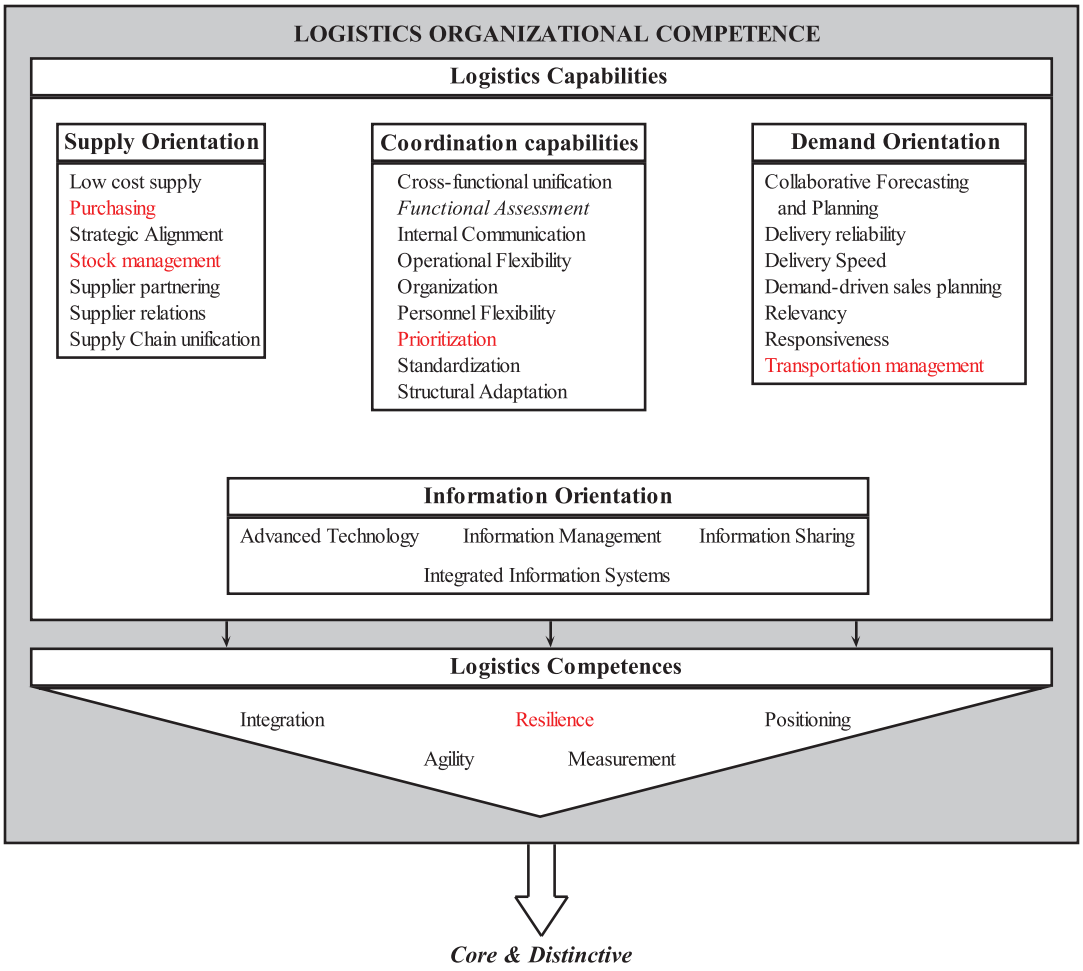


Figure 8.1: Logistics Capability and Competence Framework for Humanitarian Relief

Moreover, the capabilities presented in red (purchasing, stock management, prioritization and transportation management) are capabilities that emerged from the empirical study and that were not found in the academic literature revue, while functional assessment (in italic) results as a capability that was not identified in the empirical study but that represents an important aspect for measuring the performance/success of humanitarian relief operations. With regards to the competences, resilience (in red) emerged also from the empirical study and was not found in the results from the academic literature review. It is worth noting that the presented framework is the result of the analysis of a single case study and thus, further research is needed to improve these results.

8.4 Conclusion

The eight chapter of this thesis is an attempt to answer our R.Q. *What are the organizational logistics competences and capabilities needed to ensure the success of humanitarian relief operations?* The chapter presents a logistics capability and competence framework for humanitarian relief as a result of the matching and direction/redirection processes of the systematic combining approach. Based on the integrative framework of logistics capabilities and competences (Figure 4.6), a set of logistics capabilities and competences required in humanitarian relief are presented, based on empirical evidence from the MSF case study and the results of the academic literature review. Capabilities are gathered by orientation as found in the academic literature and each orientation is described using the results from the MSF case study. It is important to notice that although the proposed framework is the result of the systematic combining process, its relevancy must be further studied.

The proposed framework is a first attempt at identifying and describing the required logistics capabilities and competences for ensuring the success of humanitarian relief operations from an organizational perspective. As it was presented in the methodological considerations section in the introduction, the aim of this research is to explore and understand this phenomenon, and to contribute to the ever growing body of knowledge of humanitarian logistics. This framework fills a gap in a subject that is seldom studied in humanitarian logistics literature, and sets the basis for further research on this topic. Nevertheless, a number of sub-questions were raised and have not been answered yet. In the synthesis of Part II, three research sub-questions were raised with regards to logistics as an organizational competence for humanitarian relief (S.Q. 1), the nature of logistics competence (S.Q. 2), and the contribution of logistics competences and capabilities to success (S.Q. 3). The following chapter tempts to answer these questions and presents some hints for further research.

Chapter 9

Logistics competence as a strategic function for humanitarian organizations

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9.1 Introduction

In the previous chapter, we presented the discussions and the line of thought that led us to answer to our research question, and propose a framework of logistics capabilities and competences for humanitarian relief. Throughout the research, the analysis of the literature raised a number of questions related to logistics as an organizational competence for humanitarian relief (S.Q. 1), the nature of logistics competence (S.Q. 2), and the contribution of logistics competences and capabilities to success (S.Q. 3), that have not been answered. The case study brought up some possible elements of response to these questions, but no further analysis has been conducted. With regards to S.Q. 1, the literature in strategic management presents logistics as a source for competitive advantage, considering it as an organizational competence that allows organizations to perform better

than others. As for S.Q. 2, literature state that organizational competences have the capacity to help organizations to differentiate themselves from their competitors and/or be at the core of the organization's strategy. Finally, concerning S.Q. 3, logistics literature consider logistics capabilities and competences as key strategic resources for acquiring competitive advantage. However, despite the fact that the MSF case study provided some elements to answer these questions, evidence also raised some important topics relevant to this research, and to the organization, that have not been studied yet.

As it was presented in the structure of the thesis, the objective of this chapter is to answer to our three research sub-questions: *Can logistics be considered as an organizational competence in humanitarian relief?*, *Can logistics be a core/distinctive competence in humanitarian relief?* and *Can logistics capabilities and competences contribute to the success of humanitarian operations?* The direction and redirection process (Dubois and Gadde, 2002), between the empirical world (Part I) and the theory (Part II), that led to the building of the framework, also evoked some interrogations with regards to the logistics competence in humanitarian relief. The following sections are the result of a last theoretical matching process to evolve the Logistics Capability and Competence Framework for Humanitarian Relief (Figure 8.1) presented in the previous chapter. First, we get back to the concept of competence presented in chapter 4 and we compare it to the results of the MSF case study from a theory level perspective, aiming to answer our first research sub-question. The perception of the notion of competence found in the MSF case study, introduced the concepts of action (do), experience and knowledge (individual and collective) (cf. § 7.2) that have not been discussed in the light of the literature and that can be an important aspect for the definition and further formalization of the notion of competence in the organization. Therefore, new theory is introduced seeking for further explanations on this subject. Later on, the concepts of core and distinctive competence presented in chapter 4 are revisited in the light of the MSF case study with

the purpose of answering our second research sub-question. Finally, the contribution of logistics competences and capabilities on the success of humanitarian operations is discussed giving answer to our third research sub-question. The chapter concludes with some final remarks and some perspectives for further research.

9.2 Logistics as an organizational competence

The fourth chapter of this thesis discussed the concept of *competence*, which was defined as those functional areas, critical activities or organizational processes that lead organizations to perform better than others. However, no attention was put into how the competence is created and what are the components of such competence. The MSF case study provided some insights on this subject by revealing three dimensions of the concept of competence, namely ability to **do**, the **experience** in doing and to **know** how to do. Also, the study revealed an interesting relation between individual and collective competence that has neither been explored in this thesis and that deserve further attention. The following discussion aims to address these two points in order to provide elements to respond to our S.Q. 1.

Most strategic management literature identify three dimensions of competences, specifically, knowledge, know-how and know-being. Durand (2006) relates these three concepts to the ancient Greek concepts of *episteme* (knowledge), *techne* (practice) and *phronesis* (attitude). Further, the author defines knowledge (*savoir*) as "all assimilated and structured information integrated into frameworks that allow the company to conduct its activities and operate in a specific context" (p. 278). Knowledge includes thus, the access to external data and the capacity to transform it into information. Moreover, practice (*savoir-faire*) refers to "the ability to act in a concrete way following a process or predefined targets" (p. 279). Practice may not need full knowledge of why an action is performed, but is expected to ensure the achievement of a goal. Finally, attitude

(*savoir être*) refers to the motivation of an organization to accomplish its objective and thus, a motivated company can be considered as 'more competent' that an demotivated one. The three dimensions are found in a three-axis graphic that include sub-dimensions of each generic axis (see Figure 9.1). Based on this taxonomy, it is possible to provide elements to determine whether or not logistics is to be considered as an organizational competence for humanitarian relief.

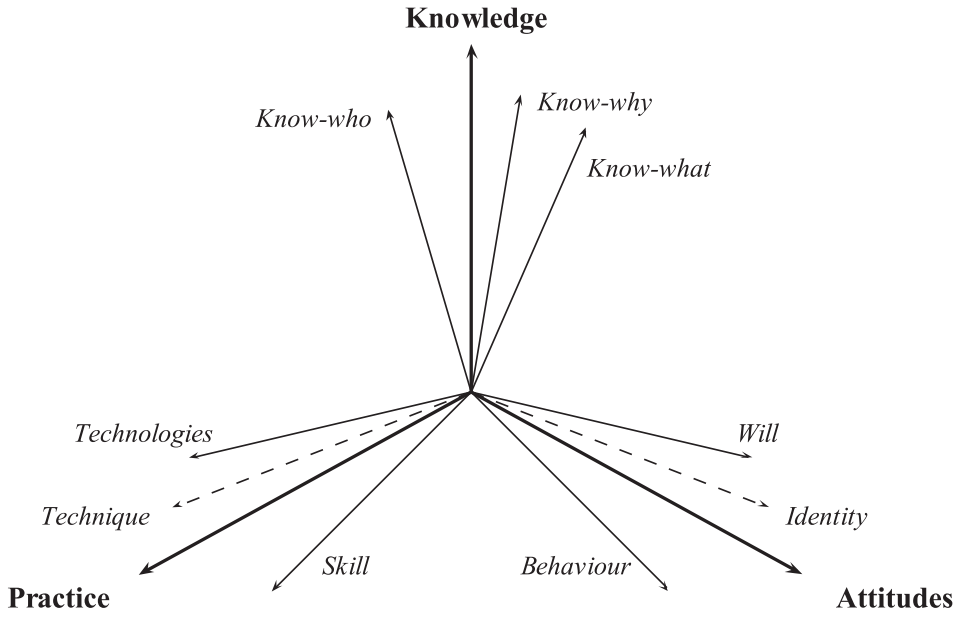


Figure 9.1: Explaining the three dimensions of the competence (Durand, 2006, p. 281)

As it was mentioned earlier, the MSF case study revealed three dimensions of the competence. These three dimensions can be compared to the notions of **action**, **expertness** and **knowledge** proposed by Fabbe-Costes (1997). Action concerns the way in which an activity is performed, the expertness relates to all the resources directly associated to the action, and knowledge represents the high level of information that has to be acquired, evaluated and assimilated. Moreover, the author explains the relation between these three concepts through flows; the upward flow represents the demand at a lower level, while the downward flux represents the effect of knowledge in expertness and thus, in action (see Figure 9.2). Nevertheless, the article focuses on the management

of information in the logistics industry and thus, it is our interest to go further in our reasoning process towards a theory level.

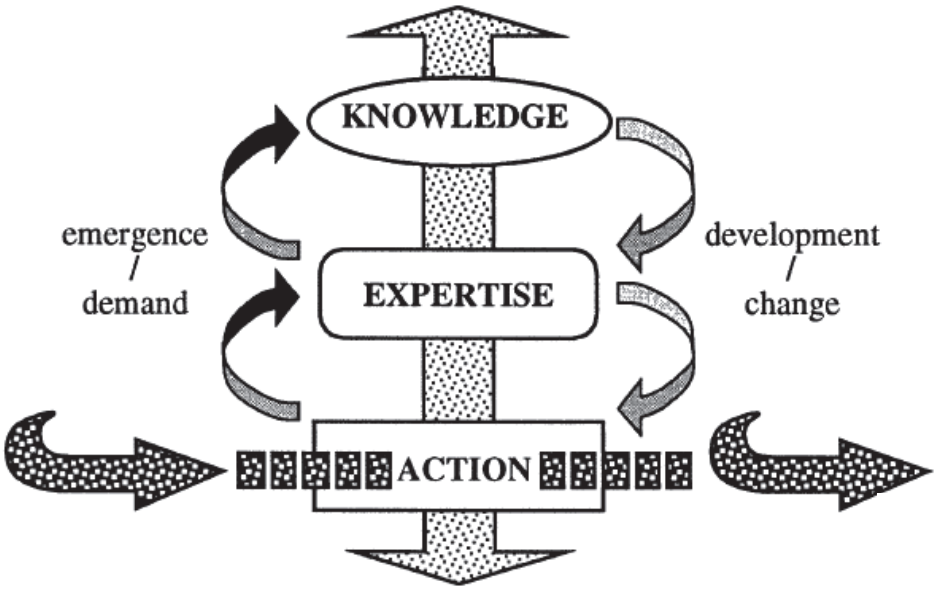


Figure 9.2: Co-relation between the dimensions of competence (Fabbe-Costes, 1997)

When considering Durand's (2006) dimensions of competence, we can intuitively identify that some characteristics and sub-dimensions match MSF's logistics. For instance, the evolution of logistics in the organization exhibits the different sub-dimensions of **practice**, as this activity began thanks to Jacques Pinel's ***skill*** in effectively organizing what was then called *l'intendance* or general administration of a mission. Through time, this skill evolved to ***technique***, an empirical know-how difficult to extrapolate to other contexts (Dussauge and Ramanantsoa, 1989), and further to ***technologies***, well controlled processes that are founded on the understanding of the mechanisms used (Ibid.). As logistics continued its growth inside the organization, practice became **knowledge**, first as ***know-what*** or learning-by-using (Garud, 1997), as the feedback from those in the field brought up the failures on the system and the materials used, and contributed to improve how things were done in order to better adapt to the context. This know-what rapidly generated a ***know-why*** or learning-by-studying (Ibid.), a process in which controlled

experimentation and simulation helped to create solutions to the problems encountered in the field[1], and further a ***know-who***, as for each technical field, MSF identified and trained a specific person or a group of people that serve as 'referents' and that identify failures, propose solutions and find new ways for improvement. Both practice and knowledge are driven by the organization's ***will*** to provide assistance to populations in distress, victims of natural disasters or man-made situations of belligerency, in accordance to a specific ***behaviour*** that guide the organization's activity with neutrality and impartiality to follow the universal medical ethics and the right to humanitarian assistance.

The evidence from MSF lead us to think that from a theoretical perspective, logistics can be considered as an organizational competence if, at it is the case of Médecins Sans Frontières, these three dimensions are found. However, this statement may seem too forward as, besides the three dimensions, no other proof has been shown to prove logistics' potential as an organizational competence. The MSF case study also raised some interrogations with regards to the relation between individual and collective competence. Moreover, the analysis on the dimension of competence has introduced the concept of learning that has not been clarified yet. The following sections attempt to address these two issues in order to fully support our idea of logistics as an organizational competence for humanitarian relief.

9.2.1 *Individual Vs. Organizational Competence*

As it was the case for the competence dimensions, strategic management literature shows that the concept of competence has gradually imposed at two levels, individual and organizational. To these two, we can add the group level, that can be compared to that of organization, but that is nonetheless different. Dejoux (1998) explains the difference between these three levels:

[1]Some examples are MSF's cold chain or the inflatable field hospital.

- At the individual level, the *individual competence* is central to human resources management and tends to become a pivotal concept;
- At the organizational level, the *organizational competence* focuses on the strategy of an organization;
- And at the group level, the *collective competence* concerns the dynamic of a team.

As it was previously said, the concept of competence in the case study appeared at two levels, individual and collective, probably because MSF is an association and an organizational level would seem to better fit for-profit institutions. However, as the interest of this chapter is to demonstrate logistics potential as a strategic function, we will begin with the analysis between individual and organizational levels and afterwards, we will link our analysis with the collective level. Meschi (1997) defines the organizational competence as the result of a coordinated an valuable combination of a set of professional competences found at an individual level, being the individual the physical support of the competence, while the individual competence is defined by the author as a set of professional knowledge, capacities and will. Rouby and Thomas (2004) present the main characteristics of both individual and organizational competences (see Table 9.1).

Table 9.1: Characteristics of individual and organizational competences (Rouby and Thomas, 2004)

Individual competence	**Organizational competence**
It is a combinatorial process insofar as it is understood in the dynamic interaction between knowledge, know-how and know-being	It is the result of a formal combined action of resources carried by individual and organizational processes
It only exists when it is recognized by others than those who exercise it; this recognition is as much about the performance achieved than on the ways and means of achieving it	It is a strategic factor of the company, the result of a strategic intent
It reveals itself in the operationalization	It is a combination of resources, individual and collective competences, and capabilities
It is an integral part of a purpose	It is the response to a market need and thus, is evaluated in terms of market performance

In the characteristics presented by Rouby and Thomas (2004), the individual competence results as the combination of the three dimensions presented in the figure 9.1, with the difference that at that point we were explaining the competence from an organizational perspective, the question is thus, how can we get from individual to organizational competences? Meschi (1997) states that this *passage* is not as simple as a competence consolidation, "the 'sum' of individual competences will not lead to the emergence of a core competence, only if it is accompanied by joint integration and synergy of these different competences. In other words, the core competencies of the company are less the result of an addition but a multiplication, a synergy of individual skills covering all the traditional functions and activities of the company" (p. 14). Based on this statement, it is now possible to draw some conclusions on the potential of logistics as an organizational competence for humanitarian relief, based on the case study.

The results from MSF presented logistics as an organizational competence (§ 7.4.2) that when combined with the medical competence, these create MSF's capacity to effectively respond to emergency situations. However, no effort was done at that point to validate this result *vis à vis* the theory. Considering Meschi's (1997) statement, we can now attest that,

indeed, logistics ***is*** an organizational competence for MSF, as more than a consolidation of the different competences at lower levels (cf. § 7.5.3), MSF's logistics competence is the result of the integration of such competences (cf. § 7.5.4), and is nourished by the synergy of individual skills along the organization. The remaining question is thus, is it possible to consider it as a collective competence as it was defined by the members of the organization? Dejoux (1998) defines the collective competence as "a set of the individual competences of the participants of a group, plus, an indefinable component, specific to the group, resulting from the synergy and dynamics of the group it-self". Moreover, Retour (2005) argues that the notion of collective competence raises the question of recursive relations between the individual and the collective in the learning loop, as well as social processes such as relations, culture, social identification, etc.. Thus, before answering this question, it is necessary to understand the concept of learning.

9.2.2 *Learning*

The dictionary definition states that learn refers to "gain knowledge or understanding of or skill in by study, instruction, or experience, to come to be able, to come to realize" (Merriam-Webster, 2012). This definition clearly makes a reference to the processes of knowledge creation mentioned in the beginning of this chapter, the acquisition of skill or know-how by doing, know-what by using, and the development of an understanding or know-why by studying. This definition refers to learning at an individual level, however, learning at this level is crucial for the development of organizational learning, as "all organizations are composed of individuals [...] *and* organizations can learn independent of any specific individual but not independent of all individuals" (Kim, 1993, p. 38). An important amount of literature is consecrated to understand what is organizational learning and how do organizations learn, as it is more complex than a mere magnification of individual learning (Ibid.).

Organizational learning is broadly defined by Fiol and Lyles (1985, p. 803) as "the process of improving actions through better knowledge and understanding". Throughout the past years, academics have proposed several models of organizational learning, among which we find March and Olsen's (1975) model of organizational learning and Kolb's (1984) Lewinian experiential learning model. However, as stated by Kim (1993), most theories on organizational learning have been based on theories of individual learning and thus, such models either obscure the actual learning process by ignoring the role of the individual, or become a simplistic extension of individual learning. Based on Kofman's (1992) OADI cycle (see Figure 9.3), the author proposes an integrated model of organizational learning that include the transfer of learning through the exchange of individual and shared models.

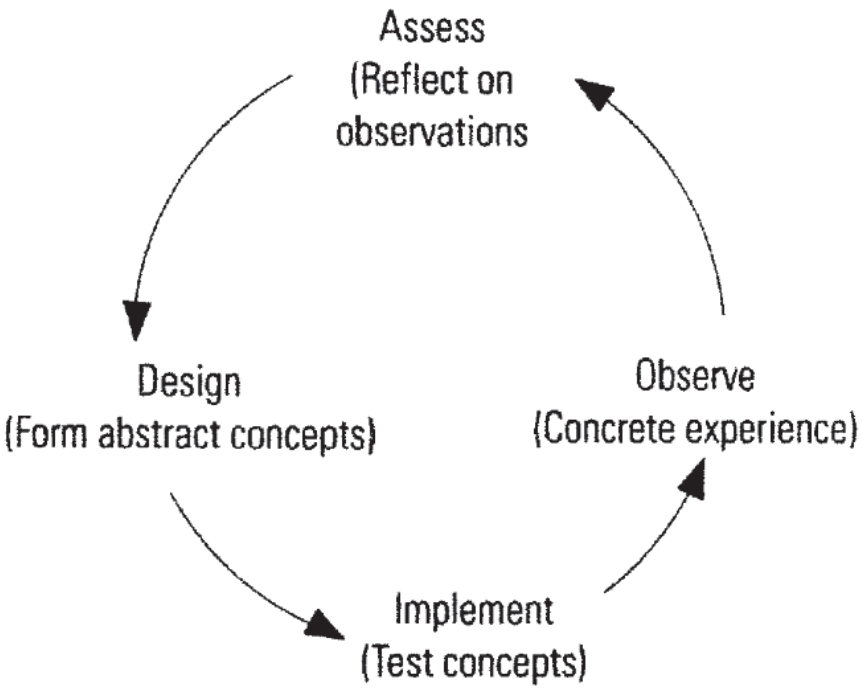


Figure 9.3: OADI cycle of individual learning (Kofman, 1992)

Kim's (1993) OADI-SMM model (see Figure 9.4), presents the individual learning cycle and adds the mental models (MM), deeply held internal images of how the world works. These mental models are presented as the result of the operational learning (know-

how) and the conceptual learning (know-why). Know-how is captured as routines that accumulate the operational learning , but also affect the operational process. Know-why, on the other hand, is represented as frameworks that interrogate why things are done, and challenge the very nature or existence of conditions, and procedures leading to new frameworks. It is from the individual mental models, that organizational learning is achieved through shared mental models (SMM). These revised mental models contain the new frameworks and routines from the individual learning process, but also knowledge about how the routines fit within the new frameworks. The individual frameworks constitute the organization's *weltanschauung* or view of the world, while individual routines evolve to standard organizational procedures. The strength of the link between MM and SMM is based on the amount of influence exerted by an individual or a group of individuals.

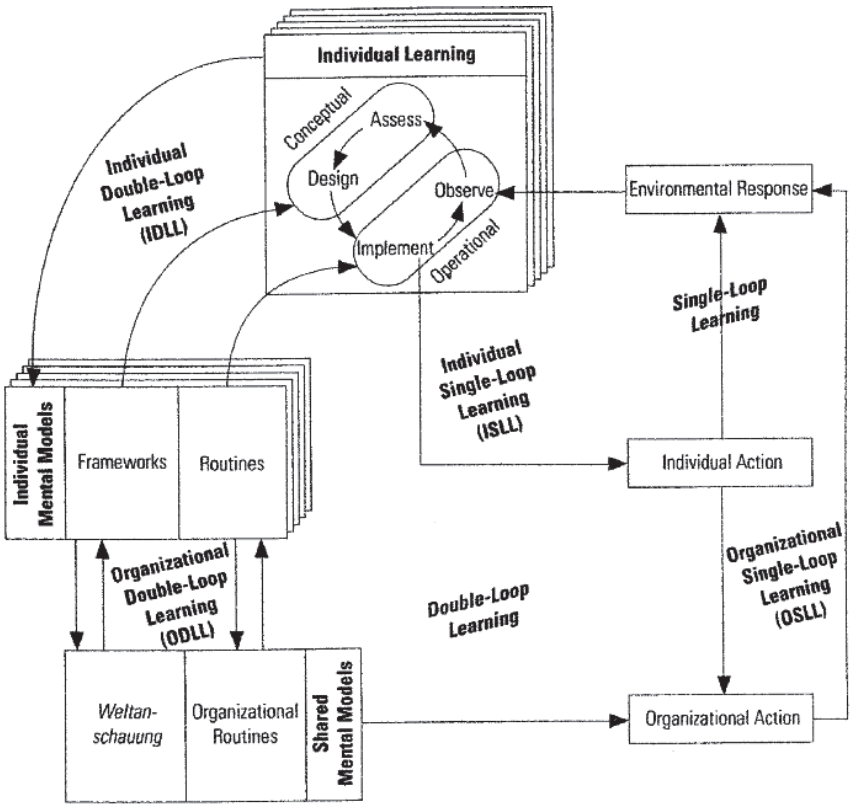


Figure 9.4: An integrated model of organizational learning: OADI-SMM cycle (Kim, 1993)

An interesting perspective of how organizations learn is that of Nonaka (1991), who considers the organization as an entity that creates knowledge continuously, starting with the individual's personal knowledge that is later transformed into organizational knowledge valuable to the company as a whole. The author explains that these two levels of knowledge relate to two different types of knowledge, namely "tacit" and "explicit". Tacit knowledge refers to mental models, beliefs, and perspectives so ingrained that are taken for granted and therefore these cannot be easily articulated, while explicit knowledge is formal, systematic and easily communicated and shared (Ibid.). In order to create knowledge, these two interact in a spiraling process and when combined, it possible to conceptualize four conversion patterns (Nonaka et al., 1996). Figure 9.5 presents each of these four modes of knowledge conversion.

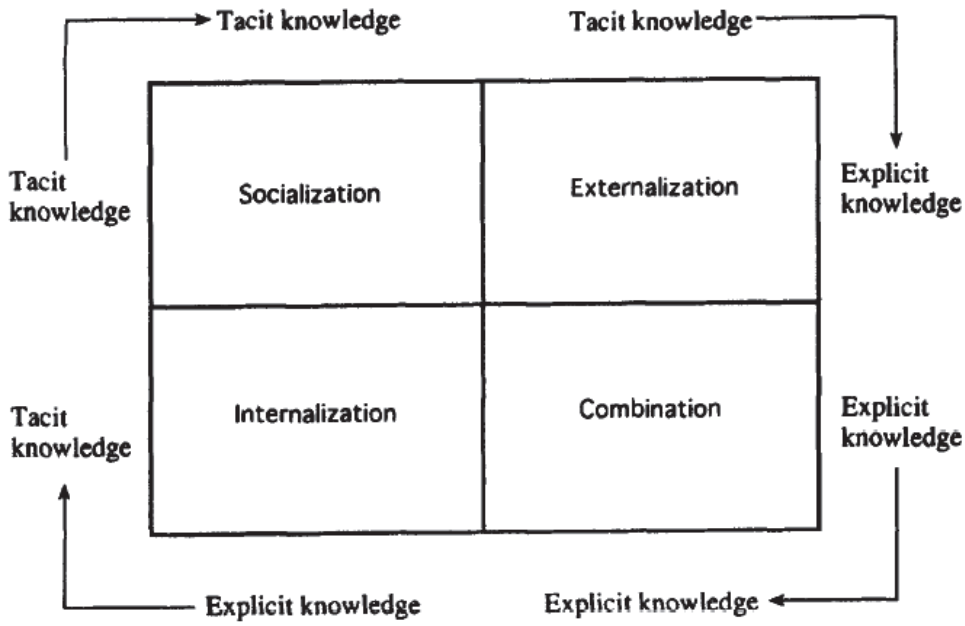


Figure 9.5: The SECI model (Nonaka et al., 1996, p. 206)

Socialization (from individual tacit knowledge to group tacit knowledge), is a process through which individuals share their experiences, creating common beliefs. Externalization (from tacit knowledge to explicit knowledge), refers to articulating tacit knowledge into concepts and/or diagrams. Combination (from separate explicit

knowledge to systemic explicit knowledge), is the process of assembling newly-created knowledge into existing explicit knowledge in order to materialize it into something tangible. Internalization (from explicit knowledge to tacit knowledge), is the process of embodying explicit knowledge into operational knowledge such as know how through learning-by-doing. Even though these four knowledge conversion modes explain how knowledge is created, and how organizations learn, little is said about where the knowledge creation process is located. In order to address this issue, Nonaka and Konno (1998) introduce the Japanese concept of *"Ba"*, a shared space for emerging relationships roughly translated into the English word "place". *Ba* can be physical (e.g. an office), virtual (e.g. email), mental (e.g. shared experiences), or a combination of any of these (Ibid.). Based on the SECI model, Evrard-Samuel et al. (2011) propose a model for knowledge management in supply chains, arguing that the knowledge creation process can be applied in an inter-organizational context, as "companies have realized that they can integrate crucial knowledge from their relationships with suppliers, customers, and other various institutions in a network setting" (p. 286). The model focuses on the acquisition and transfer of knowledge between companies, following the same conversion modes of the SECI model. This perspective results very relevant in the humanitarian context, since most relief operations are performed under a network structure. However, the intra-organizational approach adopted for this research let us no possibility to go further on this topic.

In the last section, we revealed MSF's logistics as an organizational competence and we questioned the possibility of considering it as a collective competence, as it was defined in the case study (§ 7.2). Literature showed that the notion of collective competence refers to relations between the individual and the collective in the learning process. Organizational learning literature, on the other hand, states that organizations learn, or create knowledge, from the interaction between individuals and organizations, resulting in standardized

operational procedures and frameworks. Taking this into account it is possible to say that the collective competence is to be found around the organizational competence, as individuals as a collective own a certain competence, whether they formalize it or not. In the MSF case study, the logistics competence appears to be less formalized, thus more collective, than the medical competence, judging by the number of guidelines of both competences (cf. § 7.4.2) and the tacit knowledge resulting from the continuous adaptation to the environment. Moreover, the members of the organization share a transitory common referential, a specific language, a collective memory, and a subjective commitment, four elements that constitute the attributes of the collective competence (Rouby and Thomas, 2004). Nevertheless, a final discussion can be drawn.

At this point of the evolution of logistics in Médecins Sans Frontières, this competence is seen by the members of the organization as collective, mostly thanks to the nature of the organization (an association), to the lack of a strategic perspective, and to its degree of formalism. Nevertheless, as it was shown in the case study, the organization constantly improves and logistics continues its evolution towards a professionalization (cf. § 7.5.3). Considering this, as well as the discussion on the time-lag in the evolution of humanitarian logistics compared to commercial logistics (cf. § 3.5), we can argue that, certainly, **logistics can be considered as an organizational competence for humanitarian relief organizations**. However, in the light of the definitions of competence presented in chapter 4, one can ask if logistics can be whether a core or a distinctive competence for humanitarian relief. The next section addresses this issue with the purpose of answering the second research sub-question.

9.3 Logistics as a distinctive and core competence

Throughout this thesis, we have have discussed the importance that logistics has in both commercial and humanitarian relief. First as a key activity in humanitarian relief for

both practitioners and academics (§ 1.3), then as a source major source of competitive advantage (§ 3.4), and lately as an organizational competence for humanitarian relief organizations based on the MSF case study, which revealed that logistics is considered as an organizational competence that enables MSF capacity to respond to emergencies. However, little has been said about the type of competence that logistics can be for humanitarian relief. In this section, we go back to the discussion held in chapter 4 on the concept of competence in order to give answer to our second research S.Q.

As it was presented earlier on this thesis, a competence is broadly defined as "an ability to sustain coordinated deployments of resources in ways that help that organization to achieve its goals" (Sanchez and Heene, 1997, p. 36). From an organizational point of view, competence refers to critical activities, functional areas and organizational process that enable the organization to perform better than others. Academic literature distinguishes two types of competence, namely distinctive and core. A distinctive competence is basically what a firm does particularly well when compared to its competitors (Snow and Hrebiniak, 1980), and that allows the organization to be distinguished. A core competence, on the other hand, is defined as the combination of technology and skills that lies beneath an organization's products (Prahalad and Hamel, 1990). Both types of competences have been identified in an important number of commercial organization, however, this approach has not been applied to the humanitarian context. This is thus, the interest of this discussion.

The case study conducted with Médecins Sans Frontières revealed that, among other competences, the organization's responsiveness, its medical knowledge and its logistics appeared as the most important organizational competences. Throughout its history, MSF has developed an important medical expertise, being recognized by the Nobel Price for its pioneering work in many countries. However, behind MSF's medical competence, relies an important logistics system that support the medical activity and that enables

the organization to effectively respond to any type of emergency. As it was illustrated in the case study by the experiences of the members of the organization, logistics has allowed to effectively respond to some of the most important humanitarian crisis, not only by delivering relief items to the affected population and assisting its own medical teams, but also by providing logistics expertise to other NGOs. This logistics competence is what allows the organization to be recognized as one of the leaders in responding to humanitarian crisis. If we consider that, as it was put forth in the introduction of this thesis, NGOs compete for resources, the case of MSF leads us to attest that, **logistics can be considered as a distinctive competence for humanitarian relief.**

Far from being a for-profit organization, Médecins Sans Frontières has developed over the past years, an important number of 'products' that help the organization, and in general the humanitarian community, to provide better humanitarian assistance in both emergencies and continuous aid. Inflatable field hospitals, isothermal packaging, emergency kits and standardized guidelines and procedures for the whole humanitarian community are just some of the products that have been developed by the organization through its logistics competence. MSF's logistics competence in developing new products leads us to attest that, **logistics can be considered as a core competence for humanitarian relief.**

Taking this into account, and including the results from the discussion on logistics as an organizational competence for humanitarian relief organizations, it is possible to evolve the Logistics Capability and Competence Framework for Humanitarian Relief (Figure 8.1) presented in the previous chapter, by the integration of these two new elements. Logistics in humanitarian relief becomes thus, an organizational competence that has the potential of being both the **core and distinctive** competence of an humanitarian organization. Moreover, logistics organizational competence is composed of a number of logistics capabilities, gathered by orientation, that when combined create new logistics competences (see Figure 9.6). Nevertheless, seldom has been discussed on the link between logistics competence and the success of humanitarian operations and therefore, the organization. The final section of this chapter addresses this issue with the purpose of answering to our third and last research subsection.

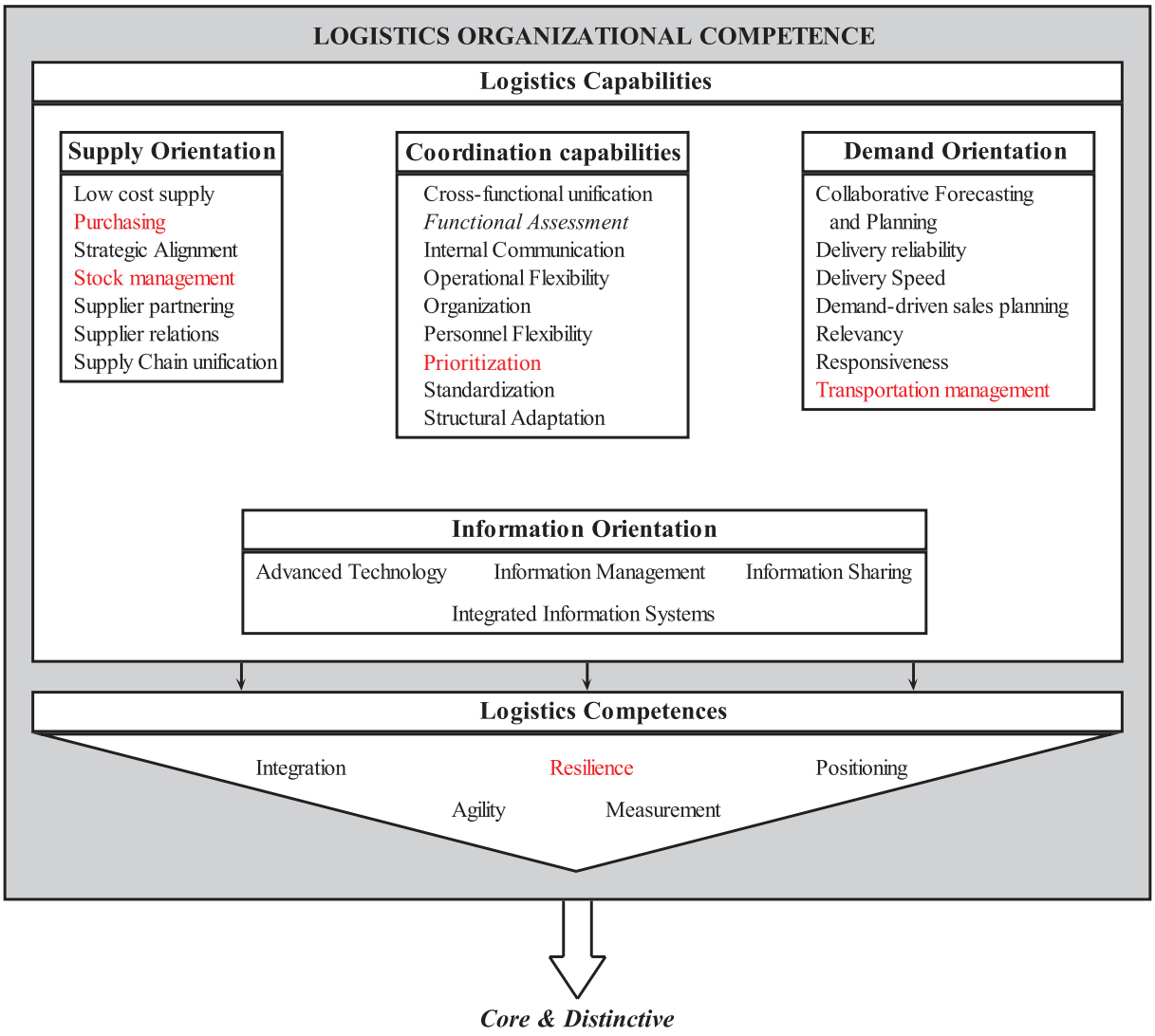


Figure 9.6: A framework of logistics as an organizational competence for humanitarian relief

9.4 The contribution of logistics to the success of humanitarian operations

In chapter 3 we presented the link between logistics and competitive advantage from academic literature (cf. § 3.4). Evidence from different organizations such as Carrefour, Renault or FedEx showed that logistics is considered as a "source of competitive advantage and/or new strategies" (Fabbe-Costes and Colin, 2007, p. 53), and that it should be taken into account at the time the overall strategy is being designed, as it can be the foundation

of overall strategic action (Ibid.). Based on this statement, we identified a number of logistics competences and capabilities that could contribute to the organization's competitive advantage. In chapter 4, we discussed the concepts of competence and capability, and we discovered that critical activities, functional areas or organizational processes could be considered as competences. This concept stabilization led us to an integrative framework of logistics competences and capabilities, where logistics is considered as an organizational competence, composed by a number of capabilities and competences, and has the potential to be either core or distinctive. The MSF case study provided empirical evidence on the capabilities and competences required on humanitarian relief, and a recent analysis led us to determine that for humanitarian relief organizations, logistics can be considered as an organizational competence and has the potential of being both core and distinctive. Nevertheless, no direct discussion has been held on the contribution of logistics competences and capabilities to the success of humanitarian operations.

The competitive advantage of a firm is achieved when a value creating strategy is implemented and, at the same time, is not being implemented by any current or potential competitors (Barney, 1991). Taking into account that *a priori* humanitarian organizations do not compete, one can say that the success of an organization (or competitive advantage) depends mostly on its capacity of implementing strategies to achieve the organization's goals (save lives, reduce suffering, etc.). Nevertheless, evidence show that international humanitarian organizations compete for donations (Aldashev and Verdier, 2008), and material and human resources (Siméant, 2005) and thus, as it is the case for the commercial sector, these strategies must be different from those implemented by other NGOs in order to better perform and therefore attract donors.

As it was previously discussed, most organizations possess business processes that deliver value to the customer, but not many consider such processes as the primary object for strategy. Stalk et al. (1992) states that competitive advantage depends on the firm's capacity to transform these business processes into capabilities, and shows how Walmart became the world's largest retailer thanks to a highly performing logistics infrastructure (§ 3.4). Moving this to the humanitarian context, it is possible to think that operational –and thus organizational– success depends thus in how processes are transformed into capabilities. The MSF case study presented logistics as one of the pillars for the success of their operations, and is considered as essential for the medical activity. Logistics for MSF is thus the ultimate competence that allows the organization to respond to humanitarian crisis at the point that, given the case, MSF is capable of supplying all the required material to assist the populations in any scenario without sending their own medical teams to the field. This is only possible through the deep understanding of the logistical processes and their transformation into capabilities.

Evidence showed that a certain number of logistics capabilities developed by the organization, enable its capacity to respond to both the requirements of the teams and the needs of the affected populations. Some of these include good supplier relations and management, flexibility, information sharing, and responsiveness. Moreover, the case study revealed that two 'basic' logistical processes such as stock and transportation management, are deeply understood by the organization and treated as competences, given the value of having good inventory levels to effectively respond to emergencies, and the importance of effectively identifying the necessary resources (ports, airports, means of transportation and Logistics Service Providers) to deliver the goods. The combination of some of these capabilities create thus competences such as resilience and agility, that empower MSF's capacity to constantly adapt to multiple emergency situations without affecting the regular supply of programmes and projects. All this evidence drive us

to attest that indeed, **logistics capabilities and competences contribute to the success of humanitarian operations**. However, the position that logistics holds in the organization lets us go further in our understanding of the role of this function in the overall strategy of the organization.

An important amount of literature has over the past years, studied the link between organizational structure and strategy, the main statement being that the organization's structure should be aligned with and derived from the strategy (Chandler, 1962). Through time, logistics has found an important position in the structure of organizations, from being scattered into multiple logistics-related activities under the umbrella of more established functions in the early 60s, to being an integrated function in the 80s (cf. § 3.2). However, this shift did not came without causing some troubles to the organizational design, as "the idea of logistics is basically to remove malfunctions resulting from split approaches of processes of movement of goods, information and competence"(Mathe and Tixier, 1987, p. 13).

As it was presented in chapter 3, logistics is often defined as the process of coordinating the physical and informational flows through the organization, in order to maximize profitability, and it encompasses an important number of activities. Moreover, logistics is also considered as "a function that aims to make available *at lesser cost* the quantity of a product, at the place and time where a demand exists"[2]. This double status of logistics reveals the limits of the organizational structure approach in finding 'a place' for logistics in the organization. This impossibility motivated Fabbe-Costes and Meschi (2000) to propose a typology of the logistics position in the organizational structure, based on a study conducted on French industrial and commercial enterprises. Results show that, rather than one, there are four possible types of logistics in the organizational structure. These four types are explained as follows:

[2] *«Le carrefour des expériences logistiques»*, ASLOG brochure *in* Darré, Y. (1993).

1. **Logistics is archaic:** From all types identified, here logistics appears as the least formalized and the most emerging approach. It is not considered as a strategic function. It is a very distributed function within the organization, and operational logistics is not exclusively for the organization's logisticians. Logistics operations are delegated to others intra-organizational (e.g. production or marketing) and/or external actors (such as logistics providers), as part of a policy of subcontracting and outsourcing.

2. **Logistics is in a recognition phase:** Similar to type 1, logistics is not fully recognized as a strategic function, it remains predominantly operational and logistics operations are almost exclusively performed by the organization's logistics service. It does not have a global comprehension of the management of flows, and there is no logistics culture outside logisticians.

3. **Logistics is a centralized function:** Here we find all the characteristics of logistics as a large centralized function, placed in a position to negotiate with other functions, and identified as the great *chef d'orchestre* of the entire physical movement. The deliberate management of physical flows is reflected in the importance of rules and procedures and in the idea that logistics is a strategic function of design, monitoring, evaluation and strategic foresight. Only logisticians have a logistics culture that is not "scattered" throughout the company. It is probably a core competence, considered crucial, and therefore internally developed and capitalized by experts. 'Doing' seems more important than 'make do' logistics.

4. **Logistics is mature and institutionalized:** Similar to type 3, logistics is formalized and it strategic role is recognized, but the character of large centralized function and operational here is much less marked. It is not automatically independently within the organization, it has not need the support of a champion, and it does not need to be more visible.

Based on the typology presented above, it is now possible to clarify what is the role of logistics in the strategy of the organization. From the four types, the one that fits the most MSF's logistics is the type 3. In today's MSF organizational structure, logistics is seen as a centralized function that is in charge of the management of physical flows, as well as other support activities. A logistics culture is concentrated on the logistics department in MSF's headquarters, but mostly in the logistics platform MSF Logistique. It is considered as a core competence for the organization and, for the case of MSF France, is not externalized, which shows a real effort development and capitalization. Therefore, it is possible to consider logistics in humanitarian organizations, as a **strategic function that enables the organization to coordinate a key logistical process that goes beyond the borders of the organization**, moving from the intra-organizational perspective adopted for this research to a wider inter-organizational view of logistics.

9.5 Conclusion

The last chapter of this thesis addresses the remaining sub-questions raised throughout this research. The MSF case study provided some insights on the different dimensions of the competence. The action, expertness and knowledge dimensions found in MSF and compared to Fabbe-Costes's (1997) representation of the competence, were furthered with Durand's (2006) taxonomy of the competence, which led us to affirm that logistics can indeed be considered as an organizational competence for humanitarian relief. However, this argument seemed short for answering S.Q. 1. Therefore, we picked up some elements that emerged from the case study on the relation between individual and organizational competence, in view of finding more ingredients to support our position. This new perspective contributed to the achievement of our goal, but also raised a question on the notion of learning. A short analysis on this subject led us to state that logistics can be considered as an organizational competence for humanitarian relief.

The chapter continues with an analysis of the ability of MSF's logistics in differentiating the organization from other NGOS, and being at the core of the organization's developments. The evidence showed that logistics can be considered as both, a distinctive and a core competence for humanitarian relief, as it can help the organization to develop a strategy and to be distinguished by donors from other NGOs. This analysis allowed us to answer S.Q. 2 and to evolve the framework presented in chapter 8 to include these two elements. Finally, we pursued our analysis to understand the contribution of logistics, and logistics competences and capabilities, in the success of humanitarian operations. The MSF case study showed that for the organization, logistics is considered as a pillar for the success of their operations, letting us attest that indeed, logistics competences and capabilities contribute to ensuring the success of operations. Moreover, given the position of logistics in the organization, an analysis of the link between organizational structure let us consider logistics as a strategic function that manages the logistics process that goes through the organization, based on Fabbe-Costes and Meschi's (2000) typology. Nevertheless, these analysis bring up some new inquiries.

As most organizations, Médecins Sans Frontières is built around people, and evidence show that the combination of individual competences results in a collective competence that, depending on the degree of formalization and institutionalization, can be considered as an organizational competence. An interesting point to look at would be if the collective competence in humanitarian organizations can be a bridge between the development of individual competences and an organizational competence. Another interesting point would be to study how organizational learning is achieved in MSF and to compare it to other NGOs. Finally, to further the development of Fabbe-Costes and Meschi's (2000) typology, it would be interesting to fully investigate this subject in humanitarian organizations and compare it to the results from the study, revealing probably elements that support the idea of a time-lag, and helping the humanitarian community to foresee

the future of humanitarian logistics in the years to come.

Conclusion

At the end of this research, probably the most important result is that the success of humanitarian relief operations is achieved through to the organization's capacity to manage its logistical processes through the development of logistics capabilities and competences. This statement may not result revelatory, as most academic literature on humanitarian logistics put forth the importance of logistics in humanitarian relief operations, but is one of the first attempts to show the link between logistics and the success of humanitarian operations through capabilities and competences, based on empirical data. Moreover, contrary to what it was found in practitioner literature, this research demonstrates that for humanitarian organizations, in this case Médecins Sans Frontières, logistics represents a pillar for the success of their operations. This let us think that from an organizational structure perspective, logistics in humanitarian relief can be considered as a strategic function through which the overall strategy of an organization can be drawn.

The second substantial result is the identification of such logistics capabilities and competences required for ensuring the success of humanitarian relief operations, based on empirical data. Until now, most studies that address the logistics competences and/or capabilities required for humanitarian relief, are based on an individual level and thus, this research represents a first step towards the identification and development of organizational logistics competences and capabilities for humanitarian relief. Moreover, when regarded as an organizational competence, this research reveals that logistics in humanitarian relief can be considered as both a distinctive and a core competence, allowing humanitarian organizations to differentiate from other NGOs, and formulate a logistics strategy that is at the core of the organizations' developments. Thus, this research

portrays logistics as a strategic tool for humanitarian relief, by providing evidence from Médecins Sans Frontières, an international medical humanitarian organization specialized in emergency.

Beyond this introductory conclusion, it is convenient to present a synthesis of the research as well as the main results, discuss the implication of these results for practitioners and academics, and expose the limits of this research and some leads for further research

Synthesis of the research

The role of logistics as a source of competitive advantage for firms has been largely issued in the strategic management literature. Firm specific logistics resources and capabilities can thus explain the differences in performance among firms in the same industry. Moving this to the humanitarian context, one can think that critical resources and the organization's capacity of deploying them can make the difference between a successful response operation, project or programme, and a unsuccessful one. However, if we consider that each relief operation is unique, it is possible to say that a specific set of logistics capabilities and competences are mobilized to ensure the success of the operation. The question is thus, *What are the organizational logistics competences and capabilities needed to ensure the success of humanitarian relief operations?* To answer this question, we followed an abductive reasoning process, combining practitioner literature, as well as academic literature and a single-embedded case study with MSF.

The first part of this thesis aims to understand the humanitarian context and what humanitarian logistics is, based on practitioner and academic literature. The first chapter describes thoroughly the humanitarian context, its facts and challenges, and identifies the factors that lead to consider humanitarian relief as complex. Moreover, the results of an analysis on both practitioner and academic literatures, revealed **logistics as an important activity for humanitarian relief**. Chapter 2 describes humanitarian

logistics as the combination of an important number of activities that are adapted depending on the phase of the relief cycle. However, the literature on humanitarian logistics does not provide elements to answer the research question and thus, a shift towards a higher level of the theoretical frame of reference was required.

The second part of this thesis aims to perform a direction and redirection process between the description of humanitarian logistics presented in the first part, and theoretical definitions that contribute to a better understanding of what logistics is. In chapter 3, a literature review revealed that logistics is considered simultaneously as an activity, a function and a process, a fact that broaden the perspective held on the first part. Moreover, this chapter presents a **synthesis of logistics competences and capabilities** that serves as the basis for further analysis of the organizational logistics competences and capabilities for humanitarian relief. However, the literature review showed that the terms competence and capability were used interchangeably in the literature, a fact that led us to go further into these two notions through a new shift to a higher level of the theoretical frame of reference. Chapter 4 deepens the understanding on these concepts by matching what was found in logistics literature to 'greater' theories such as the RBV. The results of this literature review present competences as functional areas, critical activities or organizational processes that lead organizations to perform better than others, while capabilities are defined as processes, mechanisms and knowledge that demonstrates the organizations' capacity to deploy resources and when combined, create competences. Moreover, two types of competence are identified, namely distinctive and core.

In the light of the definitions found in chapter 4, an **integrative framework of Logistics Competences and Capabilities**, based on the results from chapter 3. Further, a synthesis that combined the observations made in part one and part two, allowed us to formulate a number of questions with regards to the strategic role of logistics. First,

given that logistics in the industry have proved to be a source of competitive advantage, we questioned if *logistics could be considered as an organizational competence in humanitarian relief*, and further if *logistics could be considered as a core/distinctive competence in humanitarian relief*. Finally, taking as basis the literature review on logistics competencies and capabilities and their contribution to organizational performance in the industry, we questioned if *logistics capabilities and competences could contribute to the success of humanitarian operations*. These three questions in addition of the research question were the starting point for the case study analysis.

The third part of the thesis constitutes the empirical evidence that allows us to provide elements for answering these questions, as a result of the direction/redirection and matching processes of the systematic combining approach. Chapter 5 presents the methodological considerations of the MSF case study, including the case study design, the data collection, treatment and analysis methods used, and the research quality. In chapter 6 we present Médecins Sans Frontières, the international medical humanitarian organization specialized in emergencies that accepted to contribute to this research. Through an overview of the organization's history, its structure and its logistics, we offer a thorough description of the organization, required for the identification and understanding of MSF's logistics capabilities and competences. Chapter 7 presents the results of the case study and reveals **logistics as one of the key organizational competences of MSF**. Further, the chapter identifies the logistics organizational competences, showing that **responsiveness**, **adaptability**, and **integration**, as well as **technical competences** such as purchasing, procurement and transportation, are the most important competences for the organization. Nevertheless, this empirical evidence is only one of the elements required for answering the research question.

The final part of this thesis aims to answer the research question, as well as the research sub-questions formulated throughout this research. Chapter 8 presents a logistics competence and capability framework for humanitarian relief, based on the integrative model of part 2 and the results from the MSF case study. First, the **organizational logistics competences and capabilities** are described based on the empirical evidence, and gathered following the classification by orientation used in the integrative framework. Each orientation, namely supply, demand and information, as well as a group of coordination capabilities, are presented based on the capabilities that compose it. Evidence from the case study allowed us to identify new capabilities that were not considered as such in academic literature. Then, a total of five competences **(agility, integration, measurement, positioning and resilience)** are presented as the combination of the capabilities found in the different orientations. Here, the resilience competence appeared as anew element that was neither found in academic literature.

Finally, chapter 9 takes us one step forward towards the strategic role of logistics in humanitarian relief. Based on the results from the case study, the discussion on the notion of competence is deepen, matching was what found in the empirical evidence to theory. First, a discussion on the relation between the individual and the organizational competence is conducted from a theoretical perspective. This analysis and a short explanation of the concept of learning drive us to attest that **logistics can be considered as an organizational competence for humanitarian relief**. Moreover, evidence from the MSF case study allowed us to attest that **logistics in humanitarian relief can be considered as both, a distinctive and a core competence**. Ultimately, an analysis of the results from the case study and the academic literature showed that indeed, logistics capabilities and competences contribute to the success of humanitarian operations. All these results have some important implications for academics and practitioners

Practical and academic implications

As stated in the introduction of this thesis, the purpose of this research is to explore the role that logistics as an organizational competence plays in the success of humanitarian relief operations. The evidence shows that logistics is considered as a pillar for the success of humanitarian relief operations, and that for the case of Médecins Sans Frontières, it represents an essential support to the medical activity. For the organization, this represents a source of evidence that supports an ongoing discussion about the role that logistics plays in the strategy of the organization. Currently, most strategic decisions are taken by the Executive Board composed mostly by doctors, leaving little or no possibility for logistics to directly contribute with the establishment of the organizational strategy but rather following directions, probably because of its demonstrated capacity to adapt. However, recent developments on this topic point towards a strategic decision that would impact the current logistics structure of the organization. The results of this research contribute thus, to support the idea of 'taking advantage' of the logistics competences developed by MSF Logistique, highlighting the central role that logistics, and particularly MSF Logistique, can play in ensuring the success of MSF's operations.

For humanitarian organizations, and for the humanitarian community at large, the evidence of logistics as the foundation of humanitarian operations' success represents an opportunity for the development of this activity towards a source for strategy. The MSF case study shows that, although it is not yet considered as one, logistics has the potential to be a strategic tool for the achievement of the organizations' goals, as it is the case for many firms in the commercial sector. If logistics is integrated in the overall strategy of humanitarian organizations, this activity could represent a cornerstone for inter-organizational humanitarian coordination, reducing the effort of international NGOs when responding to emergencies and allowing a much more efficient resource allocation to provide better support to continuous aid operations and silent emergencies.

Academical implications regarding logistics as a pillar for ensuring the success of humanitarian operations are twofold. First, for humanitarian logistics literature, this represents a new approach that shifts how academic see logistics from an apparent operational perspective towards a more strategic one. This result supports recent developments in which logistics appears as a tool for planning rather than just responding to emergencies, and represents an opportunity for formulating a logistics strategy for humanitarian organizations that will result on improvements in the effectiveness of humanitarian action. Second, for logistics and SCM literature, this result shows that despite the unique circumstances of the humanitarian context, logistics can still contribute to the success (competitive advantage) of the organization, providing evidence from a context that has rarely been studied from a strategic management perspective.

Another purpose of this research is to contribute to the ever growing body of knowledge of humanitarian logistics by identifying the organizational logistics competences and capabilities required to ensure the success of humanitarian operations. The logistics competence and capability framework represents for MSF a first step towards the identification of their own logistics competences and capabilities, a topic of major concern for the organization. As it was previously said, MSF is currently rethinking its strategy and the role that logistics plays in the organization. The identification of their logistics competences and capabilities will allow the organization to focus on the processes that this activity involves, and to determine the boundaries of each one of the actors involved in its supply chain. Further analysis will allow the organization to define which of these competences and capabilities should be transfered to lower levels (the field) and which should be kept and developed.

The identification of organizational logistics competences and capabilities for humanitarian relief represents for the humanitarian community, a basis towards the development of a framework that describe the requirements for ensuring the success of

the operations in terms of logistics competence. Humanitarian organizations can use the current state of the framework to identify their own logistics competence, compare them with the findings from the MSF case study and contribute to the evolution of the framework. Also, this framework can be used to analyze which capabilities and competences should be implemented, depending on the main activity of the organization, and which should be further developed. This framework also contributes to the knowledge of humanitarian relief, adding a higher layer to current studies on individual skills needed to be a humanitarian logistician. These findings can also be a source of knowledge for industry, as the competences and capabilities identified to deal with such extreme characteristics such as those of humanitarian relief, can be applied to the commercial context in which the capacity to adapt and to quickly respond to an unstable demand can be considered as a source of competitive advantage.

For the academic community, the identification of logistics competences and capabilities for humanitarian relief represent a first step towards an organizational logistics competence and capability model, a subject that is seldom (or not) found in the humanitarian logistics literature. Moreover, the findings from the MSF case study provide a contribution to both, logistics and SCM literature at large, and to the Competence-Based Strategic Management literature. The study of a context such as humanitarian relief, provides insights that partially confirm the capabilities and competences found in most logistics competency models, but expands the knowledge on this topic to include competences and capabilities that are required in high volatile environments and that can be used in industry. As for the Competence-Based Strategic Management community, the exhibits contribute to the body of knowledge of CBSM by providing evidence on the need of managing organizational competences in this type of environments that have not been studied until now.

Finally, when regarded as an organizational competence, evidence show that logistics can be considered as both, a distinctive and core competence. For MSF, this contributes to the development of logistics as a source of strategy, as when considered as core new developments can contribute to the overall success of the organization, and when considered as distinctive, logistics can contribute to the image and the goodwill of the organization and increase the number of donors thanks to the effectiveness of the organization, a success that is achieved through its logistics competence. As for the humanitarian community at large, logistics as both a core and a distinctive competence, shows the importance that this activity has in the context prompting more partners to join to develop new solutions, and highlighting the substantial effort and thus, the need of an active participation from donors.

The identification of logistics as both, a core and a distinctive competence for humanitarian relief have an impact in both logistics and SCM academic community, as well as the CBSM community. For the first, it presents evidence that logistics can contribute to an organization's competitive advantage despite of the fact that humanitarian relief is, mostly, a non-for-profit context. Therefore, logistics has the capacity to bestow the performance of virtually any type of organization. As for CBSM, exhibits from the humanitarian context provide insights on how the concepts of 'core' and 'distinctive' can have a wider scope when applied to new contexts such as humanitarian relief. This wider perspective of the implications of this research, leads us to present the limits and some hints for further research.

Limits and further research

Probably, the most remarkable limit of this research is the use of a single-embedded case study as the main source of empirical evidence. As it was explained in the case study design, most data comes from MSF itself (interviews, internal documentation and direct observation) and thus, evidence does not show the perspective of other actors that take part in MSF's Supply Chain. Further research could include the donors', the suppliers', the customers' (missions) and the beneficiaries' point of view to support of refute our results. Moreover, the fact of studying MSF, an humanitarian organization considered as *unique*, may also imply some limitations with regards to the generalization of the results. However, as it was presented in the introduction of this thesis, the interpretative research paradigm seeks to generate descriptions and insights of events and understand a phenomenon, as outcomes of this paradigm are considered time-specific and contextual. Nevertheless, it would be interesting to replicate this study in other NGOs with similar characteristics (size, scope, logistics), in order to refine the results and improve the logistics competence and capability model. Moreover, the same study can be performed in other temporary context such as construction or events, in order to draw relations between them.

The systematic combining approach brought to light some topics that have drawn our attention and that, to our judgment, deserve further attention. One of this topics is the relation between individual, collective and organizational competence. The literature shows a direct link between individual and organizational competence, and individual and collective competences through the knowledge creation process or organizational learning, however, the relation between collective and organizational competences is not completely clear. From our analysis, it would appear that the collective level is an intermediate stage between individual and the organizational level, but at the same time, the collective level seem to surround the organizational level. Therefore, an interesting point to look at is the

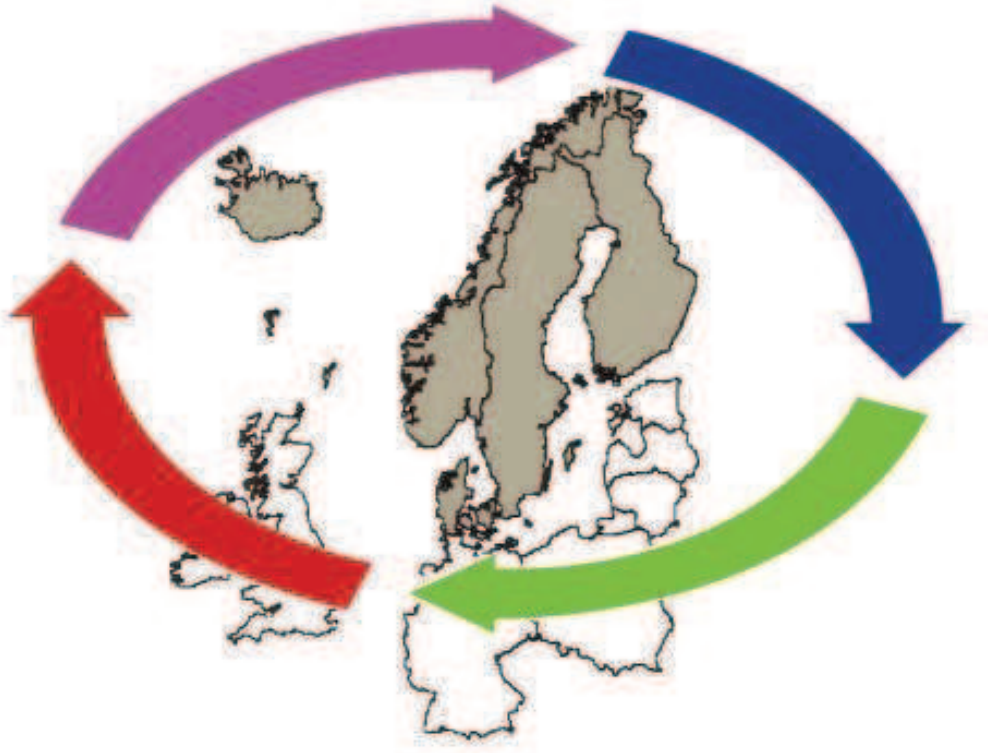
relation between these three concepts from an empirical basis. In line with this topic, it would be interesting to investigate how organizational learning and/or knowledge creation are achieved in humanitarian organizations or broadly in non-profit organizations, as in these organizations the collective seem to overtake the organizational and thus, knowledge would appear as more tacit and less formalized.

Finally, with regards to the role of logistics in the strategy/structure of the organization, it would also be interesting to replicate the study presented in the last section of this thesis in other humanitarian organizations, in order to verify if the four typologies appear as well and further, in project-based organizations to seek a generalization of our results. To conclude, although this research gives an important amount of answers to questions raised from both literature and empirical data, there is still a significant amount of topics that have not been thoroughly studied in the humanitarian context and that deserve further attention to fully understand the complexity and uniqueness if this context. This is thus, a motivation for continuing this research in the years to come.

Appendices

List of appendices

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Logistics and Supply Chain Management in a High North perspective

Conference proceedings

Trond Hammervoll (Editor)

HØGSKOLEN I HARSTAD
HARSTAD UNIVERSITY COLLEGE

THE RELEVANCE OF A MULTIPLE VIEW
TO EMBRACE COMPLEXITY OF HUMANITARIAN RELIEF OPERATIONS

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ABSTRACT

Purpose of this paper

Humanitarian relief operations are complex to study and to manage. The purpose of the paper is, from an analysis of the required management competencies to face the complexity of relief operations, to show the relevance of a multi-view approach of/for the management of humanitarian operations.

Design/methodology/approach

The research is based on a double literature review and a single embedded case study. The case is *Médecins Sans Frontières* a well-known international medical humanitarian organisation. The research design combines semi-structured interviews with MSF staff in France and analysis of MSF documents.

Findings

The combined analysis of the literature review and of MSF competencies in managing humanitarian operations shows that it is worth combining 1) a supply chain management view to manage flows of products, information and people; 2) a project management view to define clearly the timeframe, the objectives, the team and the dedicated resources of every operation; 3) a temporary organisation view to properly assemble and manage the required resources and to structure the learning from every operation.

Research limitations/implications (if applicable)

This is a single-case study based on a specific organisation. It should be complemented by other case studies of humanitarian organisations procuring other types of aid.

Practical implications (if applicable)

Adopting a multiple view approach opens avenues for managerial improvements in humanitarian operations. The paper discusses these potential outputs of the research.

What is original/value of paper

Most academic papers adopt a single view of humanitarian relief operations that sometimes leads to excessive simplification. Combining three "views" provides framework that helps to capture the different aspects of their management.

Keywords: Humanitarian logistics, Supply Chain Management, Temporary organisation, Project management, Complexity.

1. INTRODUCTION

Over the past years, a number of factors have increased the complexity of humanitarian operations. Academic research on the management of humanitarian operations confirm this complexity (e.g. Beamon and Kotleba, 2006; Van Wassenhove, 2006; Jahre and Jensen, 2010), pointing out the context that is: unpredictable (Beamon, 2004), destabilized (Kovacs and Spens, 2007), turbulent (Oloruntuba and Gray, 2006) and uncertain (Tatham and Kovacs, 2010). In this context, humanitarian professionals must respond as quickly as possible to the needs of the affected population, managing and ensuring the effectiveness of the response. The management of such operations requires a number of competencies to face the complexity of the humanitarian context. However, it appears to be a difference in how humanitarian practitioners and academics view the management of these operations.

Most academic articles that study the management of humanitarian operations seem to be single-viewed, prioritizing only one aspect (e.g. logistics, human resource management) of the operations, while practioners refer to a wider perspective of humanitarian activities. The purpose of this research is to show the relevance of a multi-view approach of the management of humanitarian operations through a double literature review and a single embedded case study with an international humanitarian organization. The paper is structured as follows. First, a review of the perceived complexity of humanitarian relief operations and the competencies needed to cope with such complexity is performed based on practitioner literature. Next, an academic literature analysis on how academics view the management of humanitarian operations is carried out. Based on the discussion of the results from both literatures, research design and objectives of the case study are presented. Then, results from the case study are presented followed by a discussion of the overall results. We conclude with the limits of the research and some research perspectives.

2. LITERATURE REVIEW

With a double literature review we aim to combine two perspectives of humanitarian relief: practitioner and academic. The purpose of the practitioner literature review is twofold. The first is to attest that humanitarian professionals consider that the management of relief operations is complex. The second is to collect what can be considered as key aspects of the management of such operations. On the other hand the academic literature analysis, which is based on articles regarding the management of humanitarian relief operations, seeks to identify the 'views' that authors adopt to study this type of operations and to check whether they have unique view (e.g. logistics) or combine different views (e.g. logistics and human resource).

2.1. Pointing out complexity and key management points: a practitioner literature review

Thousands of people in suffer, millions of goods needing to be delivered, reduced or inexistent communications infrastructure, major disruption of physical infrastructure and a general destabilized environment are some of the characteristics of the humanitarian context. Often referred to as 'tough' and 'overwhelming', humanitarian relief is considered as complex. Our first point is to study, from a practitioner point of view, how complexity is perceived and what are the needed competencies to manage such operations.

2.1.1. Practitioner literature review methodology

Ever since the 1980's, the humanitarian context has received an increasing attention from the entire world, attested by an increasing number of academic and non-academic publications. To conduct the practitioner literature review, we searched on the internet for humanitarian reviews, journals or magazines. After discarding academic journals from the first results, we looked for 'independent' reviews or magazines, in order to avoid possible bias from a single NGO. We selected one publication that, since the 1990's, serves as forum for debate and knowledge, information and experience sharing from the field: *Humanitarian Exchange Magazine (HEM)*.

A total of 48 issues, dating from 1994, were analysed with the help of a Qualitative Data Analysis Software (QDAS), NVivo 8. Our first analysis was a stemmed text search on the word 'complexity', in order to find in which context this word is used and what is its meaning for the humanitarian community. The second analysis was to capture key management points of humanitarian operations focusing on the response to crises. For this, we used the Humanitarian Practice Network database, where the HEM articles are hosted. Here, we looked for the word 'response' and 64 articles matched our query. After discarding non-related results, a total of 49 articles were analyzed with the help of the QDAS. First, we identified the activities undertaken by practitioners and then we coded and gathered them into different categories, each category being defined in reference with classic management disciplines and thus, being considered as management competencies.

2.1.2. Results

The first result from the practitioner literature review is that, indeed, the management of humanitarian relief operations undertaken to reduce the suffering of the affected population is perceived as 'complex'. As Kent (2004, p. 10) states, "as well as increasing in number, UN operations had also expanded in scope and complexity, and in the variety of contexts in which they were deployed, from 'classic' peacekeeping to operations in highly unstable environments". Moreover, "over the past decade, humanitarian operations have become increasingly complex, with multiple actors, new roles for the military, new and evolving standards and guidelines, new terminologies, new products, a variety of coordination platforms, changing donor roles, challenges in accessing populations in need and chronic conflicts and anomalous climate patterns leaving communities more vulnerable than ever" (Elsharkawi et al., 2010, p. 45). Other issues such as population displacement, the breakdown of health services, lack of housing, clean water and sanitation, reveal the complex nature of an emergency (Balasegaram, 2005).

Most references to complexity in the humanitarian context are related to 'complex emergencies' and 'complex political emergencies' referring to the situation of the country in which operations are undertaken. Famine emergencies and internal displacement are typical examples of complex emergencies. For Buchanan-Smith and Christopolos (2004, p. 36), "there is a sharp operational and conceptual distinction between natural disasters and complex political emergencies (CPEs). Yet this is often inappropriate: natural disasters are rarely truly 'natural', while many areas suffering from complex political emergencies are also subject to periodic natural hazards. In the last five years, at least 140 'natural' disasters have occurred in countries experiencing complex political emergencies". Therefore, whether the origin of the emergency is politic or not, this factor plays an important role in the response from the humanitarian community. In the 2005 Pakistan earthquake, for instance, NGOs found themselves in an ongoing political realignment, compelled to work closely with a military-led government and consequently being dependent on the logistical capacity and local knowledge

of the militaries, undermining both the effectiveness of relief and the neutrality of 'humanitarian space' (Bamforth, 2006).

Another factor of complexity in the humanitarian context, other than the situation, is the financial aspect. For instance, during the Rwanda genocide, "managers were not prepared to handle the sudden arrival of massive amounts of aid funds, and NGOs were generally not up to the complex negotiations and advocacy that the crisis demanded" (Byombuka, 2004, p. 12). Other operational factors such as coordination, decision making, needs assessment and resource allocation, information management and the delivery of goods are also considered as complex. In 2003, for example, a Needs Assessment Framework and Matrix was designed and tested in the 2005 Common Humanitarian Action Plan for Burundi and DRC. The pilot highlighted the difficulty of "assessing needs and developing estimates of the resources required to meet them" (Griekspoor, 2005, p. 19) due to a complex decisional process, involving many judgments at every stage, and not being a straightforward, rational process.

From an academic point of view, the notion of complexity implies a possible and plausible yet unpredictable emergence of a new sense inside a phenomenon (Le Moigne, 1990) and can be explained through three concepts: "imprevisibility[1], inseparability and irreversibility" (Le Moigne, 2007, p. 116). The following table shows that the characteristics of the complexity of humanitarian relief operations found in the practitioner literature can be gathered into these three facets of complexity.

Table 2.1 Facets of complexity and their link to humanitarian operations

Facets of complexity	Characteristics of the complexity of humanitarian relief operations
Imprevisibility	Unstable environment, unpredictable aid funds and required resources
Inseparability	Link between natural disasters and political emergencies, multiplicity of actors, variety of coordination platforms, link between operations and context
Irreversibility	Evolving guidelines, breakdown of infrastructures, new roles

In order to succeed under these circumstances, humanitarian professionals need to develop a specific set of competencies and skills to ensure the management of operations. The second result of this humanitarian practitioner literature review leads us to answer to the questions: *What are the key management competences needed in the humanitarian context?* and *how do people manage in this complexity?* The practitioner literature reveals a number of activities performed by humanitarian professionals that are needed to ensure the success of humanitarian operations and to manage under complexity, and that can be gathered into classic management competencies such as logistics, human resources and accountability among others (see Table 2.2).

[1] The author uses the word *imprevisibility* meaning that evolution/future is radically/essentially unforeseeable.

Table 2.2 Management competencies pointed out by humanitarian relief profesionnals

Management competencies	Activities performed by practitioners to manage complex humanitarian relief operations
Accountability/finances	Fund-raising, donorship, cash flow management, finances, resource allocation, evaluation
Camp management (engineering and support)	Location, organization, needs assessment, assistance, water, sanitation and health, security, waste management.
Disaster management	Decision making, overall coordination (inter-agency), remote management, monitoring of activities, transparency,
Information management	Assessment, information exchange, information dissemination and coordination, use of information, media management, support
Logistics management	Procurement, transportation, warehousing, tracking, distribution,
Human resource management	Recruitment, competency/skill management/development, appropriateness, knowledge management, learning, support, follow-up, career development.
Project/programme management	Budget/time management, coordination of tasks, team building, training, context knowledge, team work
Security management	Risk assessment, threat and vulnerability analysis, training, protection (civilian population and staff)

It is important to notice that most activities and thus management competencies found in the practitioner literature are inter-related, showing the importance of combining different perspectives to cope with complexity. Figure 2.1 maps the interrelations found in the practitioner literature review, that are briefly described below. Assessments (1)[2] are important to understand the number of people and their needs, and these have a direct link with logistics, as they "guide the appropriateness of the relief supplies, and are critical to the creation of effective supply chains" (Thomas, 2005, p. 5). Moreover, a great amount of relief supplies are donated (2) and thus, the sharing of information can avoid duplication, saving time and money (Scott-Flynn, 1999). However, with inaccurate assessments, "relief delivery can be disproportionally influenced by the media" (ibid., p. 4).

Media management plays an important role in funding (3) humanitarian operations. Venkateswaran (2005, p. 10) states that "the manner in which the media profiles and packages an emergency has a direct correlation with the scale and depth of public support, and hence the funds that are raised". The importance of accurate assessments and effective information management and sharing is also true with regards to coordination at every level: disaster response (overall), programmes and projects, and camps (5). In the first phase of an emergency, funds are allocated based on needs assumptions and possible volumes of such needs (Larose and Adams, 2002), and programmes are planned according to this first rough assessment. Disaster managers must effectively allocate the resources (4) addressing both, the needs from the field and the pressure from donors, as funds raised for one emergency cannot be used for another.

Another important aspect in the management of humanitarian operations is the use of data and information. International NGOs' main aim is to provide humanitarian aid, but they are also 'bear witnesses' of the situation in the country where operations are undertaken (7). Organizations that engage in advocacy without understanding how to do so, may jeopardize the safety of beneficiaries and staff (Dubois, 2001). Therefore, security management must be integrated across the organization, "and not treated as an 'add-on' or a luxury" (Harmer,

[2] Numbers refer to interrelations in figure 2.1

2010). This practice is implemented through good disaster/programme management (6), with the understanding of the operating environment and the impact of the presence/work of the organization in the territory, and through good personnel management of international and local staff and capacity development (ibid.).

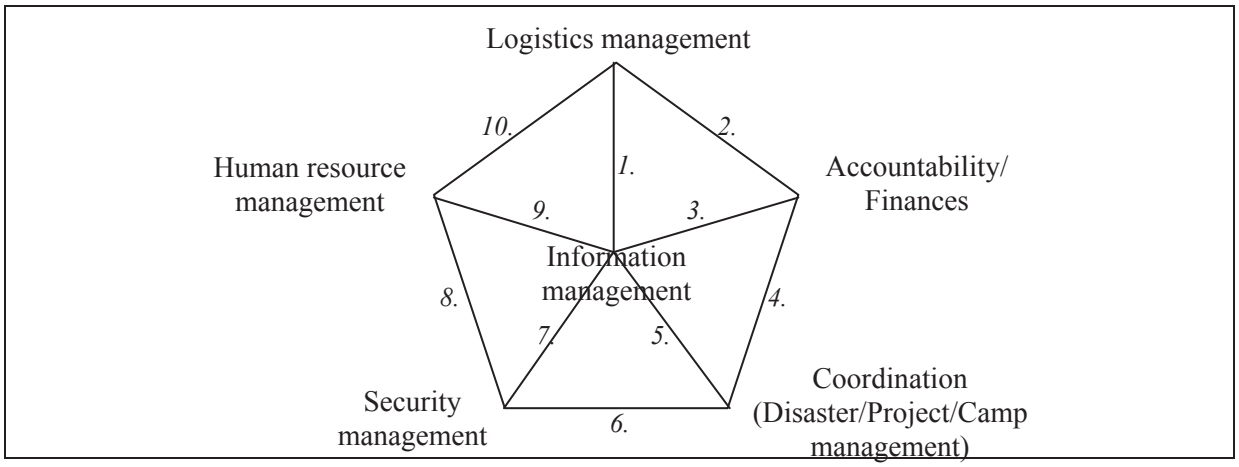


Figure 2.1 Inter-related management competencies for humanitarian relief operations

In the recent years, aid agencies have worked in the professionalization of security management, mostly with the provision of trainings for staff in both headquarters and field, and the formalization of the risk management process (Behn and Kingston, 2010). This can only be achieved through personnel management (8). Human resource professionals are involved in each stage of the employment cycle, by the design and implementation of risk management practices and strategies (Williamson, 2010). Furthermore, today's challenges of the humanitarian sector show the importance of knowledge capitalization (9). In order to learn from past experiences, the institutionalization of best practices is required; "advanced training and recognized standards and policies are necessary to take full advantage of data and information for strategic analysis and operational applications" (King, 2010, p. 25). Finally, in some cases the shortage of logisticians on the field provoked the rupture of supply chains due to the incapability to anticipate and prepare for the reception of procured goods. Human resource training (10), particularly at the field level, "will help to build competency and skills, enabling logisticians to create common processes" (Thomas, 2005, p. 6) reducing the risk of chain rupture.

2.2. How academics study humanitarian activities

Academic research on humanitarian relief is not new. A great number of publications on this subject have appeared since the mid 1900's from different disciplines such as medicine, social studies and law. However, in the last two decades, the humanitarian context has received special attention from the academic community in management sciences and the number of publications and trainings or courses has increased, showing a development towards a professionalization of the humanitarian staff.

2.2.1. Academic literature analysis methodology

To analyze the academic literature on how to manage humanitarian relief operations, a systematic search was conducted on three academic databases: EBSCO Host, ScienceDirect (Elsevier) and Emerald Xtra. In these three databases, we used the keyword 'management' in combination with 'humanitarian' and 'relief' or 'response' or 'aid' or 'operations'. The

research was limited to peer reviewed articles, published from 2000 to 2010 (included), and focused on the combination of the search keywords in the title, the abstract and/or the article's keywords.

As a result, we obtained 79 articles with EBSCO Host, 42 with ScienceDirect (Elsevier) and 77 with Emerald Xtra. However, a large number of articles were included in the results of more than one database and some others were not relevant to our search. After the elimination of duplicates and non-relevancies, a final list of 86 articles was the base for our analysis[3]. For each article, based on the title, the abstract and the keywords, a first analysis was performed in order to identify the management topics that were mentioned in each article. On the basis of this management topic list, we coded articles indicating which topic(s) is (are) developed.

2.2.2. Results

From the academic literature analysis, three results can be observed. The first result is a list of management topics studied by authors. A description for each topic is presented in table 2.3. The second result (see Table 2.4) is the importance in published research of each topic, being Logistics/OM/SCM the most popular subject. The third result is that most authors focus on a single topic of humanitarian relief management (see Table 2.4).

Table 2.3 Management topics mentioned in humanitarian relief research

Management topic	Description
Logistics / OM / SCM	Focus on the management of flows of goods, transportation, warehousing, procurement, inventory management, last mile distribution, etc.
Information systems, communication	Focus on the information and communication systems that support preparedness and disaster response, information management, decision support systems, the management of media and press coverage.
Risk management	Focus on all types of activities that contribute to avoid (prevention), to limit (mitigation and preparedness) and respond risks linked to disaster
Planning/ Mitigation	Focus on the activities and practices related to the prevention and preparation for the response to humanitarian crises.
Organizations management	Focus on the structure of organizations, e.g. networks, hastly formed organizations, temporary networks, flexible organizations, organizational culture, clusters, loosely coupled semiautonomous organizations.
Health, medicine	Focus on health emergency management, water treatment and sanitation, illness management and post-traumatic stress management.
International affairs, government and policy making	Focus on the role of the international community and governments in the management of a disaster (preparedness, emergency response and recovery) and policy making.
Strategy	Focus on the strategies that embrace the totality of the disaster cycle.
Environment	Focus on the environmental impact of disaster response, waste management, resource utilisation, climate change.
Human resource	Focus on gender issues in the humanitarian context, volunteering, training.

[3] The list of the 86 papers and the table with codification can be provided by authors upon request.

Table 2.4 Management topics in humaitarian relief research: importance and combination

Nb of articles (percent)[a] / Management Topic	1 Topic	2 Topics	3 Topics	Total (percent)[b]
Logistics / OM / SCM	26 (61.9)	19 (52.8)	6 (75)	51 (59.3)
Information systems, communication	5 (11.9)	8 (22.9)	4 (50)	17 (19.8)
Disaster risk management	0	9 (25.7)	6 (75)	15 (17.4)
Planning/ Mitigation	1 (2.4)	10 (27.8)	2 (25)	13 (15.1)
Organizations management	1 (2.4)	8 (22.2)	4 (50)	13 (15.1)
Health, medicine	3 (7.1)	4 (11.1)	1 (12.5)	8 (9.3)
International affairs, government and policy	2 (4.8)	7 (19.4)	0	9 (10.5)
Strategy	2 (4.8)	2 (5.6)	1 (12.5)	5 (5.8)
Environment	2 (4.8)	2 (5.6)	0	4 (4.7)
Human resource	0	3 (8.3)	0	3 (3.5)
Total of articles per view (percent)[b]	42 (48.8)	36 (42)	8 (9.3)	

Notes: [a]Percentage calculated as share of total of articles per view; [b]Percentage calculated as share of total of articles

2.3. Discussion about the management competencies to face complexity of humanitarian relief operations

From the results presented above, we can see that both practitioner and academic literature raise a lot of management competencies but only the practitioner literature points out the inter-relatedness between these competencies. This can be explained by the bias of disciplines that lead academics to specialize in certain areas and thus, risking to over focus on some topics and not to address properly the issues raised by the complex 'big picture'. Despite this fact, a parallel between the competences raised by academics and practitioners can be drawn. Some competences, e.g. risk management and information management, appeared to be critical for both practitioners and academics, on the other hand, some areas such as logistics dominate academic papers, which is not the case in our practitioner literature review. However since the very first HEM issue, logistics is mentioned and *Forced Migration Review* published in 2003 an issue dedicated to humanitarian logistics which many academics refer to. Surprisingly, few articles in both literatures consider project management issues.

Considering the complexity of humanitarian relief operations, that calls for a 'reuniting of separated things' (Le Moigne, 2007, p.118) which is in line with the results from the practitioners literature, we suggest that it is necessary to adopt a multi-competency approach of humanitarian relief operations management, calling for a multi-view research. Based on the results from both practitioner and academic literature, this research aims to 1) propose that

1.1) logistics is a core competency for the management of humanitarian operations, 1.2) other competencies are needed to address differents aspects of the humanitarian response, 1.3) these competencies should be combined, and 2) to structure the multi-view approach relevant for humanitarian research, a contribution to theory development. To support the propositions and following Le Moigne's (ibid.) recommendation of 'intentionally contextualize', we choose a case study as our field research strategy.

3. RESEARCH METHODOLOGY

3.1. Case study design

Case study research has been frequently considered as one of the most powerful research methods in operations management (Voss *et al.*, 2002). This methodology is preferred when the goal is to explain, explore or describe a phenomenon of interest, because "it provides depth and insight into a little known phenomenon" (Ellram, 1996, p. 97). According to Yin (2009), case studies can have four basic types of design depending on two criteria: the number of cases and the number of units of analysis. For this research, a single-case design seems more appropriate, as the purpose is not to follow literal and theoretical replication but "to challenge or extend the theory" (ibid., p. 48).

As pointed out earlier, one of the objectives of this research is to explore how humanitarian professionals manage under complexity, through the identification and analysis of the competencies needed for the management of humanitarian relief operations. In order to achieve this purpose, we chose an international NGO that, over the past years, has been present in the most important humanitarian crises providing assistance to the affected population and that is considered as a successful NGO on the management of relief operations: Médecins Sans Frontières (MSF). The success of MSF has been recognized in 1999: MSF was awarded the International Nobel Peace Prize "in recognition of the organization's pioneering humanitarian work on several continents" (The Nobel Foundation, 1999). To take into account different contexts and different humanitarian operations and to gather multiple perspectives of the humanitarian activity, this case is conducted under an embedded single case design (Yin, 2009, p. 46). In this type of design, "the same single-case study may involve more than one unit of analysis" (ibid, p. 50). Regarding each operation as a unit, we searched for a variety in type of crisis (earthquake, floods, famine, etc.), source (natural disaster, armed conflict, etc.) and region (Asia, Africa, South America, etc.).

MSF is an international medical humanitarian organisation that for over 40 years has provided assistance to populations in distress, to victims of natural or man-made disasters and to victims of armed conflict. Today, MSF provides aid in nearly 60 countries to people whose survival is threatened by violence, negligence, or catastrophe, primarily due to armed conflict, epidemics, malnutrition, exclusion from health care or natural disasters. MSF is composed by 5 operational centres (Amsterdam, Barcelona, Brussels, Geneva and Paris) and 19 sections (Australia, Austria, Belgium, Canada, Denmark, France, Germany, Greece, Holland, Hong Kong, Italy, Japan, Luxembourg, Norway, Spain, Sweden, Switzerland, United Kingdom, and the United States). In addition to this, MSF has two procurement centres: MSF Supply (Belgium) and MSF Logistique (France), which offer logistical support to the different sections of the MSF movement and other NGOs such as Médecins Du Monde and the International Committee of the Red Cross.

In line with our research objectives and based on the results of the academic literature analysis, where logistics and supply chain management appeared to be the most studied

subject of the management of humanitarian operations, we first focused our study on the identification and understanding of the logistics competencies that enable a successful response to humanitarian crises. However, during the data collection phase, we looked for other competences that are considered by the organization as important for the management of these operations.

3.1.1. Data collection

In case study research, an important principle during the data collection phase is that of using different methods to study the same phenomenon (Voss *et al.*, 2002). This technique, also known as data triangulation, helps to overcome the informant bias when interviewing human subjects, and improves the stability and reliability of results (Ellram, 1996). For this research, three main data sources where used: semi-structured interviews, internal documentation, direct observation. Moreover, other informal exchanges (e.g., meetings, discussions, emails, etc.) were also included as source of information for this study. A total of 25 semi-structured interviews were undertaken, based on an interview guide, between the 11th June 2010 and the 27th January 2011. The interview guide was developed on the basis of a desk research on competences, logistics competencies and the required competencies in humanitarian operations (cf. Table 2.2 and Table 2.3). Each interviewee was demanded to refer to and give examples from different operations in order to ensure the multiplicity of units of analysis. These interviews were carried out with the staff of MSF *Logistique*, the purchasing (i.e. commercial negotiation, contracts) and procurement (i.e. expedition, quality, transport, logistics) centre of MSF in Bordeaux, France, and it included personnel from most of the activities developed by MSF *Logistique*, i.e. purchasing, procurement, warehousing, production, quality, human resource, SCM and operations, among others. Internal documentation included guidelines, activity reports, meeting reports, terms of references, project reports and mission briefings, among others. Direct observation was achieved through the visit of the warehouse and headquarters of MSF *Logistique* as well as their training facilities.

3.1.2. Data analysis

Following Ellram's (1996) data analysis process, a first phase of 'open coding' was carried out in order to identify, conceptualize and develop the first categories of the results. Further, an 'axial coding' was performed to look for interactions between the results of the open coding. Finally, a 'selective coding' was completed for validation and further development of categories. The analysis of the three data sources was conducted with the help of the QDAS NVivo 8.

3.2. Empirical results

The results are presented following the research objectives mentioned in section 2.3.

3.2.1. Logistics: a core competency for MSF

During the 1980's, MSF realized that in order to respond rapidly to the needs and to bring help to the population in crisis, it was essential to "set up a high quality logistics apparatus" (GHRHAL[4]). Moreover, the need to master a highly efficient supply chain made up of a

[4] The GHRHAL is the reference document of MSF. Is permanently updated and it is available through the intranet website.

series of links, all of them crucial—purchasing, inventory, quality assurance, and shipment—soon became apparent. This is why in 1986, MSF set up a procurement center (MSFLog), which *raison d'être* is "to provide missions with high quality supplies, whether for emergency situations or normal operations" (ibid). MSF's supply mission involves reliable and high quality medical supplies (e.g. drugs and medical/surgical equipment), non-medical supplies (e.g. vehicles, water tanks and food) and transportation (timelines, insurance, etc.).

MSF's logistics is considered as "an essential support for humanitarian action"[5]. In Philippe Cachet's (head of Supply Chain) words, "we cannot be an emergency medical NGO with the level that we have without logistics... if we hadn't built this (MSFLog), we couldn't have responded to Haiti, it's impossible!". This importance of logistics in MSF is also attested by the growth of this activity in the past years. From 2003 to 2010, MSFLog has almost doubled its medical and logistics stocks, improving MSF's capacity to respond to multiple crises, in different parts of the world at the same time. Moreover, due to the increasing demand from the field, MSFLog has decided to expand its warehousing capacity from 5000 to 10.000m², and to develop three decentralised warehouses (Dubai, Nairobi and Panama) to ensure the flow management from the different sections (MSF, 2010a).

One of MSFLog's main activities is the design and production of medical and non-medical Kits, which are an important asset for the rapid deployment of resources in order to respond to humanitarian crises. These kits are produced by MSF mainly for their own missions, but thanks to their quality and usefulness, MSF produces emergency kits for other NGOs (e.g. ICRC, MDM, etc.), and MSFLog is responsible for the management of the 'emergency stock' for these NGOs and MSF's sections. Furthermore, MSFLog also provides logistics training through the Logistics Training Center (CEFORLOG) for future expatriates, field logisticians, doctors and nurses. From 2001 to 2009, a total of 731 logisticians and 1158 internships were trained in different areas such as watsan, hospital management, vehicles maintenance, electricity, communications and emergency logistics, among others (CEFORLOG, 2010).

During all these years, MSF has achieved what can be considered as a logistics competency, gaining international recognition in this area, at the same level as that of their medical expertise. This competency is considered as "the first point that will do the success of a good response to an emergency…we could even deliver the material without having a medical team in the field and give this to other doctors different from MSF's"[6].

3.2.2. Other key competences

MSF's primarily objective is to respond to emergencies and ease the populations suffering "by taking suitable medical action with the support of appropriate logistics" (GHRHAL). However, this goal cannot be achieved without the help of other areas of expertise. The study revealed that, as well as medical and logistics, other competences are also important for the management of humanitarian operations. These competences are listed and explained below.

Coordination – To be able to respond to the needs from the field and coordinate the overall activity of the organization, MSF created the 'operations department' in which a number of 'desks' are responsible for the missions carried out all over the world. In the case of the response to an emergency situation, the Paris emergency desk uses an 'emergency pool', a team of experienced individuals composed of coordinators (medical or non-medical), nurses, managers and logisticians, that analyze, coordinate and evaluate the whole operation

[5] Doris Arlt-Hilares, Head of Operations Department, MSF Logistique, 3/12/2010
[6] Olivier Laboucheix, Head of Production Department, MSF Logistique, 23/11/2010

(sometimes through remote management). Moreover, whether it is the implementation of a programme or the response to an emergency, MSF organizes its activities as projects, allocating a specific set of resources and competences during a limited period of time, to fulfill the established requirements. On the field, country managers are in charge of coordinating the activities undertaken in the country, ensuring security for aid workers, allocating resources and reporting to the headquarters, while programme and project coordinators are responsible for the coordination of the tasks linked to the project and team work, as well as housing for the expatriates and the location, organization and maintenance of refugee camps.

Human resource – As most organizations, MSF is built upon people. However, the characteristics of the humanitarian context with regards to human resource (in particular an extremely high turnover and a great extent of volunteers), calls for an expertise in the management of personnel. One of MSF's needs is "to identify the competent people that are able to analyze and respond to an emergency situation"[7] and thus, MSF has the competency of identifying, recruiting, training and managing human resource, to provide the appropriate human resources for every activity and situation where MSF is concerned during the response to an emergency.

Information management – One of MSF's priorities during an intervention is to establish communication, as fast as possible, between the headquarters (emergency desk), the coordination team (in the capital city) and the field (GHRHAL). For this matter, a communications expert is responsible for the design and maintenance of the communication network between the actors of the operations. Also, before the deployment of the emergency team, a briefing of the operation is carried out. Here, country information (geography, politics, MSF's history, etc.), logistics (procurement, transportation, etc.) and other issues such as personnel and security are explained and discussed. Furthermore, during the first weeks of the operation a number of activity reports (SITREPs) are produced daily then weekly, and a final evaluation and de-briefing are carried out in order to analyze and discuss the possible problems of the operation.

3.2.3. Combining

Despite the fact that a number of competencies appeared to be important for the effective management of humanitarian operations for MSF, the study reveals that in order to be successful, a combination of these competences is needed. First, "MSF activity is essentially medical, and logistics is the support for the medical activity"[8]. The combination of both medical and logistics competence is what makes today's MSF's reputation as a successful NGO in the response to humanitarian emergencies. Operations are also achieved through MSF's coordination competency, which was critical (as well as logistics) for the operation of Haiti, which is considered as the organization's largest ever rapid emergency response and where MSF's capacity to respond was demonstrated (MSF, 2010b). However, all this cannot be obtained without the competent personnel, a good human resource management and the capacity to learn from past experiences through information and knowledge management.

[7] David Vicquery, Head of Human Resources Department, 23/11/2010
[8] Ibid.

4. DISCUSSION: STRUCTURING A MULTIPLE VIEW APPROACH

As presented in the beginning of this paper, different aspects can contribute to the complexity of humanitarian relief operations. Different competencies are needed to face such complexity and respond effectively to the needs of the affected population. However, it seems that academics and practitioners do not share the same perspective of the management of such operations. Tables 2.2 and 2.3 show how practitioners and academics respectively see the management of humanitarian operations through a number of competencies. Some of these competencies such as logistics, information management, human resource management and coordination are common for both communities. Nevertheless, there are some differences that are worth to be discussed.

In both practitioner and academic literature, logistics was revealed as a core competency for the management of humanitarian operations. This is also true for Médecins Sans Frontières, the international NGO where the case study was conducted. However, it would seem that attention to this activity from practitioners differs from academics. For practitioners, logistics is probably an obvious required competency, which explains why it is not that mentioned in their reviews. Moreover, it is probable that practitioners are familiar only with the logistics' operational side, while academics are also interested in the strategic side of logistics, which could explain the amount of research dedicated to this area that can be seen as an area for improvements in the humanitarian context

In addition to logistics, coordination appeared to be a core competency when managing humanitarian operations for both academics and practitioners. Although this importance is also seen in the results of the case study, the level in which MSF exploit this competency differs from what was found in the academic literature. The MSF case study shows that the coordination competency, also found in the practitioner literature (cf. Fig. 2.1), is achieved at a headquarter level (overall coordination of the operation) but also at a field level (tasks and team coordination). Other competencies such as human resource and information management were included as core competencies in both literature reviews (cf. Table 2.2 and 2.3) and in the case study, confirming the need for other competencies for the management of humanitarian relief operations. Information can be considered as the trigger for humanitarian response and thus, the quality and effectiveness of the relief depends on how well managed information is, at both intra– and inter–organizational levels. Moreover, every organization is built by and around people and thus, personnel management is critical for the accurateness of the response. Finally, results from the case study and the practitioner literature review show the importance of combining different competencies (as already mentioned in Fig. 2.1 and § 3.2.3).

Based on these results, it is possible to aggregate a number of key competencies into "views", linked to theoretical frameworks, and thus propose a multiple view approach for the management of (and research about) humanitarian relief operations (see Fig. 4.1). In this approach, we propose three views that, according to our research results, seem to be relevant. First, a Supply Chain Management view that aggregates the logistics management, accountability/finances and information management competencies in line with Mentzer et al.'s (2001) definition of SCM, which involves the multiplicity of actors and the coordination across the activities in a supply chain. Second, a Project-Based Management view that aggregates the accountability/finances, coordination, security management and information management competencies, follows the work of Hobday (2000, p. 876) on project-based organisations which are organizations where "the project is the primary unit for production organization, innovation, and competition". Finally, a Temporary Organization view

aggregates the security management, information management, human resource management and logistics management competencies, under the stream of research of Lundin and Söderholm (1995) which focuses on 'action' instead of 'decision', being this latter the main component of the PBM view.

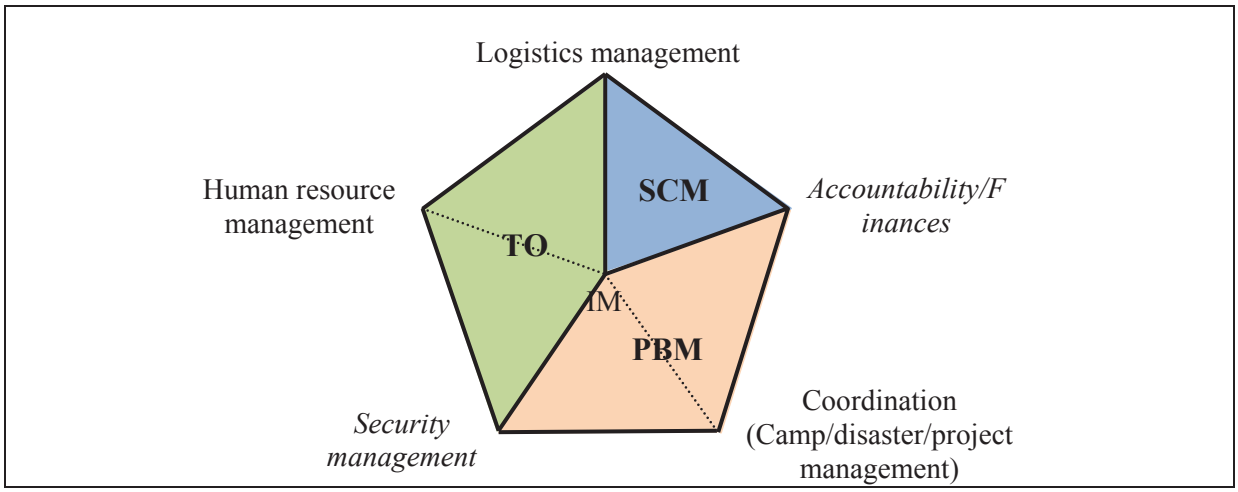


Figure 4.1 A multi-view approach of the management of humanitarian operations

Contrary to what was found in the academic literature review (cf. §2.2.2), the proposed multi-view approach addresses every aspect of the management of humanitarian relief operations by taking in to account the interrelationship between the different competencies required and the interfaces between the different research topics. By studying the management of humanitarian operations from three perspectives rather than prioritizing one, the management of humanitarian relief operations can be analyzed from a more holistic perspective. Moreover, the three proposed views can provide answers to each facet of complexity, offering possible solutions for practitioners in order to cope with complexity from three different perspectives (see Table 4.1)

Table 4.1 Solutions to cope with complexity from the proposed views

Facet / View	Imprevisibility	Inseparability	Irreversibility
Supply Chain Management	Standards, Kits, pre-positioning of stocks, modularity	Civil-Military Collaboration, interfaces management, coordination platforms	Supply chain design, infrastructures
Project Based Management	Planning of the response	Interrelationship between activities/tasks	Real time management of tasks
Temporary Organization	Resource combination to respond to any operation	Prepare to coordinate/ negotiate with people	Adapt to the situation, ad-hoc structures

5. CONCLUSIONS AND FURTHER RESEARCH

Humanitarian relief operations are considered as complex. The purpose of this research is to point out the relevance of a multi-view approach of their management. For this matter, two reviews were performed from practitioner and academic literature in order to find the key management points presented in both communities. In addition, a single embedded case study was conducted with an international NGO with the objective of validating the results from literature and further the understanding of the key competencies needed for the management of humanitarian operations. Results show that a combination of competencies is required to

ensure the effectiveness of humanitarian relief. Moreover, the paper proposes three views, SCM, PBM and TO, as relevant for embracing the complexity of the humanitarian operations.

The academic literature analysis was based on title, abstract and keyword, which could reduce the scope of results and thus affect the relevance of some articles. Further research could include analysis of the full papers rather than title, abstract and key words only, albeit the objective was only to detect the management topics studied by academics on the management of humanitarian operations. Furthermore, the case study is focused on MSF's point of view. Further research could include other stakeholders' opinions. However MSF acts as a focal company in humanitarian relief operations, as a coordinator of operations, and thus, has probably a good vision of what competencies are important for the management of humanitarian relief operations. Further research could also include other NGOs and more field-based staff.

ACKNOWLEDGEMENTS

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REFERENCES

Balasegaram, M. (2005), "ACT implementation in a humanitarian emergency: an overview and a case study from the field", *Humanitarian Exchange*, No. 31, pp. 8-11.

Bamforth, T. (2006), "Humanitarian intervention in a sovereign state: the political fault-lines of the Pakistan earthquake", *Humanitarian Exchange*, No. 34, pp. 4-6.

Beamon, B. (2004), "Humanitarian relief chains: Issues and challenges", Proceedings of the 34th International Conference on Computers & Industrial Engineering, San Fco., pp. 77-82.

Beamon, B. and Kotleba, S. (2006), "Inventory modelling for complex emergencies in humanitarian relief operations", *International Journal of Logistics: Research and Applications*, Vol. 9, No. 1, pp. 1-18.

Behn, O. and Kingston, M. (2010), "Whose risk is it anyway? Linking operational riks thresholds and organizational risk management", *Humanitarian Exchange*, No. 47, pp. 8-11.

Buchanan-Smith, M. and Christopolos, I. (2004), "Natural disasters amid complex political emergencies", *Humanitarian Exchange*, No. 27, pp. 36-38.

Byombuka, S. (2004), "Building local capacity after crisis: the experience of local NGOs in the Kivus after 1994", *Humanitarian Exchange*, No. 26, pp. 12-14.

CEFORLOG (2010), "Activité du CEFORLOG 2001-2009", Médecins Sans Frontières, Merignac, France.

Dubois, M. (2001), "Beyond the classi humanitarian response: MSF's advocacy in Angola", *Humanitarian exchcange*, No. 19, pp. 19-21.

Ellram, L.M. (1996), "The use of the case study method in logistics research", *Journal of Business Logistics*, Vol. 7, No. 2, pp. 93-138.

Elsharkawi, H., Sandbladh, H., Aloudat, T., Girardau, A., Tjoflat, I. and Brunnstrom, C. (2010), "Preparing humanitarian wrkers for disaster response: a Red Cross/Red Crescent field training model", *Humanitarian Exchange*, No. 46, pp. 45-47.

Griekspoor, A. (2005), "GHD and funding accordint to needs", *Humanitarian Exchange*, No. 29, pp. 18-21.

Harmer, A. (2010), "A decade on: a new Good Practice Review on operational security management", *Humanitarian Exchange*, No. 47, pp. 2-3.

Hobday, M. (2000), "The project-based organisation: Ain ideal form for managing complex products and systems?", *Research Policy,* Vol. 29, pp. 871-893

Jahre, M. and Jensen, L.-M. (2010), "Coordination in humanitarian logistics through clusters", *International Journal of Physical Distribution & Logistics Management,* Vol. 40, No. 8/9, pp. 657-674.

Kent, R. (2004), "The UN and the Rwanda genocide: could it ever happen again?", *Humanitarian Exchange*, No. 26, pp. 9-11.

King, D. (2010), "The Haiti earthquake: breaking new ground in the humanitarian information landscape", *Humanitarian Exchange*, No. 48, pp. 23-25.

Kovacs, G. and Spens, K. (2007), "Humanitarian logistics in relief operations", *International Journal of Physical Distribution & Logistics Management*, Vol. 37, No. 2, pp. 99-114.

Larose, L. and Adams, J. (2002), "Accountability and quality: uncomfortable bedfellows?", *Humanitarian Exchcange*, No. 21, pp. 19-21.

Le Moigne, J.-L. (1990), *La modélisation des systèmes complexes*. Dunod, Paris.

Le Moigne, J.-L. (2007), "The intelligence of complexity", *Educational Sciences Journal*, Vol. 4, No. Sep/Dec, pp. 115-126.

Lundin, R. A. and Söderholm, A. (1995), "A theory of the temporary organization", *Scandinavian Journal of Management,* Vol. 11, No. 4, pp. 437-455.

Mentzer, J. T., DeWitt, W., Keebler, J. S., Min, S., Nix, N. W., Smith, C. D. and Zacharia, Z. G. (2001), "Defining Supply Chain Management", *Journal of Business Logistics,* Vol. 22, No.2, pp. 1-25

MSF (2010a) "Rapport d'activités 2009/2010", Médecins Sans Frontières, LaPlaine Saint-Denis, France.

MSF (2010b) "Réponse d'urgence après le Séisme en Haïti : Choix opérationnels, obstacles, activités et finances", Médecins Sans Frontières, France

Oloruntuba, R. and Gray, R. (2006), "Humanitarian aid: an agile supply chain?", *Supply Chain Management: An International Journal*, Vol. 11, No. 2, pp. 115-120.

Scott-Flynn, N. (1999), "Coordination in Kosovo: the challenge for the NGO sector", *Humanitarian Exchange*, No. 15, pp. 7-9.

Tatham, P. and Kovacs, G. (2010), "The application of 'swift trust' to humanitarian logistics", *International Journal of Production Economics*, Vol. 126, pp. 35-45.

The Nobel Foundation (1999), "The Nobel Peace Prize 1999", available at: http://nobelprize.org/nobel_prizes/peace/laureates/1999/ (accessed 22 April 2011).

Thomas, A. (2005), "Linking preparedness and performance: the tsunami experience", *Humanitarian exchange*, No. 32, pp. 4-7.

Van Wassenhove, L. (2006), "Humanitarian Aid Logistics: Supply Chain Management in high gear", *Journal of the Operational Research Society*, Vol. 57, pp. 475–489.

Venkateswaran, S. (2005), "Accountability lessons from the tsunami response in India", *Humanitarian Exchange*, No. 32, pp. 10-12.

Voss, C., Tsikriktsis, N. and Frohlich, M. (2002), "Case research in operations management", *International Journal of Operations & Production Management*, Vol. 22, No. 2, pp. 195-219.

Williamson, C. (2010), "Personel management and security", *Humanitarian Exchange*, no. 47, pp. 14-17.

Yin, R.K. (2009) *Case Study Research: Design and Methods*, 4th edition, California: Sage.

Keywords	Review	Relevance	Subject	Articles	Project	Logistics	Complex
Complex	her 27	0,022	Famine response	NGO coordination/CPEs			X
Response	her 41	0,02	Cyclone	Nargis/DRC	X	X	X
	her 34	0,02	Pakistan	Shelter/UNICEF	X	X	
	her 32	0,019	Tsunami	Prep-perf/	X	-	
	her 38	0,019	Disaster risk reduction				
	her 39	0,019	DRC	CDR/World vision	X		-
	her 48	0,019	Haïti earthquake response	Tearfund/CAP	X	X	X
	fmr spe.	0,018	Haïti	Logistical challenges	-	-	
	her 37	0,018	Lebanon				-
	her 46	0,018	Humanitarian protection	standards/red cross-red cressent	X		X
	fmr 29	0,018	Humanitarian Reform				
	her 31	0,018	Global Malaria Crisis				
	her 43	0,018	Affected states				
	her 21	0,018	Noisy emergencies				
	her 27	0,018	Famine response	NGO coordination/CPEs			
	her 45	0,018	HA in Colombia				
Logistics or SC	fmr 18	0,075	Delivering the goods	Plea	X		X
	fmr 22	0,022	Education in emergencies				
	her 32	0,02	Tsunami	Prep-perf/	X	-	
Project Management	her 48	0,017	Haïti earthquake response	Tearfund/CAP	X	X	X
Complex and response	her 27	0,025	Famine response	NGO coordination/CPEs CPEs/			X
	her 10	0,018					
Complex and logistics or SC	fmr 18	0,037	Delivering the goods	UNJLC			
Response and Logistics	fmr 18	0,061	Delivering the goods	why logistics/humlog/UNJLC			
	fmr 22	0,021	Education in emergencies				
	her 32	0,02	Tsunami				
	her 41	0,018	Cyclone	Nargis/DRC	X	X	X
Response and PM	her 48	0,022	Haïti earthquake response				

Appendix 2 : Results of the Nvivo Analysis

Keywords	Review	Relevance	Subject	Articles	Project	Logistics	Complex
Competence/capability	her 47	0,02	Humanitarian security management				
	fmr 18	0,018	Delivering the goods		X		X
	her 46	0,018	Humanitarian protection		X		X
					Mgmt.	**Log.**	**Negociation**
	her 47	0,02	Humanitarian security management				X
	fmr 18	0,018	Delivering the goods			X	
	her 46	0,018	Humanitarian protection		X		
Management	**Review**	**Relevance**	**Subject**	**Articles**	**Project**	**Logistics**	**Complex**
	her 47	0,021	Humanitarian security management	Personnel management			
	her 1	0,018				-	
	her 34	0,018	Pakistan	Shelter/UNICEF	X	X	
	her 38	0,018	Disaster risk reduction	terminology	X		
	Review	**Relevance**	**Subject**	**Articles**	**Crisis**	**Disaster**	**Camp**
	her 47	0,021	Humanitarian security management	Personnel management	X		
	her 1	0,018					
	her 34	0,018	Pakistan	Shelter/UNICEF		X	X
	her 38	0,018	Disaster risk reduction	terminology		X	
	Review	**Relevance**	**Subject**	**Articles**	**Security**	**Programme**	**Personnel/HR**
	her 47	0,021	Humanitarian security management	Personnel management	X	X	X
	her 1	0,018					
	her 34	0,018	Pakistan	Shelter/UNICEF			
	her 38	0,018	Disaster risk reduction	terminology			
	Review	**Relevance**	**Subject**	**Articles**	**Risk**		
	her 47	0,021	Humanitarian security management	Personnel management	X		
	her 1	0,018					
	her 34	0,018	Pakistan	Shelter/UNICEF			
	her 38	0,018	Disaster risk reduction	terminology	X		

Results of the Nvivo Analysis(continued)

Authors	Title	Keyword/subjects	Logistics/SCM/OM	Risk management	IT/Com./media	Planning/mitigation	Organization management	Health/medicine	Politics/government/Public Admon.	Strategy	Environment	Human Resource
Tinguaro Rodriguez et al (2009)	A general methodology for data-based rule building and its application to natural disaster management	Decision support systems, humlog, disaster risk/emergency management	X	X	X	X						
Bui and Sankaran (2001)	Design considerations for a virtual information center for humanitarian assistance/disaster relief using workflow modeling	Crisis management, information management, workflow modeling	X		X					X		
Denning (2006)	Hastily Formed Networks	Emergency management, IT, networks, hastily formed organizations		X	X	X	X					
Tatham and Kovacs (2010)	The application of "swift trust" to humanitarian logistics	Humlog, hum SC, disaster management, hastily formed network, temporary network	X	X			X					
Van der Laan et al (2009)	Managing information cycles for intra-organisational coordination of humanitarian logistics	HA, humlog, information management, intra-org. coordination	X		X		X					
Jahre et al (2010)	Theory development in humanitarian logistics: a framework and three cases	Aid agencices, disasters, management theory, strategic planning	X	X			X					
Perry (2007)	Natural disaster management planning: A study of logistics managers responding to the tsunami	Logistics, crisis/emergency management, disaster planning	X	X		X						
Pesigan and Asahi (2004)	Strengthening community-based initiatives for health emergency management	Health emergency management, disaster management, risk management, training		X		X		X				
Anderson et al (2007)	Simulation tools for developing policies for complex systems: Modeling the health and safety of refugee communities	Government policy, international affairs, humanitarian assistance						X	X			
Ladki et al (2006)	The Summer 2006 Lebanese Food Crisis: A Quality of Life Perspective	Food supply, crisis management, logistics, nutrition policy	X						X			

Appendix 3 : Results of the database analysis

| | Sensemaking and implications for information systems design: Findings from the Democratic Republic of Congo's ongoing crisis | Information processing, decision making, crisis management, IS design | | |

| | | |

| | | |

Appendix 4 : Interview protocol

Protocol	**Guide**
Opening	*Introduction*
Introductions of interviewer and interview participant	Présentation
Overview of purpose of the study	Intérêt/intention de la recherche
Confidentiality assurance	Confidentialité
Permission to audiotape	Enregistrement?
Demographic data	*Background*
Title of interview participant	Quelle est la fonction que vous excercez actuellement au sein de MSF?
Background on organization, industry	Depuis combien de temps travaillez-vous chez MSF? Dans l'humanitaire? Quels autres postes avez-vous eu chez MSF?
Job history	Quels autres postes avez vous occupé avant de travailler dans l'humanitaire?
Organizational structure	Quelles sont vos responsabilités dans votre poste actuel?
Lines of inquiry	*Questions*
The concept of competency	Comment pourriez-vous définir la notion de compétence?
MSF's competencies	Pour vous quelles sont les compétences de MSF? Parmi elles, quelles son les plus importantes pour le succès des opérations humanitaires? Où on trouve ces compétences?
MSF's logistics competencies	Pour vous quelles sont les compétences logistiques de MSF ? Parmi elles, quelles son les plus importantes? Où on trouve ces compétences?
Individual competency	Par rapport à la fonction que vous exercez, quelles sont les compétences nécessaires pour réaliser cette activité? Avez-vous des compétences différentes à celles requises et que vous permettent d'être plus performant? Les quelles? Que feriez-vous pour devenir plus performant?

Interview protocol (continued)

Projects	Existe-t-il une différence entre le travail quotidien et la réponse à une urgence? Quels sont les critères qui différencient ces deux activités? Quels sont pour vous les critères qui différencient une crise d'une autre?
Success in the humanitarian context	Comment pourriez-vosu définir le succès dans le contexte humanitaire? Pense-vous que les opérations conduits par MSF soient le plus souvent des succès? Comment est défini le succès au sein de MSF? Quelles sont les activités qui assurent le succès de MSF? Comment est défini le succès logistique au sein de MSF? Quelles sont les activités logistiques qui assurent le succès de MSF?
Individual success	Comment est défini le succès de l'activité que vous exercez?
Additional prompts	*Questions finales*
Examples	Avez-vous des exemples sur les notions discutés pendant l'entretien?
Role of logistics	Quel es le rôle de la logistique dans le succès des opérations humanitaires?
Comments?	Souhaitez-vous ajouter quelque chose?
Questions?	Avez-vous des questions?

Appendix 5 : List of interviewees

Name	**Date**
Coordinator, Production	23 Nov. 2010
Technician, Aeronautics cell	23 Nov. 2010
Manager, Human resources	23 Nov. 2010
Director, Supply Chain	23 Nov. 2010
Supplier, Supply	3 Dec. 2010
Coordinator, Operations	3 Dec. 2010
Medical operator, Operations	3 Dec. 2010
Team chief, Stock	6 Dec. 2010
Team chief, Production	6 Dec. 2010
Storekeeper, Production	6 Dec. 2010
Coordinator, Supply	6 Dec. 2010
Coordinator, Freight	7 Dec. 2010
Freight manager, Freight	7 Dec. 2010
Coordinator, Stock	7 Dec. 2010
Stock controller, Stock	7 Dec. 2010
Manager, Quality	8 Dec. 2010
Non-medical operator, Operations	8 Dec. 2010
Coordinator, Purchasing	26 Jan. 2011
Technician, Non-medical purchasing	27 Jan. 2011
Purchaser/Technician, Non-medical purchasing	27 Jan. 2011
Pharmacist, Medical purchasing	27 Jan. 2011
Technician, Medical purchasing	27 Jan. 2011
Purchaser, Medical purchasing	27 Jan. 2011
Logistics supervisor, Emergency Desk	3 Feb. 2012
Logistics supervisor, Emergency Desk	3 Feb. 2012
Coordinator, Operational logistics	3 Feb. 2012
Construction referent, Technical logistics	3 Feb. 2012



Discours prononcé par le Dr James Orbinski.
Oslo 10 décembre 1999

Messieurs les membres du Comité Nobel, Excellences, Mesdames et Messieurs,

Les populations tchétchènes et les habitants de Grozny sont, en ce moment même et depuis plus de trois mois, victimes des bombardements indiscriminés des forces armées russes. Pour eux, l'aide humanitaire est aujourd'hui quasiment inexistante. Les personnes âgées, les plus faibles, les malades sont prisonniers des bombardements, dans l'incapacité de fuir la capitale tchétchène.
Les populations en danger et le respect de leur dignité sont au coeur de la distinction que vous nous remettez aujourd'hui. Par ce geste, vous récompensez notre façon particulière de répondre à leur détresse. Je demande solennellement aujourd'hui à Son Excellence l'Ambassadeur de Russie et, par son intermédiaire, au Président russe Boris Eltsine, de mettre un terme aux bombardements des civils tchétchènes sans défense. Si les conflits et les guerres sont bien l'affaire des Etats, les violations du droit humanitaire, les crimes de guerre et les crimes contre l'Humanité concernent chacun d'entre nous.

Laissez-moi vous dire à présent que nous acceptons avec une sincère gratitude la distinction que le Comité Nobel nous remet aujourd'hui. Nous l'acceptons avec gratitude, mais aussi avec un profond malaise à l'idée que la dignité des exclus, des personnes les plus vulnérables est, chaque jour, bafouée.

Je pense aux populations en danger, oubliées, comme ces enfants des rues qui se battent chaque jour, chaque heure pour survivre et se nourrir des déchets laissés par leurs concitoyens qui, eux, sont insérés dans l'ordre économique et social. Je pense également à ces réfugiés illégaux auprès desquels nous travaillons en Europe. Auprès de ces réfugiés, déchus de toute existence légale qui, vivant dans la terreur d'être expulsés n'osent même pas se faire soigner.

L'action de Médecins Sans Frontières consiste à porter assistance aux populations en situation de crise. Mais, apporter des soins aux populations en danger va au-delà du simple geste médical. L'action humanitaire est plus qu'un acte de générosité ou de charité. Elle vise à construire des espaces de normalité quand tout semble anormal. Au-delà de l'aide matérielle que nous apportons, nous voulons permettre aux individus de retrouver leurs droits et leur dignité. En tant qu'organisation indépendante, composée de volontaires, nous agissons, nous témoignons dans l'objectif d'aider, mais aussi d'induire des changements, de dénoncer les injustices. Notre action et notre parole sont des actes d'indignation.

La récompense que vous nous remettez aujourd'hui aurait pu être remise à d'autres organisations, d'autres individus, qui se battent dans leur propre société. Mais vous avez fait le choix de distinguer Médecins Sans Frontières. En 1971, un groupe de médecins français et de journalistes créait notre association pour porter assistance, parfois au mépris des lois et des pratiques des gouvernements. Le silence a souvent été confondu avec la neutralité, il a souvent été présenté comme une condition nécessaire pour mener des actions

INTERNATIONAL INTRANET

ITC Catalogues:

MEDECINS SANS FRONTIERES

MSF REFERENCE BOOKS By ITC

FR

Home > Logistics catalog > PCOL > PCOLCONT5--

MONITOR CARD, refrigeration electronic

PCOLCONT5- MONITOR CARD, refrigeration electronic
- (Fridge-tag®)

Gross weight/unit : 0.01 Kg
Volume/unit : 0.14 dm³
Indicative price/unit : 35.33 €



Definition

Precision self-recording thermometer used to monitor the temperature inside refrigerators. It shows the temperature and time, records when the alarm thresholds are exceeded (1 hour below +2 °C or above +8 °C), and memorizes the duration of the breach and the maximum or minimum temperature reached, for the previous 30 days.

Specifications

CLOSED ARTICLE

- Device consisting of an electronic temperature and time measuring circuit with large LCD display
- It has 2 buttons, "SET" and "READ", used for starting, setting the time, choosing the temperature in °C or °F, and reading the minimum and maximum temperature and the duration of exposure beyond +2/+8 °C

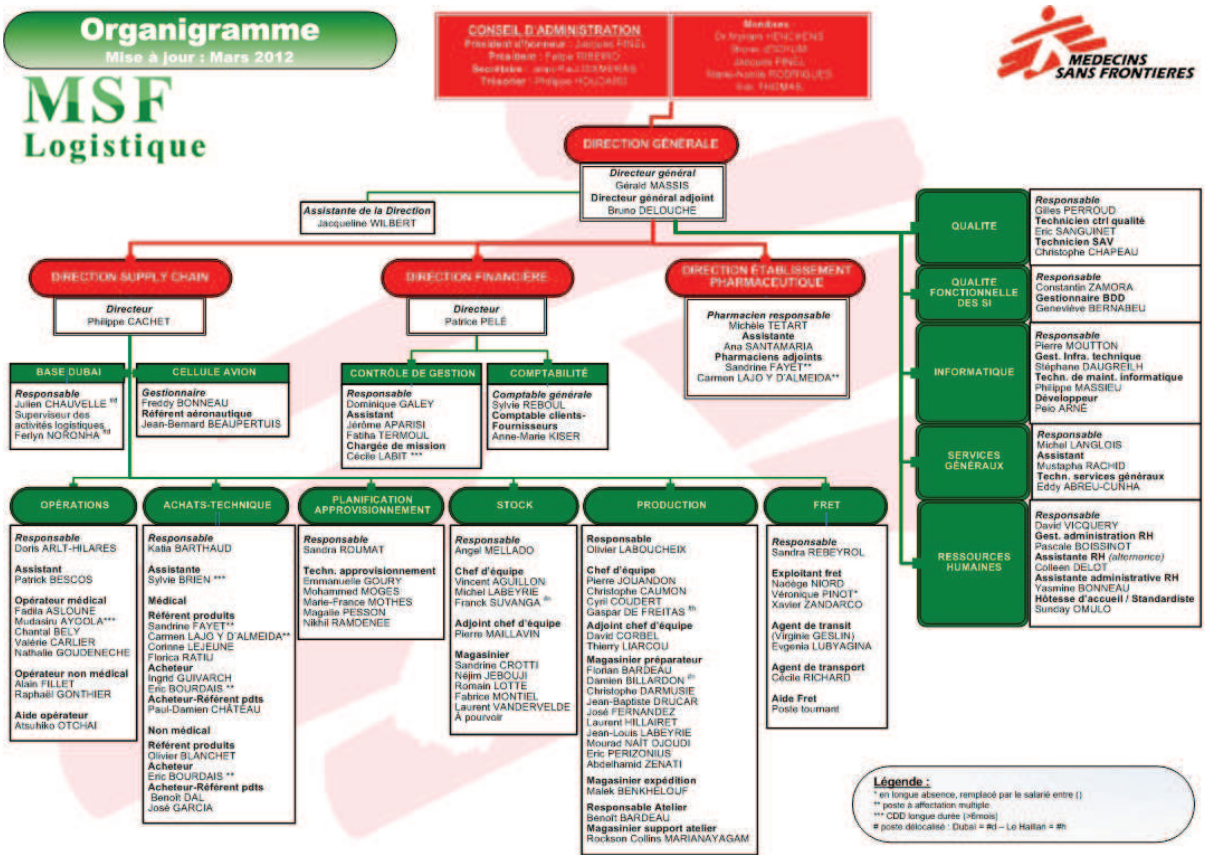
Material

- Plastic body; cannot be dismantled

Technical specifications

- Irreversible: alarm threshold breaches cannot be deleted once detected
- Permanent memory of the previous 30 days (triangles pointing downwards or upwards)
- Lifespan around 2 years

Appendix 7 : Logistics Catalog (Extrait)



Appendix 8 : MSF Logistique's organization chart

Bibliography

Adinolfi, C., Bassiiouni, D. S., Lauritzsen, H. F. and Williams, H. R. (2005). Humanitarian response review, *Technical report*, United Nations.

Aldashev, G. and Verdier, T. (2008). When ngos go global: Competition on international markets for development donations.

Alvarez, S. A. and Busenitz, L. W. (2001). The entrepreneurship of resource-based theory, *Journal of Management* **27**(6): 755–775.

Amit, R. and Schoemaker, P. J. H. (1993). Strategic assets and organizational rent, *Strategic Management Journal* **14**: 33–46.

Anderson, R. D., Jerman, R. E. and Crum, M. R. (1998). Quality management influences on logistics performance, *Transportation Research Part E: Logistics and Transportation Review* **34**(2): 137–148.

Andrews, K. R. (1971). *The Concept of Corporate Strategy*, Dow Jones-Irwin.

Ansoff, H. I. (1965). *Corporate Strategy: An Analytical Approach to Business Policy for Growth and Expansion.*, McGraw-Hill, New York.

Arlbjorn, J. S. and Halldorsson, A. (2002). Logistics knowledge creation: reflections on content, context and processes, *International Journal of Physical Distribution & Logistics Management* **27**(9): 515–539.

Armour, J. and Gordon, J. N. (2008). The berle-means corporation in the 21st century, *Technical report*, University of Pennsylvania Law School.

Balasegaram, M. (2005). Act implementation in a humanitarian emergency: an overview and a case study from the field, *Humanitarian Exchange* (31): 8–11.

Balcik, B. and Beamon, B. M. (2008). Facility location in humanitarian relief, *International Journal of Logistics: Research and Aplications* **11**(2): 101–121.

Balcik, B., Beamon, B. M., Krejci, C. C., Muramatsu, K. M. and Ramirez, M. (2010). Coordination in humanitarian relief chains: Practices, challenges and opportunities, *International Journal of Production Economics* **126**(1): 22–34.

Ballou, R. H. (2007). The evolution and future of logistics and supply chain management, *European Business Review* **19**(4): 332–348.

Bamforth, T. (2006). Humanitarian intervention in a sovereign state: the political fault-lines of the pakistan earthquake, *Humanitarian Exchange* (34): 4–6.

Banomyong, R. and Sopadang, A. (2010). Using monte carlo simulation to refine emergency logistics response models: a case study, *International Journal of Physical Distribution & Logistics Management* **40**(8/9): 709–721.

Barbarosoglu, G., Özdamar, L. and Cevik, A. (2002). An interactive approach for hierarchical analysis of helicopter logistics in disaster relief operations, *International Journal of Operational Research* **140**: 118–133.

Barney, J. B. (1986). Strategic factor markets: Expectations, luck and business strategy, *Management Science* **32**(10): 1231–1241.

Barney, J. B. (1991). Firm resources and sustained competitive advantage, *Journal of Management* **17**(1): 99–120.

Barney, J. B. (2001). Is the resource-based "view"a useful perspective for strategic management research? yes, *Academy of Management Review* **26**(1): 41–56.

Barney, J., Ketchen, D. J. and Wright, M. (2011). The future of resource-based theory: Revitalization or decline?, *Journal of Management* **37**(March): 1299–1315.

Baxter (2008). Solution injectable de ringer lactate baxter, Fiche technique.

Beamon, B. (1999). Measuring supply chain performance, *International Journal of Operations and Production Management* **19**(3): 275–292.

Beamon, B. M. (1998). Supply chain design and analysis: Models and methods, *International Journal of Production Economics* **55**(3): 281–294.

Beamon, B. M. (2004). Humanitarian relief chains: Issues and challenges, *Proceedings of the 35th International Conference on Computers & Industrial Engineering*, San Francisco, CA, USA.

Beamon, B. M. and Kotleba, S. A. (2006). Inventory management support systems for emergency relief operations in south sudan, *International Journal of Physical Distribution & Logistics Management* **37**(2): 99–114.

Bechtel, C. and Jayaram, J. (1997). Supply chain management: a strategic perspective, *The International Journal of Logistics Management* **8**(1): 15–34.

Behn, O. and Kingston, M. (2010). Whose risk is it anyway? linking operational riks thresholds and organizational risk management, *Humanitarian Exchange* (47): 8–11.

Beresford, A. and Pettit, S. (2009). Emercengy logistics and risk mitigation in thailand following the asian tsunami, *International Journal of Riks Assesment and Management* **13**(1): 7–21.

Berle, A. A. and Means, G. C. (1932). *The modern corporation and private property*, McMillan, New York, NY.

Black, M. (1992). *A Cause for our Times - Oxfam the first 50 years*, Oxfam and Oxford University Press, Oxford.

Bolumole, Y. A., Frankel, R. and Naslund, D. (2007). Developing a theoretical framework for logistics outsourcing, *Transportation Journal* **46**(2): 35–54.

Bowersox, D. J. (1983). "emerging from the recession: The role of logistical management, *Journal of Business Logistics* **4**(1): 21–33.

Bowersox, D. J., Closs, D. J. and Cooper, M. B. (2002). *Supply Chain Logistics Management*, McGraw-Hill, New York, NY.

Bowersox, D. J., Closs, D. J. and Cooper, M. B. (2006). *Supply Chain Logistics Management*, 2nd edn, McGraw-Hill, New York, NY.

Bowersox, D. J., Closs, D. J. and Stank, T. P. (1999). *21st Century Logistics: Making Supply chain Integration a Reality*, Council of Logsitics Management, Oak Brook, IL.

Brauman, R. (1995). *L'action humanitaire*, Flammarion, Paris.

Brauman, R. (2004). Biafra – cambodge, un gÃ©nocide et une famine fabriquÃ©s, *Communication au colloque international "Face aux risques extrêmes"*, Lille, France.

Brauman, R. (2009). *La mÃ©dicine humanitaire*, Presses Universitaires de France, Paris.

Buchanan-Smith, M. and Christopolos, I. (2004). Natural disasters amid complex political emergencies, *Humanitarian Exchange* (27): 36–38.

Bucholtz, M. (2000). The policices of transcription, *Journal of Pragmatics* **32**: 1439–1465.

Burns, T. and Stalker, E. (1961). *The Management of Innovation*, Travistock, London.

Burrell, G. and Morgan, G. (1985). *Sociological Paradigms and Organizational Analysis: Elements of the Sociology of Corporate Life*, Gower, London.

Byombuka, S. (2004). Building local capacity after crisis: the experience of local ngos in the kivus after 1994, *Humanitarian Exchange* (26): 12–14.

Carranza, O., Maltz, A. and Antun, J. P. (2002). Linking logistics to strategie in argentina, *International Journal of Physical Distribution & Logistics Management* **32**(6): 480–496.

Carter, W. N. (1999). *Disaster Management: A Disaster Management Handbook*, Asian Development Bank, Manila.

Cassidy, W. B. (2003). A logistics lifeline, *Traffic World* p. 1.

CBHA (2011). Core humanitarian competencies guide, Consortium of British Humanitarian Agencies.

Chandler, A. D. J. (1962). *Strategy and Structure: Chapters in the History of the Industrial Enterprise*, MIT Press, Cambridge, MA.

Chia, E. S. (2007). Engineering disaster relief, *IEEE Technology and Society Magazine* **Fall**: 24–29.

Cho, J. J.-K., Ozment, J. and Sink, H. (2008). Logistics capability, logistics outsourcing and firm performance in an e-commerce market, *International Journal of Physical Distribution & Logistics Management* **38**(5): 336–359.

Chomilier, B., Samii, R. and Van Wassenhove, L. (2003). The central role of supply chain management at ifrc, *Forced Migration Review* **18**: 15–16.

Chow, G., Heaver, T. D. and Henrikssen, L. E. (1995). Strategy, structure and performancce: A framework for logistics research, *Logistics and Transportation Review* **31**(4): 285–308.

Christopher, M. (1998). *Logistics & Supply Chain Management : Strategies for reducing cost and improving services*, 2nd edn, FT Pitman Publishing, London.

Christopher, M. (2000). The agile supply chain: Competing in volatile markets, *Industrial Marketing Management* **29**(1): 37–44.

Christopher, M. (2005). *Logistics & Supply Chain Management : Creating Value-adding Networks*, 3rd edn, Financial Times, London.

Christopher, M. (2007). New directions in logistics, *in* D. Waters (ed.), *Global Logistics - New directions in Supply Chain Management*, Kogan Page, London, UK.

Christopher, M. and Peck, H. (2008). Building the resilient supply chain, *International Journal of Logistics Management* **15**(2): 1–14.

Christopher, M. and Towill, D. R. (2001). An integrated model for the design of agile supply chains., *International Journal of Physical Distribution & Logistics Management* **31**(4): 235–246.

Closs, D. J. and Mollenkopf, D. A. (2004). A global supply chain framework, *Industrial Marketing Management* **33**: 37–44.

Coase, R. H. (1937). The nature of the firm, *Economica* **4**(16): 386–405.

Colin, J. (1996). La logistique: Histoire et perspectives, *Logistique & Management* **4**(2): 97–110.

Colin, J. (2005). Le supply chain management existe-t-il réellement ?, *Revue Française de Gestion* **3**(156): 135–149.

Colin, J. and Paché, G. (1988). *La logistique de distribution: L'avenir du marketing*, Chotard et Associés Editeurs, Paris.

Collinson, S. and Elhawary, S. (2012). Humanitarian space: Trends and issues, HPG Policy Brief 46, Humanitarian Policy Group.

Collis, D. J. and Montgomery, C. A. (1995). Competing on resources: Strategy in the 1990s, *Harvard Business Review* **July-August**: 118–128.

Conner, K. R. (1991). A historical comparison of resource–based theory and five schools of thought within industrial organization economics: Do we have a new theory of the firm?, *Journal of Management* **17**(1): 121–154.

Cook, G. (1990). Transcribing infinity, *Journal of Pragmatics* **14**: 1–24.

Cooper, M. C., Lambert, D. M. and Pagh, J. D. (1997). Supply chain management: More than a new name for logistics, *International Journal of Logistics Management* **8**(1): 1–14.

CRED (2010). Annual disaster statistical review, *Technical report*, Centre for Research on the Epidemiology of Disasters.

CSCMP (2010). Supply chain management terms and glossary, *Technical report*, Council of Supply Chain Management Professionnals.

Cyert, R. M. and March, J. G. (1963). *A Behavioural Theory of the Firm*, Prentice Hall, Englewood Cliffs.

Darré, Y. (1993). *La fonction logistique: Une nouvelle fonction dans l'entreprise*, Collection des études - Centre d'études et de recherches sur les qualifications, Centre d'Etudes et de Recherches sur les Qualifications.

Daugherty, P. J., Stank, T. P. and Ellinger, A. E. (1998). Leveraging logistics/distribution capabilities: The effect of logistics service on market share, *Journal of Business Logistics* **19**(2): 35–51.

Davenport, T. and Short, J. (1990). The new industrial engineering: information technology and business process redesign, *Sloan Management Review* **31**(4): 11–27.

Davidson, A. L. (2006). Key performance indicators in humanitarial logistics, *Engineering Systems Division*, Massachusetts Institute of Technology.

Davidson, C. (2009). Transcription: Imperatives for qualitative research, *International Journal of Qualitative Methods* **8**(2): 35–52.

Day, G. S. (1994). The capabilities of market–driven organizations, *Journal of Marketing* **58**: 37–52.

Day, G. S. and Wensley, R. (1988). Assessing advantage: A framework for diagnosing competitive superiority, *Journal of Marketing* **52**: 1–20.

Day, J. M., Junglas, I. and Silva, L. (2009). Information flow impediments in disaster relief supply chains, *Journal of the Association for Information Systems* **10**(8): 637–660.

Dean, A. and Sharp, J. (2006). Getting the most from nud*ist/nvivo, *The Electronic Journal of Business Research Methods* **4**(1): 11–12.

Dejoux, C. (1998). Pour une approche trnasversale de la gestion des compétences, *Gestion 2000* (6): 15–31.

Denzin, N. K. and Lincoln, Y. S. (2005). Introduction: The discipline and practice of qualitative research, *in* N. K. Denzin and Y. S. Lincoln (eds), *The Sage handbook of qualitative research*, SAGE, Thousand Oaks, CA.

Dosi, G., Nelson, R. R. and Winter, S. G. (2000). Introduction : The nature and dynamics of organizational capabilities, *in* G. Dosi, R. R. Nelson and S. G. Winter (eds), *The Nature and Dynamics of Organizational Capabilities*, Oxford University Press, pp. 1–22.

Drucker, P. F. (1962). The economy's dark continent, *Fortune* **April**: 103–104.

Dubois, A. and Gadde, L.-E. (2002). Systematic combining: an abductive approach to case research, *Journal of Business Research* **55**: 553–560.

Dubois, M. (2001). Beyond the classi humanitarian response: Msf's advocacy in angola, *Humanitarian Exchange* (19): 19–21.

Dunant, H. (1986). *A Memory of Solferino*, ICRC, Geneva.

Dunn, S. C., Seaker, R. F. and Waller, M. A. (1994). Latent variables in business logistics research: Scale development and validation, *Journal of Business Logistics* **15**(2): 145–172.

Durand, T. (2006). L'alchimie de la compétence, *Revue Francaise de Gestion* **1**(160): 261–291.

Dussauge, P. and Ramanantsoa, B. (1989). *Technologie et Stratégie d'entreprise*, Dunod, Paris.

Dyer, J. H. and Singh, H. (1998). The relational view: Cooperative strategy and sources of interorganizational competitive advantage, *Academy of Management Review* **23**(4): 660–679.

Easterby-Smith, M., Thorpe, R. and Lowe, A. (1991). *Management Research: An Introduction*, SAGE, London.

Eisenhardt, K. M. (1989). Building theories from case study research, *Academy of Management Review* **14**(4): 532–550.

Ellram, L. M. (1996). The use of the case study method in logistics research, *Journal of Business Logistics* **17**(2): 93–138.

Elsharkawi, H., Sandbladh, H., Aloudat, T., Girardau, A., Tjoflat, I. and Brunnstrom, C. (2010). Preparing humanitarian wrkers for disaster response: a red cross/red crescent field training model, *Humanitarian Exchange* (46): 45–47.

Eng-Larsson, F. and Vega, D. (2011). Green logistics in temporary organizations: A paradox? learnings from the humanitarian context, *Supply Chain Forum: An International Journal* **12**(1): 128–139.

Eriksson, D. (1997). A principal exposition of jean-louis le moigne's systemic theory, *Cybernetics and Human Knowing* **4**(2-3): 35–77.

Ernst, R. (2003). The academic side of commercial logistics and the importance of this special issue, *Forced Migration Review* **18**: 5.

Esper, T. L., Fugate, B. S. and Davis-Sramek, B. (2007). Logistics learning capability: Sustaining the ccompetitive advantage gained through logistics leverage, *Journal of Business Logistics* **28**(2): 57–81.

Everywhere, Jahre, M. and Navangul, K. A. (2011). Demand forecasting in international humanitarian response, *NOFOMA Proceedings*, Harstad, Norway.

Evrard-Samuel, K., Goury, M.-L., Gunasekaran, A. and Spalanzani, A. (2011). Knowledge management in supply chain: An empirical study from france, *The Journal of Strategic Information Systems* **20**(3): 283–306.

Fabbe-Costes, N. (1997). Information management in the logistics service industry: A strategic response to the reintegration of logistical activities, *Transport Logistics* **1**(2): 115–127.

Fabbe-Costes, N. and Colin, J. (2007). Formulating logistics strategy, *in* D. Waters (ed.), *Global Logistics - New directions in Supply Chain Management*, Kogan Page, London, UK.

Fabbe-Costes, N. and Jahre, M. (2007). Supply chain integration improves performance: the emperor's new suit?, *International Journal of Physical Distribution & Logistics Management* **37**(10): 835–855.

Fabbe-Costes, N. and Meschi, P.-X. (2000). La place de la logistique dans l'organisation, *Actes des 3èmes RIRL*, Trois-RiviÃ¨res, Canada.

Fahy, J. and Smithee, A. (1999). Strategic marketing and the resource based view of the firm, *Academy of Management Science Review* **10**: 1–21.

Falk, S. (1986). Introduction, *in* G. C. Thorpe (ed.), *Pure Logistics: The Science of War Preparation*, National Defense University Press, Washington.

Favez, J. C. (1988). *Une mission impossible? Le CICR, les déportations et les camps de concentration nazis*, Payot Laussane, Laussane.

Fawcett, S. E., Cantalone, R. and Smith, S. R. (1996). An investigation on the impact of flexibility on global reach and firm performance, *Journal of Business Logistics* **17**(2): 167–196.

Felin, T. and Hesterly, W. S. (2007). The knowledge-based view, nested heterogeneity, and new value creation: Philosophical considerations on the locus of knowledge, *Academy of Management Review* **32**(1): 195–218.

Fiol, C. M. and Lyles, M. A. (1985). Organizational learning, *The Academy of Management Review* **10**(4): 803–813.

Flyvbjerg, B. (2011). *Case Study*, Sage, pp. 301–316.

Foss, N. J. (1996). *Introduction: The emerging competence perspective*, Routledge.

Foss, N. J. (1997). *Resources, firms, and strategies: a reader in the resource-based perspective*, Oxford University Press, Oxford.

Foss, N. J. and Knudsen, C. (1996). *Towards a competence theory of the firm*, Routledge.

Foss, N. J. and Knudsen, T. (2003). The resource-based tangle: towards a sustainable explanation of competitive advantage, *Managerial and Decision Economics* **24**(4): 291–307.

Frankel, R., Naslund, D. and Bolumole, Y. (2005). The white space of logistics research: A look at the role of methods usage, *Journal of Business Logistics* **26**(2): 185–208.

Freiling, J. (2004). A competence-based theory of the firm, *Management Revue* **15**(1): 27–52.

Freiling, J., Gersch, M. and Goeke, C. (2008). On the path towards a competence-based theory of the firm, *Organization Studies* **29**(8-9): 1143–1164.

Gadde, L.-E. and Hakansson, H. (2001). *Supply Network Strategies*, Wiley, Chinchester.

Garud, R. (1997). On the distinction between know-how, know-why and know-what, *Advances in Strategic Management* **14**: 81–101.

Gatignon, A., van Wassenhove, L. N. and Charles, A. (2010). The yogyakarta earthquake: Humanitarian relief through ifrc's decentralized supply chain, *International Journal of Production Economics* **126**: 102–110.

Gibson, B. J., Mentzer, J. T. and Cook, R. L. (2005). Supply chain management: The pursuit of a consensus definition, *Journal of Business Logistics* **26**(2): 17–25.

Gilmour, P. (1999). A strategic audit framework to improve supply chain performance, *Journal of Businnes & Industrial Marketing* **14**(5/6): 355–363.

Gioia, D. A. and Pitre, E. (1990). Multiparadigm perspectives on theory building, *Academy of Management Review* **15**(4): 548–602.

Goldsby, T. J. and Stank, T. P. (2000). World class logistics performance and environmentally responsible logistics practices, *Journal of Business Logistics* **21**(2): 187–208.

Grant, R. M. (1991). The resource–based theory of competitive advantage: Implications for strategy formulation, *California Management Review* **Spring**: 114–46.

Griekspoor, A. (2005). Ghd and funding accordint to needs, *Humanitarian Exchange* (29): 18–21.

Griekspoor, A. and Sondorp, E. (2001). Enhancing the quality of humanitarian assistance: Taking stock and future initiatives, *Prehospital and Disaster Medicine* **16**: 209–215.

Gripsrud, G., Jahre, M. and Persson, G. (2006). Supply chain management - back to the future?, *International Journal of Physical Distribution & Logistics Management* **36**(8): 643–659.

Groupman, A. (1997). *The Big 'L' - American Logistics in World War II*, National Defense University Press, Washington, DC.

Guba, E. G. and Lincoln, Y. S. (1989). *Fourth generation evaluation*, Sage Publications.

Gustavsson, L. (2003). Humanitarian logistics: context and challenges, *Forced Migration Review* **18**: 6–8.

Haas, J. E., Kates, R. W. and Bowden, M. (1977). *Reconstruction Following Disaster*, MIT Press, Cambridge.

Hakansson, H. and Snehota, I. (1995). *Developing Relationships in Business Networks*, Routledge, London.

Hall, R. (1992). The strategic analysis of intangible resources, *Strategic Management Journal* **13**(2): 135–144.

Hallam, A. (1998). Evaluating humanitarian assistance programmes in complex emergencies, *Technical report*, RNN Good Practice Review No. 7.

Halldorsson, A. and Aastrup, J. (2003). Quality criteria for qualitative inquiries in logistics, *European Journal of Operational Research* **144**: 321–332.

Hamel, G. and Heene, A. (1994). *Competence-based competition*, The Strategic management series, Wiley.

Hamel, G. and Prahalad, C. K. (1989). Strategic intent, *Harvard Business Review* **May–June**: 63–76.

Hammer, M. (1990). Reengineering work: don't automate, obliterate, *Harvard Business Review* **July–August**: 104–112.

Handfield, R. B. and Melnyk, S. A. (1998). The scientific theory-building process: a primer using the case of tqm, *Journal of Operations Management* **16**: 321–339.

Harmer, A. (2010). A decade on: a new good practice review on operational security management, *Humanitarian Exchange* (47): 2–3.

Heene, A. and Sanchez, R. (1997). *Competence-based strategic management*, Strategic management series, Wiley.

Herrmann, P. (2005). Evolution of strategic management: The need for new dominant designs, *International Journal of Management Reveiws* **7**(2): 111–130.

Heskett, J. L., Ivie, R. and Glaskowsky, N. (1964). *Business Logistics. Management of Physical Supply and Distribution*, The Ronald Press Company, New York.

Hitt, M. A. and Ireland, R. D. (1985). Corporate distinctive competence, strategy, industry and performance, *Strategic Management Journal* **6**(3): 273–293.

Hitt, M. A. and Ireland, R. D. (1986). Relationships among corporate level distinctive competencies, diversification strategy, corporate structure and performance, *Journal of Management Studies* **23**(4): 401–416.

Hodgson, G. M. (1998). Evolutionary and competence-based theories of the firm, *Journal Of Economic Studies* **25**(1): 25–56.

Hofer, C. W. and Schendel, D. (1978). *Strategy Formulation: Analytic Concepts*, West, St. Paul, MN.

Hofmann, C.-A., Roberts, L., Shoham, J. and Harvey, P. (2004). Measuring the impact of humanitarian aid: A review of current practice.

Holmstrom, B. R. and Tirole, J. (1989). The theory of the firm, *in* R. Schmalensee and R. D. Willig (eds), *Handbook of industrial organization*, Elsevier, Amsterdam.

Houghton, R. (2006). Tsunami emergency: Lessosn from previous natural disasters, *Technical report*, Active learning Network for Accountability and Performance in Humanitarian Action (ALNAP).

Hulsmann, M. and Grapp, J. (2006). Why do service logistics need self-organization? a competence-based analysis of global supply chains in the movie production industry, *Proceedings of the 4th International Logistics and Supply Chain Congress*, Izmir, Turkey.

Hunt, S. D. (1993). Objectivity in marketing theory and research, *Journal of Marketing* **57**(April): 76–91.

ICET (1998). The tampere convention on the provision of telecominucation resources for disaster mitigation and relief operations, *Technical report*, Intergovernmental Conference on Emergency Telecommunications.

ICRC (2004). What is humanitarian law?, International Committee of the Red Cross.

IFRC (2005). Tsunami 26.12.2004, International Federation of Red Cross and Red Crescent Societies, Report.

Jahre, M. and Fabbe-Costes, N. (2005). Adaptation and adaptability in logistics networks, *International Journal of Logistics: Research and Applications* **8**(2): 143–157.

Jahre, M., Gadde, L.-E., Hakansson, H., Harrison, D. and Persson, G. (2006). *Resourcing in Business Logistics - The art of systematic combining*, Lyber & Copenhaguen Business School Press, Ljubljana, Slovenia.

Jahre, M. and Heigh, I. (2008). Does failure to fund preparedness mean donors must prepare to fund failure in humanitarian supply chains?, *NOFOMA Proceedings*, Helsinki, Finland.

Jahre, M. and Jensen, L.-M. (2010). Coordination in humanitarian logistics through clusters, *International Journal of Physical Distribution & Logistics Management* **40**(8/9): 657–674.

Jahre, M., Jensen, L.-M. and Listou, T. (2009). Theory development in humanitarian logistics - a framework and three cases, *(Forthcoming) Management Research News* .

Jahre, M. and Persson, G. (2008). *Origins and influences of Logistics thinking - Is there a Nordic approach?*, Copenhagen Business School Press, pp. 33–47.

Jomini, B. A. H. (1862). *The Art of War*, Legacy Books Press, Ontario.

Kaplan, R. S. and Norton, D. P. (1996). *The Balanced Scorecard: Translating strategy into action*, Harvard Business School, Cambridge, MA.

Keith, R. J. (1960). The marketing revolution, *Journal of Marketing* **24**(1): 35–38.

Kent, J. L. and Flint, D. J. (1997). Perspectives on the evolution of logistics thought, *Journal of Business Logistics* **18**(2): 15–29.

Kent, R. (2004). The un and the rwanda genocide: Could it happen again?, *Humanitarian Exchange* (26): 9–11.

Kim, D. (1993). The link between individual and organizational learning, *Sloan Management Review* **35**(1): 37–50.

King, D. (2010). The haiti earthquake: breaking new ground in the humanitarian information landscape, *Humanitarian Exchange* (48): 23–25.

Klaus, P. (2009). Logistics research: a 50 years' march of ideas, *Logistics Research* **1**(1): 53–65.

Kofman, F. (1992). Lecture slides.

Kolb, D. A. (1984). *Experiential Learning - Experience as the Source of Learning and Development*, Prentice Hall, Englewood Cliffs, New Jersey.

Kolb, F. (1972). *La logistique: Approvisionnement, production, distribution*, Entreprise Moderne d'Edition, Paris.

Kor, Y. Y. and Mahoney, J. T. (2004). Edith penrose's (1959) contributions to the resource-based view of strategic management, *Journal of Management Studies* **41**(1): 183–191.

Kovacs, G. and Spens, K. (2005). Abductive reasoning in logistics, *International Journal of Physical Distribution & Logistics Management* **35**(2): 132–144.

Kovacs, G. and Spens, K. (2007a). Humanitarian logistics in relief opreations, *International Journal of Physical Distribution & Logistics Management* **37**(2): 99–114.

Kovacs, G. and Spens, K. (2007b). Logistics theory building, *The Icfai Journal of Supply Chain Management* **IV**(4): 7–27.

Kovacs, G. and Spens, K. (2010). Kowledge sharing in relief supply chains, *International Journal of Networking and Virtual Organisations* **7**(2/3): 222–239.

Kovacs, G. and Tatham, P. (2009). Responding to disruptions in the supply network – from dormant to action, *Journal of Business Logistics* **30**(2): 215–229.

Kurt Salmon Associates (1993). Efficient consumer response: Enhancing consumer value in the grocery industry, *Technical report*, Research Department, Food Marketing Institute.

LaLonde, B. J. (1997). Supply chain management: Myth or reality?, *Supply Chain Management Review* **Spring**: 6–7.

Lambert, D. M., Kearney, A. T. and Gautschi, D. A. (1985). Measuring and improving productivity in physical distribution, *Journal of Marketing Research* **21**(4): 472.

Lambert, D. M., Kearney, A. T. and Gautschi, D. A. (1988). An efficiency/effectiveness approach to logistics performance analysis, *Journal of Business Logistics* **12**(1): 33–62.

Langley, C. J. (1986). The evolution of the logistics concept, *Journal of Business Logistics* **7**(2): 1–13.

Lapadat, J. C. (2000). Problematizing transcription: Purpose, paradigm and quality, *Research Methodology* **3**(3): 203–219.

Larose, L. and Adams, J. (2002). Accountability and quality: uncomfortable bedfellows?, *Humanitarian Exchange* (21): 19–21.

Larson, P. D., Poist, R. F. and Halldórsson, A. (2007). Perspectives on logistics vs. scm: A survey of scm professionals, *Journal of Business Logistics* **28**(1): 1–24.

Lavie, D. (2006). The competitive advantage of interconnected firms: An extension of the resource-based view, *Academy of Management Review* **31**(3): 638–658.

Lawrence, P. R. and Lorsch, J. W. (1967). *Organization and Environment: Managing Differentiation and Integration*, Harvard Business School, Cambridge, MA.

Le Moigne, J.-L. (1990). *La modélisation des systèmes complexes*, Dunod, Paris.

Le Moigne, J.-L. (2007). The intelligence of complexity, *Educational Sciences Journal* **4**(Sep/Dec): 115–126.

Lebas, J., Veber, F. and Brucker, G. (1994). *Médicine Humanitaire*, Flammarion, Paris.

Lee, H. W. and Zbinden, M. (2003). Marrying logistics and technology for effective relief, *Forced Migration Review* **18**(6): 34–5.

Leech, N. L. and Onwuegbuzie, A. J. (2011). Beyond constant qualitative data analysis: Using nvivo, *School Psychology Quarterly* **26**(1): 70–84.

Lei, D., Hitt, M. A. and Bettis, R. (1996). Dynamic core competences through meta–learning and strategic context, *Journal of Management* **22**(4): 549–569.

Li, P.-C. and Lin, B.-W. (2006). Building global logistics competence with chinese oem suppliers, *Technology in Society* **28**: 333–348.

Lièvre, P. (2007). *La Logistique*, La Découverte, Paris.

Lippman, S. A. and Rumelt, R. P. (2003). The payments perspective: micro-foundations of resource analysis, *Strategic Management Journal* **24**(10): 903–927.

Liu, X., Grant, D. B., McKinnon, A. C. and Feng, Y. (2010). An empirical examination of the contribution of capabilities to the competitiveness of logistics service providers: A perspective from china, *International Journal of Physical Distribution & Logistics Management* **40**(10): 847–866.

Llodree, E. J. and Taskin, S. (2008). An insurance risk management framework for disaster relief and supply chain disruption inventory planning, *Journal of Operation Research Society* **59**: 674–684.

Lockett, A. and Thompson, S. (2001). The resource-based view and economics, *Journal of Management* **27**(6): 723–754.

Long, D. C. (1997). Logistics for disaster relief: engineering on the run, *IIE Solutions* **29**(6): 26–29.

Long, D. C. and Wood, D. F. (1995). The logistics of famine relief, *Journal of Business Logistics* **16**(1): 213–229.

Lu, C.-S. and Yang, C.-C. (2010). Logistics service capabilities and firm performance of international distribution center operators, *The Service Industries Journal* **30**(2): 281–298.

Ludema, M. W. and Roos, H. B. (2000). Military and civil logistic support of humanitarian relief operations, *Proceedings of the 10th INCOSE Annual International Symposium*, Minneapolis, U.S.

Lynch, D. F., Keller, S. B. and Ozmet, J. (2000). The effect of logistics capabilities and strategy on firm performance, *Journal of Business Logistics* **22**(2): 47–67.

Maddon, N. (2012). Uncle wiggly wings – humanitarian logistics pioneer.

Maillard, D. (2008). Le biafra ou le sens de l'humanitaire, *Humanitaire* (18).

Majewski, B., Navangul, K. A. and Heigh, I. (2010). A peek into the future of humanitarian logistics: Forewarned is forearmed, *Supply Chain Forum: An International Journal* **11**(3): 4–20.

Makadok, R. (2001). Toward a synthesis of the resource-based and dynamic-capability views of rent creation, *Strategic Management Journal* **22**(5): 387–401.

Mallak, L. (1998). Resilience in the healthcare industry, *Paper presented at 7th Annual Industrial Engineering Research Conference*, Banff, Alberta.

Manuj, I. and Mentzer, J. T. (2008). Global supply chain risk management strategies, *International Journal of Physical Distribution & Logistics Management* **38**(3): 192–223.

March, J. G. and Olsen, J. P. (1975). The uncertainty of the past: organizational learning under ambiguity, *European Journal of Political Research* **3**(2): 147–171.

March, J. G. and Simon, H. A. (1958). *Organizations*, John Wiley, New York.

Mathe, H. and Tixier, D. (1987). *La logistique*, PUF, Paris.

Mentzer, J. T., DeWitt, W., Keebler, J. S., Min, S., Nix, N. W., Smith, C. D. and Zacharia, Z. G. (2001). Defining supply chain management, *Journal of Business Logistics* **22**(2): 1–25.

Mentzer, J. T. and Kahn, K. B. (1995). A framework of logistics research, *Journal of Business Logistics* **16**(1): 231–250.

Mentzer, J. T., Min, S. and Bobbit, L. M. (2004). Toward a unified theory of logistics, *International Journal of Physical Distribution & Logistics Management* **34**(8): 606–627.

Meredith, J., Raturi, A., Gyampah, K. and Kaplan, B. (1989). Alternative research paradigms in operations, *Journal of Operations Management* **8**(4): 297–326.

Merriam-Webster (2012). Merriam-webster online dictionary.

Meschi, P.-X. (1997). Le concept de compétence en stratÃ©gie: Perspectives et limites, *6 ème Conférence de l'AIMS*, Montreal, Canada.

Miles, M. B. and Huberman, M. (1994). *Qualitative Data Analysis*, SAGE, Thousand Oaks, CA.

Mollenkopf, D. A. and Dapiran, G. P. (1999). Best practice logistics: How well do australian/new zealand firms perform?, *Proceedings of the Council of Logistics Management Annual Conference*, Toronto, Canada.

Mollenkopf, D. and Dapiran, G. (2005). The importance of developing logistics competencies: a study of australian and new zealand firms, *International Journal of Logistics* **8**(1): 1–14.

Morash, E. A., Droge, C. L. M. and Vickery (1996). Strategic logistics capabilities for competitive advantage and firm success, *Journal of Business Logistics* **17**(1): 1–22.

MSF (2010). Réponse d'urgence après le séisme en haiti: Choix opérationnels, obstacles, activités et finances, *Technical report*, Médecins Sans Frontières.

MSF (2011a). Analyse des activités médicales 2010, *Technical report*, Médecins Sans Frontières - Département Médical OCP.

MSF (2011b). Gestion harmonieuse des ressources humaines de l'administration et de la logistique, *Technical report*, Médecins Sans Frontières.

MSF (2011c). Guide des kits et articles d'urgence.

MSF (2011d). Médecins sans frontières 40 ans - dossier de presse, *Technical report*, Médecins Sans Frontières.

MSF (2011e). The missions - missions from a to z, *Technical report*, Médecins Sans Frontières.

MSF (2011f). Plan stratégique 2011 et plus, *Technical report*, Médecins Sans Frontières - Département Médical OCP.

MSF (2011g). Rapport annuel 2010/2011, *Technical report*, Médecins Sans Frontières.

MSUGLRT (1995). *World Class Logistics:The Challenge of Managing Continuos Change*, Council of Logistics Management, Oak Brook, IL.

Neely, A., Adams, C. and Kennerly, M. (2002). *The Performance Prism: The Scorecard for Measuring and Managing Business Success*, Pearson Education, London.

Neuman, W. L. (2007). *Social Research Methods: Quantitative and Qualitative Methods*, 2nd edn, Pearson, Boston.

Nonaka, I. (1991). The knowledge-creating company, *Harvard Business Review* **69**(November-December): 96–104.

Nonaka, I. and Konno, N. (1998). The concept of "ba": Building a foundation for knowledge creation, *California Management Review* **40**(3): 40–54.

Nonaka, I., Umemoto, K. and Senoo, D. (1996). From information processing to knowledge creation: A paradigm shift in business management, *Technlogy in Society* **18**(2): 203–218.

OCHA (2004). Glossary of humanitarian terms in relation to the protection of civilians in armed conflict, *Technical report*, Office for the Coordination of Humanitarian Affairs - United Nations, New York.

Ochs, E. (1979). Transcription as theory, *in* E. Ochs and B. B. Schiefflin (eds), *Developmental pragmatics*, Academic, New York, pp. 43–72.

OECD/DAC (2002). Glossary of terms used in evaluations.

Oetiker, T., Partl, H., Hyna, I. and Schlegl, E. (2006). The not so short introduction to .

Ohno, T. (1988). *Toyota Production System: Beyond large scale production*, Productivity Press, Cambridge.

Olavarrieta, S. and Ellinger, A. E. (1997). Resource-based theory and strategic logistics research, *International Journal of Physical Distribution & Logistics Management* **27**(9/10): 559–587.

Oliver, D. G., Serovich, J. M. and Mason, T. L. (2005). Constraints and opportunities with interview transcription: Towards reflection in qualitative research, *Social Forces* **84**(2): 1273–1289.

Oloruntuba, R. and Gray, R. (2006). Humanitarian aid: an agile supply chain?, *Supply Chain Management: An International Journal* **11**(2): 115–120.

OMS (1999). Nouveau kit sanitaire d'urgence 98: Médicaments et matériel médical pour une population de 10 000 personnes pendant environ 3 mois, Organisation Mondiale de la Santé, WHO/DAP/98.10.

PAHO (2001). Humanitarian supply management in logistics in the health sector, *Technical report*, Pan American Health Organization.

Peko, G. and Ahmed, M. D. (2011). Leveraging logistics core competence for competitive advantage in commodity markets: A new zealand case study, *New Zealand Journal of Applied Business Research* **9**(1): 11–24.

Penrose, E. (1959). *The Theory of the Growth of the Firm*, Blackwell, Oxford.

Perret, F. (1996). Les actions du cicr en hongrie et au moyen-orient en 1956, *Revue Internationale de la Croix-Rouge* **820**: 449–463.

Peteraf, M. A. (1993). The cornerstones of competitive advantage: A resource-based view, *Strategic Management Journal* **14**(3): 179–191.

Peteraf, M. A. (2001). Of cornerstones and building blocks: resource-based theory in perspective, Working Paper.

Peteraf, M. A. and Barney, J. B. (2003). Unraveling the resource-based tangle, *Managerial and Decision Economics* **24**(4): 309–323.

Pettit, S. J. and Beresford, A. K. C. (2005). Emercengy relief logistics: an evaluation of military, non–military and composite response models, *International Journal of Logistics: Research and Applications* **8**(4): 313–331.

Porter, M. E. (1980). *Competitive Strategy: Techniques for Analysing Industries and Competitors*, The Free Press, New York, NY.

Porter, M. E. (1985). *Competitive Advantage*, The Free Press, New York, NY.

Porter, M. E. (1996). What is strategy?, *Harvard Business Review* **74**(6): 61–78.

Prahalad, C. K. and Hamel, G. (1990). The core competence of the corporation, *Harvard Business Review* **May–June**: 79–91.

Prévot, F. (2005a). Le transfert inter-organisationnel de compétences: application aux compétences logistiques dans le cadre de relations entre multinationales et fournisseurs locaux au brésil, *Unpublished Thesis Dissertation, Université de la Méditerranée Aix-Marseille II*, Aix-en-Provence, France.

Prevot, F. (2005b). Managing inter-organizational transfer of competence: a case study, *Business* **8**(4): 165–186.

Prevot, F., Branchet, B., Boissin, J.-P., Castagnos, J.-C. and Guieu, G. (2010a). The intellectual structure of the competence-based management field: a bibliometric analysis, *in* R. Sanchez and A. Heene (eds), *Research in CompetenceBased Management Volume 5 Identifying building and linking competences*, Emerald, pp. 231–258.

Prévot, F., Brulhart, F., Guieu, G. and Maltese, L. (2010b). Perspectives fondées sur les ressources - proposition de synthèse, *Revue Francaise de Gestion* (205): 87–103.

Priem, R. L. and Butler, J. E. (2001). Is the resource-based "view" a useful is the resource-based for strategic management perspective research?, *Academy of Management Review* **26**(1): 22–40.

QSR (2008). Nvivo 8 fundamentals: Starting to work with your material, *Technical report*, QSR International.

Quélin, B. and Arregle, J.-L. (2000). *Le Management StratÃ©gique des CompÃ©tences*, Ellipses, Paris.

Ramalingam, B., Mitchell, J., Borton, J. and Smart, K. (2009). Counting what counts: Performances and effectiveness in the humanitarian sector.

Rawls, C. G. and Turnquist, M. A. (2010). Pre-positioning of emergency supplies for disaster response, *Transportation Rresearch Part B* **44**: 521–534.

Ray, G., Barney, J. and Muhanna, W. (2004). Capabilitites, business processes and competitive advantage: Choosing the dependent variable in empirical test of the resource-based view, *Strategic Management Journal* **25**: 23–37.

Retour, D. (2005). Le drh de demain face au dossier compétences, *Management & Avenir* **2**(4): 187–200.

Richey, R. G., Daugherty, P. J. and Roath, A. S. (2007). Firm technological readiness and complementarity: Capabilities impacting logistics service competency and performance, *Journal of Business Logistics* **28**(1): 195–228.

RNN (1995). Military humanitarianism: Service packages, the way forward?, *Relief and Rehabilitation Network Newsletter* (3).

Rogers, D. S. and Leuschner, R. (2004). Supply chain management: Retrospective and prospective, *Journal of Marketing* **12**(4): 60–65.

Rouby, E. and Thomas, C. (2004). La codification des compétences organisationnelles: l'épreuve des faits, *Revue Française de Gestion* **2**(149): 51–68.

Rugman, A. M. and Verbeke, A. (2002). Edith penroseÊ$\frac{1}{4}$s contribution to the resource-based view of strategic management, *Strategic Management Journal* **23**(8): 769–780.

Rumelt, R. P. (1974). *Strategy, Structure and Economic Performance*, Harvard University Press, Cambridge, MA.

Rumelt, R. P. (1987). Theory, strategy and entrepreneurship, *in* D. J. Teece (ed.), *The Competitive Challenge*, Harper & Row, New York.

Rusell, T. E. (2004). The humanitarian relief supply chain: Analysis of the 2004 south east asia earthquake and tsunami, *Unpublished Masters Dissertation, Massachusetss Institute of Technology*, Cambridge, MA.

Ryfman, P. (1999). *La Question Humanitaire - Histoire, problématiques et enjeux de l'aide humanitaire internationale*, Ellipses, Paris.

Safran, P. (2003). A strategic approach for disaster and emergency assistance, *5th. Asian Disaster Reduction Center International Meeting and the 2nd. UN–ISDR Asian Meeting*, Kobe, Japan, pp. 437–490.

Salmeron, J. and Apte, A. (2010). Stochastic optimization for natural disaster asset prepositioning, *Production and Operations Management* **19**(5): 561–574.

Samii, R. and Van Wassenhove, L. (2002a). Ifrc choreographer of disaster management : Preparing for tomorrow's disasters.

Samii, R. and Van Wassenhove, L. (2002b). Ifrc choreographer of disaster management : the gujarat earthquake, INSEAD, Case Study 602-046-1.

Samii, R. and Van Wassenhove, L. (2003). The united nations joint logistics center (unjlc): The genesis of a humanitarian coordination platform.

Samuel, D. (1997). Research methods explored: an international-based approach, *Proceeding of the Logistics Research Network Conference*, Huddersfield, UK.

Sanchez, R. (2008). *A Focused Issue on Fundamental Issues in Competence Theory Development*, Emerald Group Publishing Limited.

Sanchez, R. and Heene, A. (1997). Reinventing strategic management: New theory and practice for competence-based competition, *European Management Journal* **15**(3): 303–317.

Sanchez, R. and Heene, A. (2010). Grande théorie et théorie intermédiaire en stratégie : une perspective épistémologique, *Revue Francaise de Gestion* **36**(204): 105–125.

Sanchez, R., Heene, A. and Thomas, H. (1996). *Dynamics of competence-based competition : theory and practice in the new strategic management*, Pergamon.

Sandberg, E. and Abrahamsson, M. (2011). Logistics capabilities for sustainable competitive advantage, *International Journal of Logistics Research and Applications* **14**(1): 61–75.

Sashan, A. and Datta, S. (2005). Review of supply chain management and logistics research, *International Journal of Physical Distribution & Logistics Management* **35**(9): 664–705.

Schuemer-Cross, T. and Taylor, B. H. (2009). The right to survive - the humanitarian challenge for the twenty-first century, *Technical report*, Oxfam.

Schulz, S. F. and Heigh, I. (2009). Logistics performance management in action within a humanitarian organization, *Management Research News* **32**(11): 1038–1049.

Scott-Bowden, P. (2003). The world food programme: Augmenting logistics, *Forced Migration Review* **18**: 17–19.

Scott-Flynn, N. (1999). Coordination in kosovo: the challenge for the ngo sector, *Humanitarian Exchange* (15): 7–9.

Selznick, P. (1957). *Leadership in Administration*, Harper, New York.

Shang, K.-C. and Marlow, P. B. (2005). Logistics capability and performance in taiwan's major manufacturing firms, *Transportation Research Part E* **41**: 217–234.

Shang, K.-C. and Marlow, P. B. (2007). The effects of logistics competency on performance, *Journal of International Logistics and Trade* **5**(2): 45–66.

Shang, K.-C. and Sun, L.-F. (2004). Taxonomy in logistics management: A resource-based perspective, *International Journal of Management* **21**(2): 149–165.

Sheffi, Y. (2005). Building a resilient supply chain, *Harvard Business Review* **1**(8): 1–14.

Siméant, J. (2005). What is going global? the internationalization of french ngos 'without borders', *Review of International Political Economy* **12**(5): 851–883.

Sirmon, D. G., Hitt, M. A. and Ireland, R. D. (2007). Managing firm resources in dynamic environments to create value: Looking inside the black box, *Academy of Management Review* **32**(1): 273–292.

Snow, C. C. and Hrebiniak, L. G. (1980). Strategy, distinctive competence, and organizational performance, *Administrative Science Quarterly* **25**: 317–336.

Spender, J. C. and Grant, R. M. (1996). Knowledge and the firm: Overview, *Strategic Management Journal* **17**: 5–9.

Sphere (2011). Humanitarian charter and minimum standards in disaster response, The Sphere Project, Handbook.

Stalk, G. (1988). Time – the next source of competitive advantage, *Harvard Business Review* **August**: 41–51.

Stalk, G., Evans, P. and Shulman, L. E. (1992). Competing on capabilities: The new rules of corporate strategy, *Harvard Business Review* **March–April**: 57–157.

Stank, T. P., Keller, S. B. and Closs, D. J. (2000). Performance benefits of supply chain logistical integraion, *Transportation Journal* **Winter/Spring**: 32–46.

Stank, T. P. and Lackey, C. W. J. (1997). Enhacing performance through logistical capabilities in mexican maquiladora firms, *Journal of Business Logistics* **18**(1): 91–123.

Stapleton, O., van Wassenhove, L. N. and Tomasini, R. M. (2005). The challenges of matching private sector donations to humanitarian needs and the role of brokers, *Supply Chain Forum: An International Journal* **11**(3): 42–54.

Stock, G. N., Greis, N. P. and Kasarda, J. D. (2000). Enterprise logistics and supply chain structure: the role of fit, *Journal of Operations Management* **18**(5): 531–547.

Stock, J. R. (1997). Applying theories from other disciplines to logistics, *International Journal of Physical Distribution & Logistics Management* **27**(9/10): 515–539.

Stock, J. R. (2009). A research view of supply chain management : Developments and topics for exploration, *ORiON* **25**(2): 147–160.

Stock, J. R. and Boyer, S. L. (2009). Developing a consensus definition of supply chain management: a qualitative study, *International Journal of Physical Distribution & Logistics Management* **39**(8): 690–711.

Strauss, A. and Corbin, J. (1990). *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*, SAGE, Newbury Park, CA.

Tatham, P. (2012). Some reflections on the breadth and depth of the field of humanitarian logistics and supply chain management, *International Journal of Humanitarian Logistics and Supply Chain Management* **2**(2): 108–111.

Tatham, P. and Kovacs, G. (2007). The humanitarian supply network in rapid onset disasters, *NOFOMA Proceedings*, Reykjavik, Iceland.

Tatham, P. and Kovacs, G. (2010). The application of swift trust to humanitarian logistics, *International Journal of Production Economics* **126**: 35–45.

Tatham, P., Kovacs, G. and Larson, P. (2010). What skills and attributes are needed by humanitarian logisticians - a perspective drawn from international disaster relief agencies, *POMS 21st Annual Conference*, Vancouver, Canada.

Taylor, S. S., Fisher, D. and Dufresne, R. L. (2002). The aesthetics of management storytelling: a key to organizational learning, *Management Learning* **33**(3): 313–330.

Teece, D. J. (2007). Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance, *Strategic Management Journal* **28**(13): 1319–1350.

Teece, D. J., Pisano, G. and Shuen, A. (1991). Dynamic capabilities and strategic management, *Working paper*, University of California, Berkeley.

Teece, D. J., Pisano, G. and Shuen, A. (1997). Dynamic capabilities and strategic management, *Strategic Management Journal* **18**(7): 509–533.

Telford, J., Cosgrave, J. and Houghton, R. (2006). *Joint Evaluation of the international response to the Indian Ocean tsunami: Synthesis Report*, Tsunami Evaluation Coalition, London.

Tepić, J., Tanackov, I. and Stojić, G. (2011). Ancient logistics - historical timeline and etymology, *Technical Gazette* **18**(3): 379–384.

Thomas, A. (2003). Humanitarian logistics: Enabling disaster response, *Fritz Institute* .

Thomas, A. (2005). Linking preparedness and performance: the tsunami experience, *Humanitarian Exchange* (32): 4–7.

Thomas, A. and Kopczak, L. (2005). From logistics to supply chain management. the path forward in the humanitarian sector, *Fritz Institute* .

Thomas, A. S. and Mizushima, M. (2005). Logistics training: Necessity or luxury, *Forced Migration Review* **22**: 60–61.

Tixier, D., Mathe, H. and Colin, J. (1996). *La logistique d'entreprise*, 2eme edn, Dunod, Paris.

Tomasini, R. M. and Van Wassenhove, L. N. (2004). *A framework to unravel, prioritize and coordinate vulnerability and complexity factors affecting a humanitarian response operation*, Working Paper No.20 04/41/TM INSEAD, Fontainebleau, France.

Tomasini, R. M. and van Wassenhove, L. N. (2009). From preparedness to partnerships: case study research on humanitarian logistics, *International Transactions in Operational Research* **16**: 549–559.

Tsoukas, H. (1989). The validity of idiographic research explanations, *Academy of Management Review* **14**(4): 551–561.

Tywoniak, S. A. (2009). Le modÃ¨le des ressources et compÃ©tences: Un nouveau paraigme pour le management stratÃ©gique?, *Actes de la VI confÃ©rence AIMS*, MontrÃ©al, Quebec.

UN (2006). Towards a united nations humanitarian assistance programme for disaster response and reduction, *Technical report*, United Nations, Geneva. Report of the Secretary-General to the General Assembly - Report Ni: JIU?REP/2006/5. At www.un.org accessed 14 Sep. 2009.

USArmy (1993). Logistics in world war ii: Final report of the army service forces, *Technical report*, Center of Military History.

Vallaeys, A. (2004). *Médecins Sans Frontières - La Biographie*, Fayard, Paris.

Van Hoek, R. I., Harrison, A. and Christopher, M. (2001). Measuring agile capabilities in the supply chain, *International Journal of Operations and Production Management* **21**(1/2): 126–147.

van Wassenhove, L. N. (2006). Humanitarian aid logistics: Supply chain management in high gear, *Journal of the Operational Research Society* **57**: 475–489.

Vega, D. and Fabbe-Costes, N. (2011). The relevance of a multiple view to embrace complexity of humanitarian relief operations, *NOFOMA Proceedings*, Harstad, Norway.

Venkateswaran, S. (2005). Accountability lessons from the tsunami response in india, *Humanitarian Exchange* (32): 10–12.

Vidal, C. (2011). Catastrophes naturelles : « do something! », *in* C. Magone, F. Weissman and M. Neuman (eds), *Agir à tout prix? Négociations humanitaires: L'expérience de Médecins Sans Frontières*, La Découverte, Paris.

Vlaar, P. W. L., Van Den Bosch, F. A. J. and Volberda, H. W. (2005). On the relation between information technology and interorganizational competitive advantage : A competence perspective, *Business* **8**(4): 45–68.

Voss, C., Tsikriktsis, N. and Frohlich, M. (2002). Case research in operations management, *International Journal of Operations and Production Management* **22**(2): 195–219.

Waters, D. (2003). *Logistics - An Introduction to Supply Chain Management*, Palgrave MacMillan, New York.

Waters, D. (2007). Trends in the supply chain, *in* D. Waters (ed.), *Global Logistics - New directions in Supply Chain Management*, Kogan Page, London, UK.

Wernerfelt, B. (1984). A resource–based view of the firm, *Strategic Management Journal* **5**: 171–180.

Wernerfelt, B. (1989). From critical resources to corporate strategy, *Journal of General Management* **14**(3): 4–12.

Williamson, C. (2010). Personel management and security, *Humanitarian Exchange* (47): 14–17.

Williamson, O. E. (1973). Markets and hierarchies: Some elementary considerations, *The American Economic Review* **63**(2): 316–325.

Williamson, O. E. (1975). *Markets and Hierarchies: Analysis and Antitrust Implications*, The Free Press, New York, NY.

Williamson, O. E. (1988). The logic of economic organization, *Journal of Law, Economics and Organization* **4**(1): 65–93.

Williamson, O. E. (1998). Transaction cost economics: How it works; where it is headed, *De Economist* **146**(1): 23–58.

Winter, S. G. (2003). Understanding dynamic capabilities, *Strategic Management Journal* **24**(10): 991–995.

Womack, J. P., Jones, D. T. and Roos, D. (1990). *The machine that changed the world*, Rawsonl, New York.

Woodward, J. (1965). *Industrial Organization: Theory and Practice*, Oxford University Press, New York.

Wright, P. M., Dunford, B. B. and Snell, S. A. (2001). Human resources and the resource based view of the firm, *Journal of Management* **27**(6): 701–721.

Yin, R. K. (2009). *Case Study Research – Design and Methods*, 4th edn, SAGE, Thousand Oaks, CA.

Zajac, E. J. and Olsen, C. P. (1993). From transaction cost to transactional value analysis: Implications for the study of interorganizational strategies, *Journal of Management Studies* **30**(1): 131–145.

Zhao, M., Droge, C. and Stank, T. P. (2001). The effect of logistics capabilities on firm performance: Costumer-focused versus information-focused capabilities, *Journal of Business Logistics* **22**(2): 91–107.