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From core rigidities to dynamic capabilities: the role of external knowledge. A multiple case study

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The most useful wellsprings are constants, reliable, and their water pure. As flows of water from such wellsprings feed the biological systems around them, so in the same way, flows of appropriate knowledge into and within companies enable them to develop competitively advantageous capabilities.
(Leonard-Barton, 1995: XIII)

Abstract

This study focuses on the processes of change that firms undertake to overcome conditions of organizational rigidity and develop new dynamic capabilities, thanks to the contribution of external knowledge. When external contingencies highlight firms' core rigidities, external actors can intervene in change projects, providing new competences to firms' managers. Knowledge transfer and organizational learning processes can lead to the development of new dynamic capabilities. Existing literature does not completely explain how these processes develop and how external knowledge providers, as management consultants, influence them. Dynamic capabilities literature has become very rich in the last years; however, the models that explain how dynamic capabilities evolve are not particularly investigated. Adopting a qualitative approach, this research proposes four relevant case studies in which external actors introduce new knowledge within organizations, activating processes of change. Each case study consists of a management consulting project. Data are collected through in-depth interviews with consultants and managers. A large amount of documents supports evidences from interviews. A narrative approach is adopted to account for change processes and a synthetic approach is proposed to compare case studies along relevant dimensions. This study presents a model of capabilities evolution, supported by empirical evidence, to explain how external knowledge intervenes in capabilities evolution processes: first, external actors solve gaps between environmental demands and firms' capabilities, changing organizational structures and routines; second, a knowledge transfer between consultants and managers leads to the creation of new ordinary capabilities; third, managers can develop new dynamic capabilities through a deliberate learning process that internalizes new tacit knowledge from consultants. After the end of the consulting project, two elements can influence the deliberate learning process: new external contingencies and changes in the perceptions about external actors.

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Introduction

This study aims to understand how firms overcome conditions of organizational rigidity and develop the abilities of recombining and renewing their resources and competences to address new environmental changes. The contexts in which firms operate are characterized by conditions of increasing complexity and variability. To meet environmental demands, organizations undertake change processes (Pettigrew, Woodman, & Cameron, 2001) that lead to reorganize their structure and their routines (Nelson & Winter, 1982). Some firms present greater inertia and rigidity than others (Leonard-Barton, 1992), not allowing them to follow appropriate trajectories of change (Teece, Pisano, & Shuen, 1997). Firms in this condition do not show adequate abilities to dynamically change their bases of resources and operative routines. These capabilities are defined in literature as dynamic capabilities (Augier & Teece, 2009; Helfat, 1997; Teece et al., 1997). Dynamic capabilities are intended as set of routines, competences and design rules that can set different resources configurations in order to gain a competitive advantage (Helfat & Peteraf, 2009). As meta-routines, dynamic capabilities can intentionally trigger a process of change, involving resources and operational routines that a firm encompasses (Cepeda & Vera, 2007; Helfat, 1997; Winter, 2003). Dynamic capabilities and organizational learning literature can be combined to explore how external knowledge influences change processes inside organizations. The overcoming of core rigidities by organizations may be due to an increased openness to flows of external knowledge (Leonard-Barton, 1992, 1995).

Interaction with new knowledge and its internalization can allow the overcoming of rigidities and the generation of a new cycle of dynamic capabilities (Helfat & Peteraf, 2003). This may be possible if the type of learning process of external knowledge is deliberate (Mulders & Romme, 2009; Zollo & Winter, 2002). In a deliberate learning process, knowledge that comes from external members is received by managerial groups and discussed internally through a process of articulation, then it is encoded into routines that can be invoked when further changes are needed (Zollo & Winter, 2002).

Recent theoretical developments highlight the possibility that dynamic capabilities could be influenced from outside organizational boundaries (Ambrosini & Bowman, 2009) and external knowledge could play a crucial role in fostering the activation of a new path of dynamic capabilities (Helfat & Peteraf, 2003). Although seminal studies consider that, as a source of competitive advantage, dynamic capabilities follow an internal developmental path, other studies argue that also external sources can intervene (Anand & Capron, 2007; Kale & Singh, 2007; Mulders & Romme, 2009; Zollo & Winter, 2002). To assess this gap in literature, further empirical research is necessary (Ambrosini & Bowman, 2009). While some studies focus on relational dynamic capabilities (Kale & Singh, 2007) or acquisition-based dynamic capabilities (Anand & Capron, 2007), little effort has been spent in investigating how a process of deliberate learning could influence dynamic capabilities.

The object of this study is to understand how organizations overcome core rigidities and develop new dynamic capabilities, thanks to a process of deliberate learning that gathers new external knowledge. Organizational change proposed by external actors becomes the core part of the new experience to which the managerial group takes part. Knowledge applied by external actors is internalized by managers in routines defining future patterns of managerial behavior.

Leonard-Barton (1992, 1995) highlights how firms' competences embedded in organizational routines are subject to a process that transforms them in elements of inertia: core competences can become core rigidities. This study follows the opposite direction aiming to show how a process of learning and renewal can transform elements of stickiness into a source of organizational change and new competitive advantage. The mentioned process is articulated in steps: first the overcoming of some form of core rigidity by the acquisition of new competencies and capabilities and, then, the

development of new dynamic capabilities. In some cases, the intervention of external knowledge can lead only to the overcoming of a situation of rigidity and a new organizational configuration. In other cases, external knowledge, internalized through a process of deliberate learning, can lead to the development of new competences. This study tries to explain in which situations and how competences can be influenced by external knowledge provided by management consultants.

This study follows a qualitative methodology analyzing four completed consulting projects of organizational change. Each project presents a couple of organizations: a consulting firm and a client firm, which collaborate in the change project. A multiple retrospective case studies design allows to assume different perspectives on the processes and to observe different patterns of relationships between relevant elements: core rigidities, dynamic capabilities, organizational learning. For each case study, both consultants and managers have been interviewed following a semi-structured protocol. The protocol relies on different categories about dynamic capabilities and core rigidities identified in theoretical and empirical literature. The involved consulting companies are medium size firms sited in Northern Italy, which operate in the regional market. The client firms are a catering and canteen company, a store chain company, a middle sized bank, and a financial services provider. This study encompasses 51 in-depth interviews with managers and consultants, and a large documental collection of about one thousand pages of minutes of meetings, presentations, and reports.

Results from case studies show that consultants (1) can apply their capabilities to enable firms to overcome conditions of rigidity, (2) can influence firms' capabilities lifecycles and enable the development of dynamic capabilities if managers are involved in a deliberate learning process. The intervention of consultants brings new elements within organizations and allows to overcome organizational rigidity conditions. Knowledge transfer between consultants and managers can enable a process of deliberate learning (Zollo & Winter, 2002). Thanks to that process, managerial teams can develop new capabilities. However, particular conditions are required to activate a learning process: case studies show different patterns of change and different results. New environmental contingencies and the perception about consultants influence the process.

This thesis is organized in chapters.

Chapter 1 presents an overview of the theoretical background and identifies the research questions. The literature review highlights the areas of possible theoretical development. The chapter ends with the presentation of a theoretical model about the evolution of dynamic capabilities.

Chapter 2 offers a detailed presentation of the methodology. It illustrates the methodological choices, the research design, the procedure adopted to identify the four proposed case studies, the method used for collecting and coding data. Finally, it exposes the strategy adopted in presenting cases according to a proven approach that provides, first, detailed narratives of each case and, then, compares the cases along a number of relevant dimensions.

Chapter 3, 4, 5, and 6 present case studies narratives and intra-case analyses. Each of these chapters is structured in two parts. The first part presents an extended narrative of the events occurred during the consulting project. It outlines the initial conditions of the organization before the consulting project, the project phases, and the outcomes. The second part analyzes three relevant elements according to the theoretical model: core rigidities, organizational learning, and developed capabilities, reporting relevant quotes from interviews and excerpts of documents to offer detailed pictures of the change processes.

Chapter 7 is devoted to the discussion of results. It proposes a cross-case comparison, a detailed analysis of results and the development of the theoretical model of Chapter 1 with the support of evidences from case studies. This chapter presents a series of comparative analyses divided into three areas. The first concerns the analysis of the process that lead to the overcoming of core rigidities and the development of dynamic capabilities. The second analyses the patterns of change of the four case studies, highlighting the differences in the evolutionary processes. The third examines the role of consultants, and how they influence the development of new capabilities. The chapter presents a model of the process of capabilities development and defines propositions supported by the empirical evidences.

Parts of the results of this study have been presented in papers discussed at EGOS Colloquium 2011, Strategic Management Society Conference 2011, and at the EIASM Workshop on Information and Organizational Architecture 2012. Other two papers have

been accepted for presentation at EGOS Colloquium 2012 and at the 2012 Annual Meeting of Academy of Management. A further paper is under review for EURAM Conference 2012.

Chapter 1 Dynamic capabilities and organizational change processes

1.1 Dynamic capabilities definition

In the last years, the concept of dynamic capabilities has been subject to a large theoretical debate and empirical research is still rare and exploratory in nature. Many papers – one hundred articles since 2006 (Di Stefano, Peteraf, & Verona, 2010) – about dynamic capabilities has been published and many definitions of dynamic capabilities has been presented. Although theoretical foundations of dynamic capabilities view can be criticized (Arend & Bromiley, 2009), after more than ten years of theoretical works, dynamic capabilities view configures as one of the main theoretical approach and assumes a recognizable structure based on strong theoretical contributions (Eisenhardt & Martin, 2000; Helfat, Finkelstein, & Mitchell, 2007; Teece, 2007; Teece et al., 1997; Teece & Pisano, 1994). Nevertheless, dynamic capabilities concept still presents an ambiguous definition (Wang & Ahmed, 2007). Dynamic capabilities view stresses the importance of revising and reconfiguring resources as a response to environmental changes with the purpose of reaching performance increases or sustaining competitive advantage. Di Stefano et al. (2010) identify thirteen original definitions of dynamic capabilities and propose a model to clarify nature, agent, action, object of the action and aim of dynamic capabilities. Teece at al. (1997) provide the most cited definition: a dynamic capability is *"the firm's ability to integrate, build, and reconfigure internal*

and external competences to address rapidly changing environments". Helfat (2007, p. 4) names a dynamic capabilities as *"the capacity of an organization to purposefully create, extend, or modify its resource base"*. These two definitions point out the presence of a latent action, such as an ability or enabling device (Di Stefano et al., 2010). This vision is coherent with Penrose's idea of a firm endowed with many more attributes and their significance is not conveniently represented by cost and revenues curves but is seen as a repository of capabilities and knowledge (Augier & Teece, 2009; Penrose, 1959). The recall to some forms of organizational activity is clear in the second most cited paper about dynamic capabilities by Eisenhart and Martin (2000) who define them as "*the organizational and strategic routines by which firms achieve new resource configuration as markets emerge, collide, split, evolve, and die*".

The term *dynamic* could appear quite ambiguous. That word refers to the fact that dynamic capabilities operate changes on resource base during time, modifying assets and competences. Associate the term *dynamic* to environment is clearly incorrect because dynamic capabilities can be observed also in stable contexts, e.g. oil industry (Adner & Helfat, 2003). Furthermore, thinking that dynamic capabilities are by themselves dynamic is incorrect too, because the dynamism consists in the interaction between dynamic capabilities and the resource base, which determines a modification of firms' resources and competences (Ambrosini & Bowman, 2009).

To sum up, this study refers to the common understanding of dynamic capabilities which confirms that (1) dynamic capabilities are organizational processes rooted in organizational knowledge, (2) the input of dynamic capabilities is an initial configuration of resources and operative routines, (3) dynamic capabilities involve a transformation process of the firm's knowledge resources and routines, and (4) the output of dynamic capabilities is a new configuration of resources and operative routines (Cepeda & Vera, 2007).

Dynamic capabilities theory is considered an answer to explain how resources can be purposefully recombined, but theory lacks of common agreement between scholars on many aspects. The field is "*riddled with inconsistencies, overlapping definitions, and outright contradictions*" (Zahra, Sapienza, & Davidsson, 2006). Ambrosini & Bowman (2009) ask if dynamic capabilities exist in practice rather than theory and pose also strong methodological problems in their study. Although their doubts are shared among

some strategy scholars (Arend & Bromiley, 2009), fundamental ideas at the basis of dynamic capabilities view are strong and many incoherencies about definition and uses of constructs are due to the novelty of the theory (Helfat & Peteraf, 2009). Scholars agree on the need to undertake further theoretical and empirical research.

Despite the large interest on dynamic capabilities some elements remain clearly underexplored and three main questions rise from literature: (1) what are dynamic capabilities components? (Wang & Ahmed, 2007), (2) how do dynamic capabilities develop? (Ambrosini & Bowman, 2009: 45), and (3) how do dynamic capabilities influence performances? (Arend & Bromiley, 2009; Helfat & Peteraf, 2009)

Scholars also agree on the fact that dynamic capabilities theory has a relatively weak empirical base (Newbert, 2007) and new efforts are needed to provide support to theoretical developments.

1.2 Core rigidities definition and components

Capabilities are considered core if they strategically differentiate a firm (Leonard-Barton, 1992). Core capabilities are subject to a paradox: although they constitute the key element to determine competitive advantage according to resource based view, they can also determine a sort of rigidity in firms. Leonard Barton posits that: "*recurring shortfalls in the process are often traceable to the gap between current environmental requirements and a corporation's core capabilities. Values, skills, managerial systems, and technical systems that served the company well in the past and may still be wholly appropriate for some projects or parts of projects, are experienced by others as core rigidities-inappropriate sets of knowledge"* (Leonard-Barton, 1992: 118)

Leonard-Barton (1995) defines four main sources of core rigidities: (1) limited problem solving due to path dependency, (2) inability to innovate due to a competency trap, (3) inability to experiment generating new knowledge, (4) inability in importing knowledge from outside.

Limited problem solving rigidity (Leonard-Barton, 1995: 35) is due to a form of path dependency: first, the path followed in the past and the specialization of knowledge influence present actions: second, the instauration of routines can disable the possibility of integrating new knowledge.

Inability to innovate (Leonard-Barton, 1995: 38) regards the strengthening of competences in present tools, methods and routines, which creates a sort of switching cost for moving toward new ones. In other words, firms develop core competences and enhance them during time, but the process can be directed to the obtainment of a local optimum (Almeida & Kogut, 1999), while major benefits could be reached by moving the development path on a different way. For example, while a firm improves its position on a learning curve, another more sloping path could allow a faster reduction of costs (Argote & Epple, 1990). Although different paths are possible, firms or organizational units could find it hard to identify and move forward.

Inability to experiment generating new knowledge (Leonard-Barton, 1995: 39) occurs when knowledge extension flows from usual paths rather than creating new options for the firm. It can be seen in the concentration on familiar technologies, current expertise, and usual routines.

Inability in importing knowledge from outside represents the level of locking of the firm. Typical examples are biased evaluations of new technologies and failures in intercepting customers' requests. This core rigidity results of particular interest for this study because the focus here is on internalizing new knowledge from external sources.

Difficulties in developing change increase from technical systems going to values and norms and are also related to the fact that external influences have different impacts on change and growth of the four elements. Therefore, while technical systems can be substituted by new investments, value and norms are clearly embedded into organizational culture and cannot be easily updated by new hiring policies.

A second taxonomy of core rigidities derives from literature about stickiness (Hippel, 1994; Szulanski, 1996) and typically regards the impediments which can affect different stages of the knowledge transfer process. Assuming that the transfer of best practices could be conceived as replication of organizational routines (Winter, 1995), stickiness can affect all the phases of the process. Table 1.1 classifies the origins of internal stickiness.

Table 1.1 Origins of internal stickiness

Set of factors	Variables	Definitions
Characteristics of the knowledge transferred	Causal Ambiguity	Difficulty in identification of the precise reasons for success or failure in replicating a capability
	Unprovenness	Difficulty in finding a proven record of past usefulness of knowledge
Characteristics of the recipient of knowledge	Lack of motivation	Reluctance of some recipients to accept knowledge from the outside
	Lack of absorptive capacity	Incapacity of exploiting outside sources of knowledge
	Lack of retentive capacity	Incapacity of retain the transferred knowledge
Characteristics of the context	Barren organizational context	Characteristics of the context that hinders the gestation and evolution of knowledge transfers
	Arduous relationship	Communication problems between sources and recipients, e.g. distance, culture

Results from Szulanski (1996) contrast with conventional wisdom, which attributes stickiness almost exclusively to motivational factors. Szulanski (1996) proves that it depends mainly on the lack of absorptive capacity of the recipient, causal ambiguity, and an arduous relationship between source and recipient.

Literature about organizational inertia offers an extensive framework about change processes referring mainly to an evolutionary view (Hannan & Freeman, 1984). Organizational capabilities are linked directly to the sources of inertia: organizational inertia, defined as the tendency of formal organizations to resist change – and organizational capabilities, defined as the ability of organizations to innovate and reconfigure their internal resources, can be represented as paired concepts (Larsen &

Lomi, 2002). A high level of organizational inertia ensures great organizational reliability, on one hand; the resistance to change exposes organizations to the risk of being deprived of developmental opportunities to shape their routines on the basis of environmental demands, on the other hand. In this opposition, organization should find an equilibrium that guarantees their survival and growth.

The concepts of rigidity, stickiness, and inertia present similarities but also some differences. First, in evolutionary economics, a certain level of inertia ensures the survival of larger organizations provided of more resources and capable of maintaining stability facing environmental changes. In evolutionary approach, inertia is characterized therefore as a positive feature in comparison with the concepts of rigidity or stickiness that have a more negative connotation, linked to the inability to develop change when it is considered necessary. Second, while evolutionary economics focuses mainly on systemic variables and analyzes inertia at a macro level, at an organizational level, it is not clear what the influences are, such as intentional paths by firms' managers that lead organizations to overcome situations of rigidity. Evolutionary approaches reduce the importance of intentional processes by managers who lead organizations, which seem rather exposed to an external rationality that direct them towards survival and growth.

Dynamic capabilities literature recognizes the intent of the management group, carrying various degrees of change capabilities. In this study, managers play an active role with their intentional behaviors so I refer mainly to the concepts of rigidity and stickiness from strategic management literature (Leonard-Barton, 1992, 1995; Szulanski, 1996). The possibility to differentiate the sources of rigidity allows to characterize the initial condition of the firms involved in this study and to provide a clear picture of the difficulties faced by each organization in implementing a change process.

1.3 The locus of capabilities

A focal point in dynamic capabilities research is the activity of managers: in particular, while dynamic capabilities are focused on the organizational level, actors involved in their development and deployment are managers. Managerial intention is

clearly acknowledged in *dynamic managerial capabilities* definition (Adner & Helfat, 2003) and managers assume a pivotal role, both in terms of their own capabilities and in terms of enabling the creation, exercise, and maintenance of other types of dynamic capabilities (Di Stefano et al., 2010). Managers make their contribution largely through architecting and constructing capabilities internally (Makadok, 2001). In dynamic capabilities literature, management plays distinctive roles in selecting and developing routines, making investment choices, and in orchestrating non-tradable assets to achieve efficiencies and appropriate returns from innovation. This appears as a more robust role for management in comparison with the roles that transaction cost economics or evolutionary theories assign to managers (Augier & Teece, 2009). The application of dynamic capabilities by managers is directed to guarantee a certain level of performance though the modification of current operating routines of the firm. Dynamic capabilities can be seen as meta-routines posed in action by managers to activate operating routines and obtain different resources configuration. The purpose of their action is to develop and maintain a position of competitive advantage (Zahra & George, 2002), to reach a certain degree of effectiveness (Zollo & Winter, 2002), or more precisely to reach the desired evolutionary fit (Helfat et al., 2007), discussed in Paragraph 1.10. The role of routines as a constituent of capabilities is widely accepted, according to an evolutionary perspective (Nelson & Winter, 1982). Although dynamic capabilities involve routines (Easterby-Smith, Lyles, & Peteraf, 2009; Eisenhardt & Martin, 2000), they maintain an intentional element and are not completely codified (Felin & Foss, 2011; Pentland, Hærem, & Hillison, 2011; Rerup & Feldman, 2011).

Considering managerial group as the locus of dynamic capabilities enables to focus research on a limited number of subjects that guide organizational growth and development. Managers can show a condition of cognitive rigidity that limits their action. Flows of external knowledge can influence directly their capabilities.

1.4 Hierarchies of capabilities

Several theoretical studies have highlighted the relationship between dynamic capabilities and ordinary capabilities (Ambrosini, Bowman, & Collier, 2009; Cepeda & Vera, 2007; Winter, 2003). It is possible to differentiate dynamic capabilities from

ordinary capabilities because the formers relate directly to the change of the underlying system of competences and resources. Collis (1994) states that dynamic capabilities govern the rate of change of ordinary capabilities. Ordinary capabilities are those that allow firms to produce a desired output and survive in the short term, dynamic capabilities are those that operate to extend, modify or create ordinary capabilities (Winter, 2003). Dynamic capabilities are future oriented, whereas ordinary capabilities are about competing today (Ambrosini & Bowman, 2009). Ordinary capabilities are embedded in routines which are "*stable patterns of behavior that characterize organizational reactions to variegated, internal or external stimuli*" (Zollo & Winter, 2002). Dynamic capabilities are higher order routines (second type), which denote an attempt in changing operative routines (first type). Routines of the first type involve the execution of well-known procedures for the purpose of generating current revenue and profit, while routines of the second type try to develop desirable changes in the existing set of operating routines for the purpose of enhancing profit in the future (Zollo & Winter, 2002). Routines of the second type are traditionally identified as search routines in evolutionary economics (Nelson & Winter, 1982), and are regarded as constitutive of dynamic capabilities. Figure 1.1 clarifies the relation between dynamic capabilities and routines.

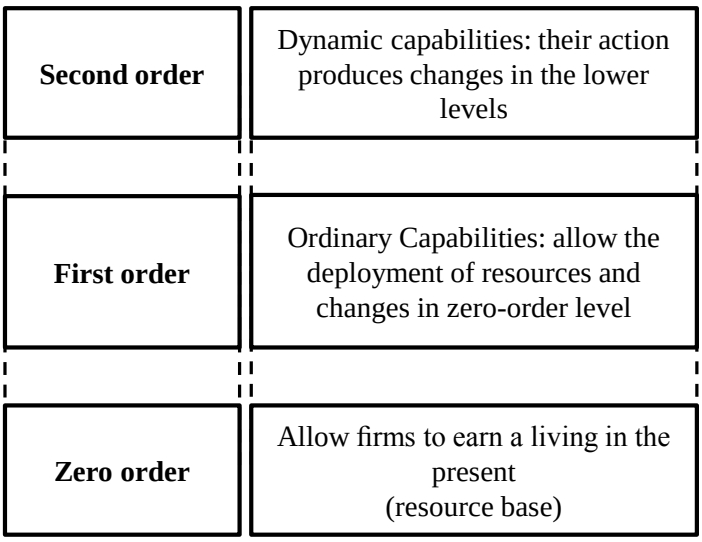


Figure 1.1 Hierarchy of capabilities, competences, and resources

Dynamic capabilities, as second order routines, are the procedures that organizations adopt to undertake change actions. Operative routines, namely ordinary capabilities, are the procedures that are oriented towards certain organizational goals using organization resources. When dynamic capabilities are used in an organizational context, operative routines and resources are involved in a change process, so dynamic capabilities configure as a source of organizational change.

The distinction between dynamic and operative capabilities is useful to identify dynamic capabilities as meta-routines of change (Zott, 2003). Further work is needed to analyze the effect of second order routines on first order routines, assuming a process perspective to account for the effects of change. Interpreting dynamic capabilities as meta-routines requires a deeper understanding of the 'raw materials' which capabilities are made with, and of the 'construction techniques' by which they are built (Makadok, 2001).

1.5 Classes of dynamic capabilities

While in seminal studies (Helfat, 1997; Teece & Pisano, 1994; Teece et al., 1997) the definition of dynamic capabilities appears ambiguous, it is clarified in further theoretical developments (Helfat et al., 2007; Teece, 2007; Winter, 2003). Nevertheless, in many theoretical and empirical studies, dynamic capabilities are treated as a black box that, given a particular combination of resources and processes, produces new combinations of them. The absence of a commonly accepted taxonomy of dynamic capabilities is noticed in literature (Wang & Ahmed, 2007). A universal form of disaggregation of dynamic capabilities is difficult to find because dynamic capabilities are industry dependent or present a contingent structure in relation to the environment in which the firm operates, so particular cases of dynamic capabilities application should be observed. This paragraph presents four different taxonomies about dynamic capabilities.

Teece (2007) disaggregates the concept of dynamic capabilities in three main groups: capabilities (1) to sense and shape opportunities and threats, (2) to seize opportunities, and (3) to maintain competitiveness through enhancing, combining, protecting, and, when necessary, reconfiguring the business enterprise's intangible and

tangible assets. Teece names the three groups as micro-foundations of dynamic capabilities and some scholars argue that the three factors are not dynamic capabilities in and of themselves, but they are managerial and organizational processes that underpin and enable the deployment of dynamic capabilities (Ambrosini & Bowman, 2009; Helfat et al., 2007). The classes developed by Teece, however, allow to open the black box and understand how organizational routines enable organizational capabilities. Table 1.2 presents the classes of dynamic capabilities from Teece (2007) that constitute a useful way to disentangle the concept of dynamic capabilities.

Table 1.2 Classes of antecedents of dynamic capabilities elaborated from Teece (2007)

Classes	Definitions	Components
Sense	Analytical systems (and individual capacities) to learn and to sense, filter, shape, and calibrate opportunities	Processes to direct internal R&D and select new technologies
		Processes to tap supplier and complementary innovation
		Processes to identify target market segments, changing customer needs, and customer innovation
		Processes to tap developments in exogenous science and technology
Seize	Enterprise structures, procedures, designs and incentives for seizing opportunities	Delineating the customer solution and the business model
		Selecting decision-making protocols
		Selecting enterprise boundaries to manage complements and "control" platforms
		Building loyalty and commitment
Maintain	Continuous alignment and realignment of specific tangible and intangible assets	Decentralization and near decomposability
		Governance
		Co-specialization
		Knowledge management

Wang et al. (2007) clarify that dynamic capabilities view emphasizes firm's constant pursuit of the renewal, reconfiguration and re-creation of resources and competences to address the environmental change. They offer a different breakdown of the concept of dynamic capability in three main components – (1) adaptive, (2) absorptive and (3) innovative capabilities. Adaptive capability is the ability to identify and capitalize on emerging market opportunities. Absorptive capability is "*the ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends*" (Cohen & Levinthal, 1990). Innovative capability refers to the firm's ability to develop new products and/or markets, through aligning strategic innovative orientation with innovative behaviors and processes (Wang & Ahmed, 2004). These classes present a clear link with Teece's (2007) classes, but they differ because they are defined as base components of dynamic capabilities.

In a qualitative paper about continuous product innovation, Verona & Ravasi (2003) propose a framework in which dynamic capabilities are distinct in (1) knowledge creation and absorption, (2) knowledge integration and (2) knowledge reconfiguration. A similar articulation is offered by Prieto et al. (2009) in their quantitative study in public research organizations. Table 1.3 provides the different definitions of the components of dynamic capabilities presented in the two papers.

Ambrosini et al. (2009) present a different categorization of dynamic capabilities that regards their activity on the resource base, summarized in Table 1.4. They consider that dynamic capabilities can differentiate on the basis of the stability-instability level of the environment that leads to a different level of variation in firm's resources and competences base. In stable environments, change processes follow an incremental logic. In more dynamic environments, change processes lead to remarkable discontinuities. In hyper dynamic contexts, dynamic capabilities base is subject to sudden changes and to the recreation of new paths of capabilities development. In these environments, regenerative dynamic capabilities are applied. The purpose of regenerative dynamic capabilities is to embed new, or to improve extant, dynamic capabilities. Regenerative dynamic capabilities may be difficult to develop within the firm because they are path breaking and are similar to a double loop learning process (Argyris, 1976).

Table 1.3 Classes of dynamic capabilities elaborated from Verona & Ravasi (2003) and Prieto et al. (2009)

Classes	First definition (Verona & Ravasi, 2003)	Second definition (Prieto et al., 2009)
Knowledge creation and absorption (Knowledge generation)	Long-term commitment to the investing in basic science, its potential technological and market applications and the creation of a worldwide reputation in the scientific field in order also to absorb knowledge from the outside.	Development or replacement of existing content within the existing tacit and explicit knowledge, which mostly occurs through social and collaborative processes as well as through individuals cognitive processes.
Knowledge integration	Ability to shape and manage a context that stimulates latent and dispersed knowledge resources, so that they can jointly contribute to developing and launching new products.	Ability to assess the value of existing knowledge and integrate it to shape new knowledge and competences. It represents the capacity to merge new knowledge with deep accumulated knowledge of the complex existing capability base of the organization.
Knowledge reconfiguration	Creation of an 'open' structure that makes it possible to redefine role systems and relational patterns in a flexible way in order to make it easy to continuously recombine resources.	Ability to change the patterns of combined knowledge that forms the essence of processes, products, and strategies before it becomes rigidities. In rapidly changing environments, it involves the ability of sensing the need to reorganize and recombine knowledge by accomplishing the necessary transformations and restructuring activities ahead of competition.

The four analyzed taxonomies present clear areas of overlapping between their constructs, but can constitute a starting point to analyze the capability base of a firm, and the effect that external knowledge can have on it. Incremental, renewing and regenerative categories (Ambrosini et al., 2009) assume the connotation of different degrees of the change activity that dynamic capabilities can carry out.

In the methodological chapter of this study, the exposed categories will be discussed to support the analysis of the dynamic capabilities developed during change processes.

Table 1.4 Classes of dynamic capabilities from Ambrosini et al. (2009)

Classes	Environmental conditions	Sources	Definitions
Incremental	Stable	Internal	describes processes that effect changes, albeit incremental changes, to the resource base of the firm
Renewing	Dynamic	Internal	used to sustain a rent stream in changing environments; they refresh and renew the nature of the resource stock, rather than incrementally adapt it
Regenerative	Hyper dynamic	External	allow the firm to move away from previous change practices towards new dynamic capabilities and are likely to be deployed by firms whose managers perceive that the environment is turbulent, where external changes are non-linear and discontinuous

1.6 Capabilities lifecycles

According to Helfat & Peteraf (2003), capabilities follow a lifecycle articulated in a founding stage, a development stage and a maturity stage represented by a s-curve graph. External or internal contingencies can influence managerial decisions. Helfat & Peteraf (2003) theorize that their effect can cause six different evolutions of the capabilities set. The first is retirement and second is retrenchment, which concern respectively a rapid and a gradual decline of the capability, due to the decreased possibility of application. The third is renewal due to changing external conditions such as crises. The fourth is replication of the same capability in another context. The fifth is redeployment that involves a change of the capability to adapt to new contexts. Finally,

the sixth is recombining which regard the recombination of previous capabilities in new ones. Helfat & Peteraf (2003) sustain that dynamic capabilities follow a lifecycle and are subject to the mentioned evolutionary options.

The renewal and reconfiguration process of routines, considered as components of capabilities, can be directed to the overcoming of core rigidities (Leonard-Barton, 1992), and competency traps (Levitt & March, 1988). Levitt and March state that "*a competency trap can occur when favourable performance with an inferior procedure leads an organization to accumulate more experience with it, thus keeping experience with a superior procedure inadequate to make it rewarding to use*".

Routines clearly show a competency trap in their ostensive and performative aspect (Feldman & Pentland, 2003): while they can be a source of inertia and inflexibility, they can also be an important source of flexibility and change. The ostensive aspect relates to the typical repetitive routine structure, the perfomative aspect relates to inherently improvisation that can arise in particular instances of routine deployment.

Literature about routines is developed and interpret them as repository of knowledge (Argote & Ingram, 2000; Levitt & March, 1988; Walsh & Ungson, 1991), but their dual role of organizational memory repository (first order) and change enabler (second order) is not deepened. Argyris (1976) identified this role showing that, with single-loop learning, individuals react to changes in their internal and external environment, but new elements are consistent with what is already known in the organization and the only change that takes place is within the norms of the organization. In double-loop learning, errors are corrected for by examining the fundamental state of the organization and making modifications to its norms, values and objectives. The whole organizational system is not only involved in the learning process, but becomes itself object of the change action. A double loop learning process involves firms' capabilities that can follow the previously presented lifecycle (Helfat & Peteraf, 2003).

Dynamic capabilities are described as firm specific elements, that are not involved in transfer processes and follow an internal path development (Teece et al., 1997), but external elements can influence the set of dynamic capabilities and their evolution (Helfat & Peteraf, 2003). The creation of alliances can develop relational dynamic

capabilities (Kale & Singh, 2007) or acquisitions can enhance acquisition-based dynamic capabilities (Anand & Capron, 2007). In these views, it is possible to notice that an external influence can operate on dynamic capabilities set enlarging firm's possibilities of obtaining a competitive advantage.

The shift between a capability path to another can be due to external influences (Helfat & Peteraf, 2003), as a restructuring, a new CEO arrival, a performance decline. In other cases, managers identify external benchmarks and use projects as occasions to challenge about current knowledge and to model alternative new capabilities (Leonard-Barton, 1992). In this process, the impact of an external element, such as knowledge, becomes the cause of a variation in the level of dynamic capabilities, but causes of change in dynamic capabilities level have never been deepened (Helfat & Peteraf, 2003).

There is a need for a systematic examination of the influence of environmental change and external knowledge on firms' dynamic capabilities base. It is still unclear what the main contribution to dynamic capabilities evolution and new capabilities lifecycles are (Helfat & Peteraf, 2003).

1.7 Deliberate learning process

According to behavioral theories, learning assumes a central role in firm's growth (Augier & Teece, 2009). This study is interested in understanding how knowledge impacts organizational capabilities. Literature about organizational learning and knowledge transfer presents rich contributions with different theoretical references and levels of analysis. The object of this paragraph is not to review this vast literature, but to present some crucial theme: organizational memory repositories, factors that influence knowledge transfer, and finally the process of deliberate learning.

A challenge to evaluating knowledge transfer in organizations is that knowledge in organizations resides in multiple repositories (Levitt & March, 1988). Although knowledge transfer in organizations involves the individual level, the problem transcends the individual level including higher levels of analysis, such as team, product line, department, or division (Argote & Ingram, 2000). According to the framework of McGrath & Argote (2004), in organizations, knowledge is embedded in three basic

elements – members, tools, and tasks – and the various sub-networks formed by combining or crossing the basic elements. Members are the human components of organizations. Tools, including both hardware and software, are the technological component. Tasks reflect the organization's goals, intentions, and purposes. According to Walsh and Ungson (1991) there are five retention repositories for knowledge in organizations: (a) individual members, (b) culture intended as past experience, (c) transformations intended as operative routines, (d) organizational structure and the division of roles, and (e) the physical structure. In order to measure transfer through changes in knowledge, one must capture changes in knowledge in these different repositories (Argote & Ingram, 2000).

Knowledge transfer processes are influenced by different factors. Argote (1999: 167-176) presents an extensive review grouping factors that regard characteristic of the relation between organizations, characteristic of the sender and of the recipient, characteristic of the knowledge transferred and characteristic of the transfer process. This review is considered as an interpretative reference to design the research framework along with the previously mentioned work of Szulanski (1996).

While many factors that affect knowledge transfer have been explored, e.g. tacit vs. explicit knowledge, observability, etc., the relation of this factors with the development of new capabilities through the activation of a new evolutionary path remains still not completely understood.

Assuming that capabilities develop from experience of co-working and from organizational learning (Salvato, 2009), in other words, from a coordinated set of tasks performed for the purpose of achieving a particular result (Helfat & Peteraf, 2003). Further research is needed to articulate how capabilities develop from organizational learning (Argote & Miron-Spektor, 2010).

Verona and Ravasi (2003) emphasized the knowledge-based nature of dynamic capabilities. Zollo & Winter (2002) propose a "knowledge evolution cycle" to describe the development of dynamic capability and operative routines, namely, ordinary capabilities, through a process of deliberate learning. This cycle enables firms to change the way they do things in pursuit of greater rents. The knowledge evolution cycle includes four phases – generative variation, internal selection, replication, and retention. In variation phase, individuals and groups generate ideas on how to approach old

problems in novel ways or how to tackle new challenges. Selection phase implies the evaluation of ideas for their potential for enhancing the firm's effectiveness. Through knowledge articulation, analysis, and debate, ideas become explicit and the best are selected. Replication phase involves the codification of the selected change initiatives and their diffusion to relevant parties in the firm. Knowledge codification allows the exchange of best practices, knowhow and, more generally, tacit knowledge, and enables the enlargement of the capabilities base of firms (Grimaldi & Torrisi, 2001). New knowledge application in different contexts generates new information about the routines' performance and can initiate a new variation cycle. In retention phase, changes turn into routines and knowledge becomes increasingly embedded in human behavior.

Experience accumulation, knowledge articulation and knowledge codification are the three learning mechanisms identified by Zollo and Winter (2002) to perform a deliberate learning. These mechanisms are at the basis of dynamic capabilities creation and work as unique process in which collective competences are codified into routines. The process starts with knowledge articulation through collective discussions, debriefing sessions, and performance evaluation processes, some of these tools are deliberately aimed at uncovering the linkages between actions and performance outcomes, most of them are intended simply to provide guidelines for the execution of future tasks. Afterwards, the experience knowledge is codified in written tools, such as manuals, blueprints, spreadsheets, decision support systems, project management software, etc. Figure 1.2 represents this process.

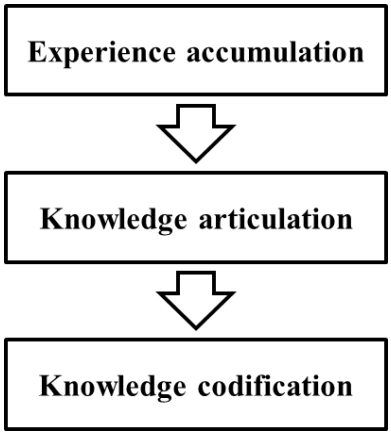


Figure 1.2 Deliberate learning process (Zollo & Winter, 2002)

From these ideas, it is possible to posit that dynamic capabilities emerge from the co-evolution of tacit experience accumulation processes with explicit knowledge articulation and codification activities (Zollo & Winter, 2002).

The learning process that ends with the creation of a knowledge base made of routines requires further empirical study (Zollo & Winter, 2002), focusing on its deliberate nature that consists in the transformation of implicit knowledge into new routines. External influences to this process are relevant in the overcoming of competency traps and low performing routines, but require a deeper understanding of their effects.

1.8 Research questions

This study investigates the process that allows firms to overcome conditions of rigidity through the intervention of external knowledge offered by actors who lay outside of the firm boundaries, such as management consultants. This process mirrors the capabilities lifecycle defined by Helfat & Peteraf (2003). The rise of environmental contingencies, as fluctuations in product demand, supply of raw materials, competitors' actions or regulatory changes, highlights the gap between environmental demands and organizational capabilities. In dealing with those contingencies, organizations may require the intervention of actors from outside, e.g. new managers or new CEO or the introduction of knowledge from outside. Such actors become activators of a meta-routine of change – a double loop process (Argyris, 1976) – that allows the creation of new organizational routines, namely dynamic capabilities.

The understanding of the process leading to the overcoming of internal inertia is not complete. In particular, this study investigates how firms grow beyond their core rigidities by introducing inside them knowledge from external actors, such as management consultants. This evolutionary process has not been adequately detailed in the literature (Helfat & Peteraf, 2003) and external influences involved in developing new dynamic capabilities by firms are unclear. Thus, the first research question of this study is the following:

How do firms overcome core rigidities by integrating external knowledge?

Ambrosini et al. (2009) wonder about the possibility that dynamic capabilities can

be sourced from outside. A classic example is the arrival of a new manager or a new CEO. The involvement of strategic consultants can be another way of sourcing dynamic capabilities. To be defined according to Helfat (2007: 5), dynamic capabilities must show a "routinized form". While the internally developed dynamic capabilities clearly fall within that definition, capabilities that come from outside are new to the firm and may not present a routinized form. Nevertheless, they have been exercised before either by the incoming leader, or by external consultants, so their deployment would be part of their normal activity (Ambrosini et al., 2009). The possibility that dynamic capabilities can be influenced from the outside remains an open question and literature does not provide empirical support. Therefore, while it could be possible to sustain that dynamic capabilities can be influenced from outside and in some cases also shaped from external actors, it is not clear how this process develops. This study raises the question:

How can dynamic capabilities of a firm be influenced from outside firm's boundaries?

Furthermore, this study focuses on the particular role that external knowledge has in activating new dynamic capabilities paths and aims to understand how knowledge from external sources may affect the dynamic capabilities base. External knowledge is received by organizations through a learning process, during which, according to relevant theory, innovative organizational solutions are developed (Zollo & Winter, 2002). Assuming that organization boundaries are crossed by heterogeneous communities and networks, the flow of external knowledge within organization remains underexplored (Tagliaventi & Mattarelli, 2006). A learning process can be seen as an enabler of new routines from outside the organizational boundaries. This study tries to understand how the capabilities involved in an evolutionary process are subject to change, showing how, once a process of change is activated, external knowledge becomes raw material for new organizational routines and a new lifecycle of dynamic capabilities. The third question that this study tries to answer is the following:

How does external knowledge influence the renewal and recreation of a dynamic capabilities base through a process of deliberate learning?

1.9 A theoretical model

This paragraph presents a model of the process of organizational change that allows firms to overcome situations of rigidity and develop new dynamic capabilities. References to relevant literature are discussed highlighting how this model can answer the research questions presented in the previous paragraph.

This study focuses on a process that follows the opposite direction in comparison to Leonard-Barton (1992), which explains how core capabilities can become core rigidities. Here the interest is on the transformation from situations of rigidity to situations of re-fit with environmental variables obtained by the introduction of new knowledge. The organizational change processes considered in this study are devoted to the overcoming of conditions of organizational rigidity, which result in unsatisfactory performance. The diagram represented in Figure 1.3 shows the steps that lead to overcome conditions of inertia. Leonard-Barton (1992, 1995: 29-56) shows how knowledge stored in organizational routines is subject to a rigidity and inertial process that transforms organizational routines in core rigidities. Nevertheless, external knowledge can activate a renewal process (Agarwal & Helfat, 2009; Eggers & Kaplan, 2009). In particular, new capabilities can be developed through a deliberate learning process (Zollo & Winter, 2002). Knowledge that comes from outside the organization can act on the elements of rigidity, developing a deliberate learning process (Zollo & Winter, 2002) that leads to a new organizational configuration of routines and resources. This change process can foster the development of a new dynamic capabilities cycle (Helfat & Peteraf, 2003).

The model represented in Figure 1.3 is derived literature analysis. It can be improved thanks to the support of empirical evidence, that can offer a clear picture of the links between the different elements of the change process. It constitutes a guide for research design because it helps in focusing the attention on relevant aspects.

The model offers the possibility to link dynamic capabilities literature with organization design literature. The change process that leads to the definition of a new set of capabilities can be influenced from outside. In other words, a possibility for a design perspective is possible.

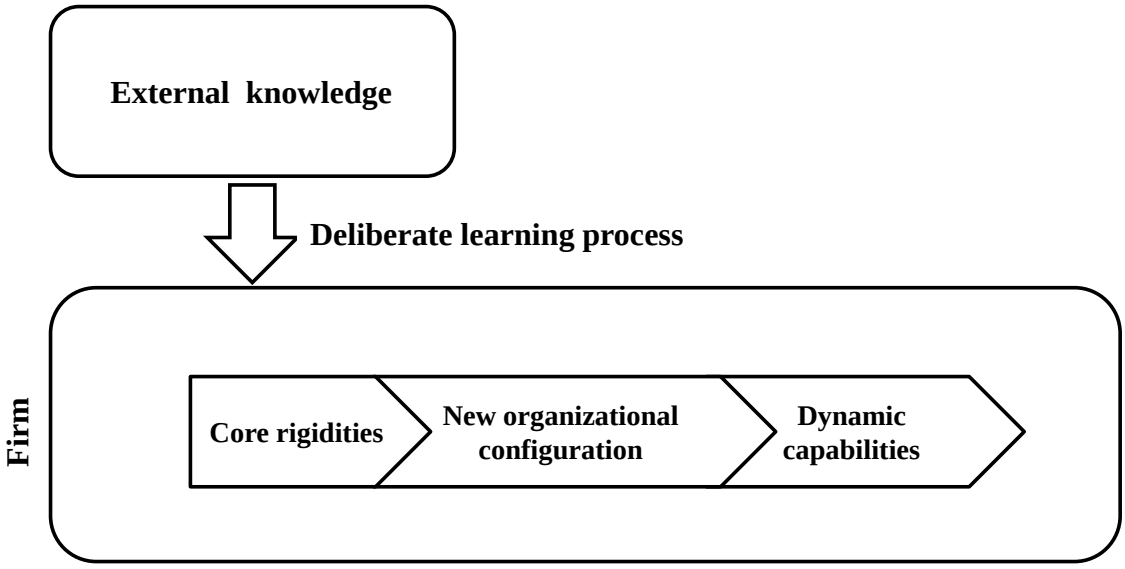


Figure 1.3 Theoretical model of dynamic capabilities development

1.10 An organization design perspective

Organization design literature shows an interest in capabilities since first contributions (Daft & Lengel, 1986; Galbraith, 1973; Tushman & Nadler, 1978). For example, information processing capability carries out a main role in organization design research (Daft & Lengel, 1986; Galbraith, 1974). The focus on capabilities has broadened in the last years, acquiring a major strength. Miles et al. (2010) assert that theory "*must specify the capabilities that are required by new business models and their supporting organizational structures and processes, as well as indicate the changes in managerial values and beliefs that are needed in order to facilitate the development and application of those capabilities*". Miles et al. (2010) propose an assessment of required managerial capabilities in the various organizational forms, clarifying which capabilities acquire a central role in U-form, M-form, matrix and multiform network. Others studies of this stream of literature address organizational learning and focus on learning processes (Huber, 1991), knowledge transfer capabilities (Argote & Ingram, 2000), transactive memory systems (Brandon & Hollingshead, 2004), cross-understanding (Huber & Lewis, 2010), organizational climate (Burton, Lauridsen, & Obel, 2004), leadership (Haakonsson, Burton, Obel, & Lauridsen, 2008), knowledge driving forces (Wikström & Normann, 1994).

Organization design literature assumes a contingent approach since the seminal works of Galbraith (1974) and Mintzberg (1979) to more recent works (Crowston, 1997; Ethiraj & Levinthal, 2004; Normann, 2002). Environmental variables influence organizational design choices, modulated by strategy (Baligh, Burton, & Obel, 1996; Burton, Obel, & DeSanctis, 2011). External opportunities and threats can be identified in order to configure internal structure and obtain the desired level of integration and coordination (Lawrence & Lorsch, 1967a). According to contingent approaches, the best organization structure depends on a number of contingency factors such as the complexity of the environment, the strategic positioning of the firm, or the technology it is using (Galbraith, 1973). Rather than accepting a deterministic logic or an every-case-is-different approach, contingency theorists argue that there is a middle ground in which it is possible to analyze the variation in organization structures in a systematic way. Some of the principal contingency variables identified are environmental complexity (Burns & Stalker, 1961; Lawrence & Lorsch, 1967b), strategy (Chandler, 1962; Child, 1972), technology (Woodward, 1965), and organization size (Hickson, Pugh, & Pheysey, 1969).

While the contingent framework has been broadened in literature, it does not fully explain how firms can develop the capability to maintain their competitive advantage in a continuously changing environment. A cross-fertilization of organization design literature with dynamic capabilities literature can be fruitful, especially because the former would benefit of capabilities studies, and the latter would benefit of the strong contingent analytical approach.

There are three points of contact of the two streams of literature that this study identifies: (1) the presence of a concept of fit in both the literatures, which is developed in different ways, (2) the focus on the change process, involving routines; (3) the interest in knowledge management and organizational learning, as part of the design activity and as enabler of dynamic capabilities development process.

The concept of fit is directly linked to performances: in conditions of fit, performances are higher than in conditions of misfit. The relation between dynamic capabilities and performances is underexplored (Mulders & Romme, 2009) and dynamic capabilities require a formulation of a fit concept that accounts for the continuously evolution of competitive environment (Helfat et al., 2007). Some authors

highlight that dynamic capabilities are indirectly related to firm performance, since their value for competitive advantage lies in the resource configuration they create, not in the dynamic capabilities themselves (Eisenhardt and Martin, 2000).

Dynamic capabilities literature distinguishes two different types of fit between environment and organization: technical and evolutionary fit. Technical fit denotes how effectively a capability performs its intended function when normalized (divided) by its costs (Helfat et al., 2007: 7). Technical fit is clearly comparable to contingent fit (Helfat et al., 2007), and does not provide an evolutionary perspective. Contingent fit indicates a coherence between external contingencies and the structure developed to address those contingencies (Klaas & Donaldson, 2009). This coherence leads to an optimal performance. Underfits are due to a under developed structure to face contingencies (e.g.: a limited amount of investment to new product development). Overfits are related to an over developed structure to face contingencies (e.g.: the creation of an excessive productive capacity in comparison to the demand level).

Evolutionary fit is based on the idea that a firm can operate in a stable environment without possessing any kind of dynamic capabilities and it has a chance to make a competitive return for a short period. Nevertheless, it cannot sustain supra-competitive returns for the long term except those due to chance (Teece, 2007). Evolutionary reflects the ability to maintain a certain degree of technical fit in the long run and is often measured using financial performance or survival rate. Such measures reflect both some problems in capturing the richness of dynamic capabilities impact on performance (Helfat et al., 2007: 16).

Evolutionary fit proposes a dynamic perspective, which makes possible to study how a firm defines its internal dimension to cope with external environment during time. Underfits and overfits, noticed in a particular situation, could be an intentional strategic choice to deal with future contingencies, e.g. an excess of productive capacity appears an overfit in a particular moment, but it can be also a strategic decision to deal with future peaks of demand.

Environmental change tends to be a continuous condition and the research of a fit between organization and environment, like in contingent approaches, denotes problems in dealing with evolutionary perspectives.

The model presented in Figure 1.3 can be enriched incorporating the concepts of

technical and evolutionary fit, as reported in Figure 1.4.

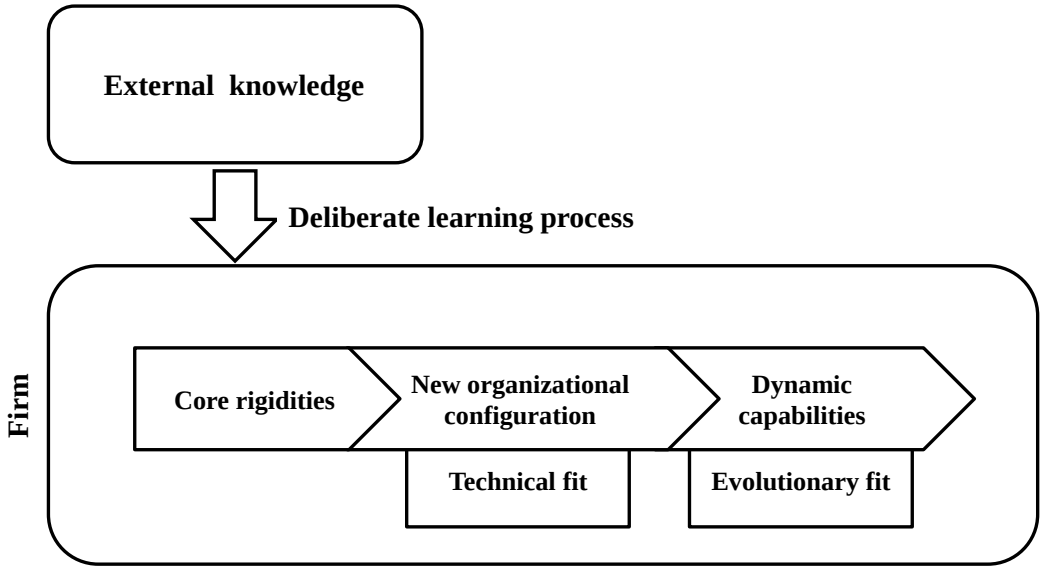


Figure 1.4 Theoretical model of capabilities change process

First, external knowledge enables a process that help the firm to find a new position of fit with the environment: core rigidities are overcome and a new organizational configuration of the firm allows to meet existing environmental contingencies. Nevertheless, the firm is not still able to deal with further changes in the environment. A second step is required. External knowledge can foster a learning process that lead to the development of dynamic capabilities. Dynamic capabilities enable firms to deal with further variations of the environment, developing a new condition of fit when new contingencies generate misfits.

The presented model is the fruit of the literature analysis. It is not designed to offer a complete answer to the research questions of this study, but to direct attention on relevant topics, in research design stage. In particular, it identifies the relevant elements that need to be considered in the research protocol.

Chapter 2 Data and Methods

2.1 A qualitative approach

A qualitative approach is particularly coherent with research questions in the form of *how*. It can lead to the development of a process theory that account for the change process investigate by the research questions. This study presents a multiple case study research design, following a qualitative methodology.

In process theories, outcomes are not conceived as variables that can move on a range of values, but as discrete or discontinuous phenomena that are called "changes of state" (Markus & Robey, 1988). Process theories enable a form a prediction which relies on causation based on necessary conditions and not on necessary and sufficient conditions like in variation approach (Mohr, 1982). This presents the disadvantage related to limited generalizability, but allows to more precisely account of events and to make more reliable predictions (Markus & Robey, 1988).

The strength of case studies is related to the possibility of developing novel theory and reveals particularly useful in contexts where constructs are still in an initial stage of their development and need to be clarified first through theoretical developments (Eisenhardt, 1989a). In the context of dynamic capability research, the value of qualitative studies resides in the fact that they can provide detailed descriptions about change processes, sequence of events, managerial roles, and interaction with the environment (Easterby-Smith et al., 2009).

The study of routines and capabilities that are often idiosyncratic for firms or part

of their resource bundles is complex and case studies can be a proper way to address it. Nevertheless, a large part of dynamic capabilities research makes use of cross sectional data and only few studies account for a change process (Arend & Bromiley, 2009).

Case studies can account for series of events that involves firms and external actors. The strategy used for sense-making is based on a combination of two strategies according to Langley (1999) – a narrative and a synthetic approaches.

A narrative approach accounts for a process of change in one organization, assuming a longitudinal perspective on events and their effects. This strategy is used to account for processes of change in a detailed manner. A classical example is Chandler (1962). This approach is devoted to reporting a clear and rich account of events, without assuming a theoretical standpoint in the narration. Cases are described as "analytical chronologies" (Pettigrew, 1990): narratives clarify sequences across levels of analysis, suggest causal linkages, and establish early analytical themes.

This study follows the transactional view of time identifying critical events for subjects and organizations (Van de Ven & Poole, 2005). Narrating changes in substantial entities, processes are described in terms of stages, steps, states, sequences and properties of sequences (Ven & Poole, 1990). This approach results coherent with the idea of capabilities cycles, which are composed by different stages, and particular events enable the shift between two stages.

The analysis of pattern regularities in organizational change processes is the reason to add a second strategy to the narrative approach. By comparing different processes, patterns of regularities can be identified in order to define a predictive theory. Adopting a synthetic approach, the process is considered as a whole unit of analysis (Langley, 1999). Synthetic approach allows to reach a higher level of generalizability in comparison with the narrative approach, but requires a clear structure to contrast different levels of variables in case studies (Eisenhardt & Graebner, 2007; Leonard-Barton, 1990). A typical example of these studies is Eisenhardt (1989b) which presents counterfactual tables to support propositions and outcomes (e.g. time, sales, etc.) combined with some forms of "independent" variables.

Eisenhardt (1989a) and Yin (2003) suggest that cases should be carefully selected according to theoretical reasons such as replication, extension of theory, contrary replication, and elimination of alternative explanations. Multiple case studies research

should follow a "replication" logic analogous to that used in multiple experiments, where each experiment serves to confirm or disconfirm inferences drawn from the others. Therefore, multiple case study design can assumes some of the characteristics of quasi experiments (Cook & Campbell, 1979).

The unit of analysis is the change process in which each firm is involved. The unit of observation ranges from the organizational level to the individual level: interviews with key informants are the main medium to collect data, but I have also created a large set of documental evidences related to case studies and to the involved companies.

The following paragraphs present the research design choices and the data coding and collecting stages.

2.2 Case studies design

This paragraph discusses in detail the design of case studies. The selection of case studies about processes of organizational change requires a particular focus on the features of projects and of firms involved.

The number of case studies presented in qualitative studies about dynamic capabilities range from one single case addressed with retrospective interviews (Narayanan, Colwell, & Douglas, 2009; Newey & Zahra, 2009; Verona & Ravasi, 2003) to larger groups: e.g. five firms in Daniel & Wilson (2003), six firms in Bruni & Verona (2009). The optimal number of case studies cannot be determined using a statistical logic, but it should account for theoretical relevance and offer the possibility of replication (Eisenhardt, 1989a; Yin, 2003).

Different criteria need to be considered to develop a consistent case study design.

The theoretical framework of this dissertation requires, for each case study, the presence of a firm along with the presence of an external provider of knowledge. Management consultants can be considered relevant external providers of knowledge for five reasons. First, consulting literature sustains that management consultants can play the role of innovators (Sturdy, Clark, Fincham, & Handley, 2009), because they are exposed to a large variety of different experiences. Second, they are in contact with firms, but they are also separated from them and clearly identifiable. Third, they have defined relation with firms: contracts shape the modes of interaction and collaboration

and state the end of the projects. Fourth, management consulting is a growing market and the outcome of this study can find strong implications. Fifth, previous external relations between firms and external agents – new CEOs, joint ventures, alliances – have been already explored, while consulting deserves more research efforts (Sturdy, 2011).

Two elements are involved each case study: a consulting firm and a client firm that collaborate on a change project. Consulting projects differ on the basis of many attributes, as scope, markets, type of activities. Because of this variety, it is necessary to reduce the scope on a clearly identifiable group of projects that consulting firms undertake. According to the focus of this thesis, the range of consulting projects is limited to organizational change projects. Nevertheless, that group appears still too heterogeneous: some projects are related to merger and acquisition deals, others to quality management. To focus on a single group of projects, I identify a subset of organizational change projects in which typical Business Project Reengineering (BPR) techniques are applied. BPR is a managerial practice commonly applied by consultants in different contexts. It claims for a radical change in organizational structures and processes to obtain a significant shift of firm's performance (Davenport, 1993; Hammer, 1990; Hammer & Champy, 1993). In many cases, consulting projects do not refer directly to BPR approach, but they use its general framework and resemble the same project structure. BPR projects typically start with a performance analysis, the study of the as-is situation, the identification of critical problems, the definition of to-be solutions, and the implementation of one of them. Consulting projects selected for the case studies present a structure similar to the structure of a BPR project. The choice of BPR like projects as a reference model for the selection of case studies offers three advantages. First, it allows to focus on projects that are divided in different stages, enabling cross-case comparisons. Second, it reduces the range of consulting projects to a group characterized by a large scope of change and a high level of involvement on different organizational functions. Third, it avoids the risk of selecting downsizing projects in which consultants play only an institutional and legitimating role. In many BPR projects, the introduction of IT systems is a remarkable component. Nevertheless, selected projects are focused on organizational and strategic change and not just on IT implementations, because pure IT developments and upgrades do not involve large

organizational interest or significant change in routines and are mainly bounded in the information systems department.

Projects in service industry companies are more suitable for this research design in comparison with projects in production companies, because in service industry specific investments of the firm (e.g.: machineries or production lines) do not limit changes in routines in comparison with production industry. Moreover, information systems convey a large part of activities and operative routines in service companies, so a change project in service industry easily encompasses organizational and IT issues.

The analysis of the development process of dynamic capabilities requires following a particular approach in selecting case studies. As reported in Chapter 1, it is important to assess not only the results of consulting projects but also the effects of knowledge transfer activities. Dynamic capabilities can develop after a consulting project but it could also happen that the knowledge transfer does not foster the birth of capabilities. Since this study aims to understand the developing process of dynamic capabilities, so firms in selected case studies need to show a form of dynamic capability after the end of the consulting project. In assessing capability development, I choose not to rely only on informants assertions because they could present a bias. It is necessary to reconstruct the initial situation in which the capability was not present and a subsequent situation in which the capability manifested itself. To control for a capability development after the consulting project, events related to the company need to account for it. Capability development needs to be confirmed by real use of the identified capabilities in new situations. Selected case studies have to account for this condition.

The second dimension is the scope of the change project: service firms are often organized in headquarters and branches. Some change projects involve the headquarters, with less impact on branches; other change projects involve branches without affecting directly headquarters. The two groups are different because headquarters deploy administrative and service processes, while branches deploy core and front-end business processes.

To identify case studies with all the presented requirements, I followed a process. First, I conducted a preliminary selection among a group of ten case studies proposed by four consulting firms. Second, I conducted a preliminary interview with a consultant for each of the selected case studies. Finally, I considered the different characteristic of

each project, firm and consulting company to combine a significant set of case studies.

Thanks to this procedure, six case studies have been discarded because they did not meet the requirements of this study. In the first discarded case, the company did not present a clear evolution of its capabilities after the project. In the second, the consulting project was not finished and consultants maintained a strong influence on managerial decisions. The third and fourth have been discarded because they were not related to a real organizational change but to an acquisition or a management turnaround. In the fifth and sixth case studies, firms did not operated in service industry and change projects resulted not comparable because limited by technological investments.

Figure 2.1 presents the selected case studies according to two relevant dimensions: the relevance of external contingencies and the scope of the change project. The first dimension focuses on the different environmental contingencies that impact on organizations. A fast and intense variation in the environment can have a strong impact on firms that show a condition of rigidity and affect the impact of the change processes. A lower environmental contingency can favor a different approach to organizational change by firms. This dimension cannot support a causal interpretation: other external and internal elements affect the activation of a change process in the examined case studies. Nevertheless, informants agree on the identification of external contingencies, evaluate ex post their impact on the company and link them to managerial actions. External contingencies can affect firms before and after management consulting projects, so selected case studies present two different patterns: in the first an external contingency with a high impact affects the firm before the consulting project, in the second a strong environmental contingency affects the firm after the end of the consulting project. I present two case studies for each group.

The combinations cover all the possibilities related to environmental contingencies, but they do not completely cover all the possibilities of coupling between the two dimensions. The names reported in Figure 2.1 are pseudonyms of the client companies' names.

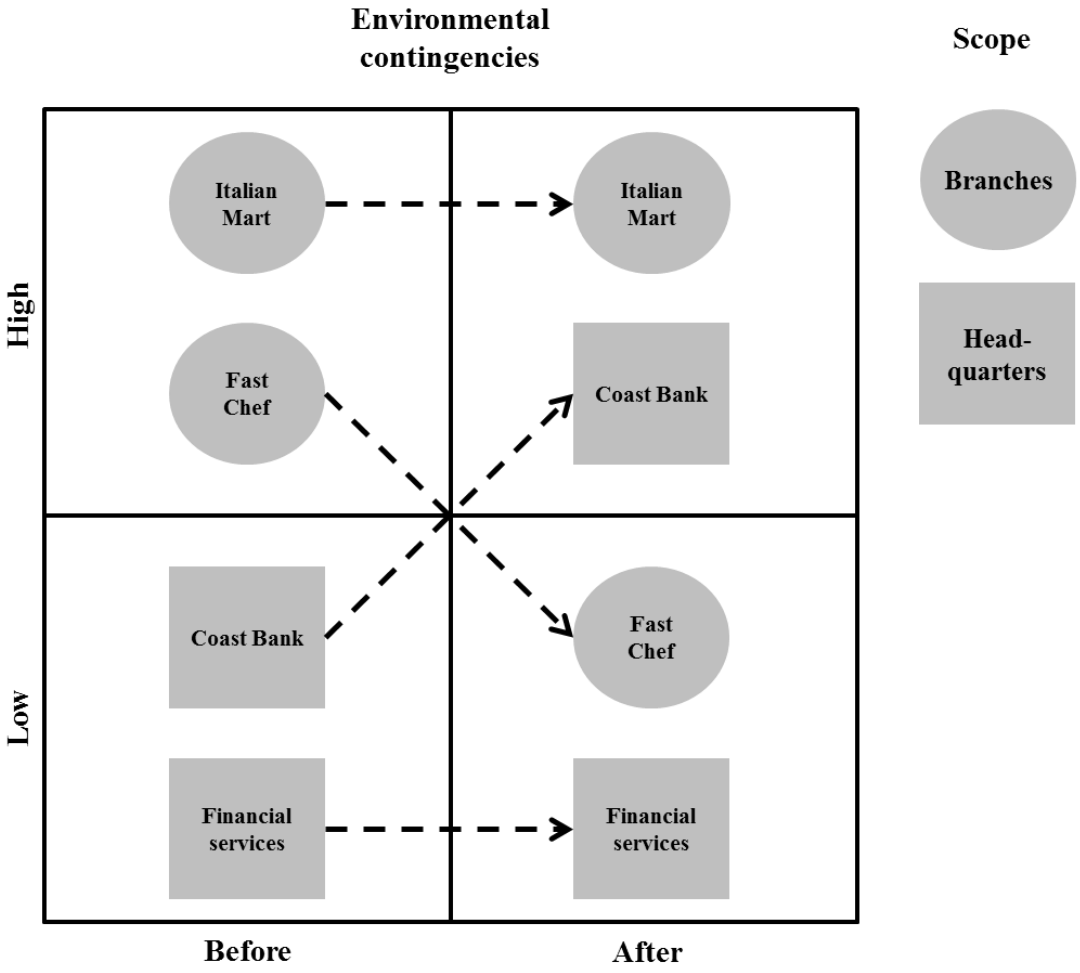


Figure 2.1 Presentation of case studies

2.3 Consulting companies

Two consulting companies are involved in the change projects: S-Consulting and H-Advisors (pseudonyms). They are medium sized consulting companies, which operate in the Italian market. Three consulting projects belong to S-Consulting and one to H-Advisors. This choice allows to examine projects in which consultants share a similar background because they work in the same Company, but also to compare them with a project from another Company to observe difference in knowledge sources and in consulting approaches.

S-Consulting is located in North Italy and has only one site. It employs about one hundred consultants and is involved in many change projects, including strategic and

operations consulting, BPR and organization change projects, IT strategy, functional analysis and software selection projects. It operates in four markets: banking and finance, production and services, utilities and public entities. Its organizational structure is a matrix: from one side the markets, and from the other side the areas of specialization, which are Business Consulting, Change Management and Corporate Social Responsibility. Business Consulting area encompasses the majority of the projects and its members have typically a technical or managerial background. Change Management area is composed mainly by psychologists specialized in work related issues. They operate in combination with business consultants in project with an impact on human resources. The Corporate Social Responsibility area is composed by a group of specialized consultants, which operate in ad hoc projects. S-Consulting does not develop or implement IT systems, and it refers to external suppliers for the implementation phase, maintaining the control of the overall process.

S-Consulting's case studies are Italian Mart, Fast Chef and Coast Bank. Figure x reports the association.

H-Advisors is another Italian consulting company, with three sides in Italy and about fifty employees. It is focused mainly on IT strategy consulting, without a link to a specific software house. Its range of activities is narrower, involving mainly organizational analysis and BPR projects that involve mainly the IT division of client companies. It also offers training courses and is a provider of certificates of international standards compliance in IT management. Its organizational structure adapts to the projects, but two groups can be identifies: a technical group composed mainly by engineers, and a group of psychologists, which operates mainly in change management activities. H-Advisor's project is Financial Secrets.

Client firms can be new or old clients. If the firm is a new client for the consulting company, external knowledge offered by consultants can constitute an element of novelty that fosters a rapid change in routines. If the firm is a regular client, external knowledge could have a weaker impact, but previous collaborations could positively impact the level of trust and the exchange of knowledge between consultants and managers. Figure 2.2 presents the state of relation between consulting companies and their cases.

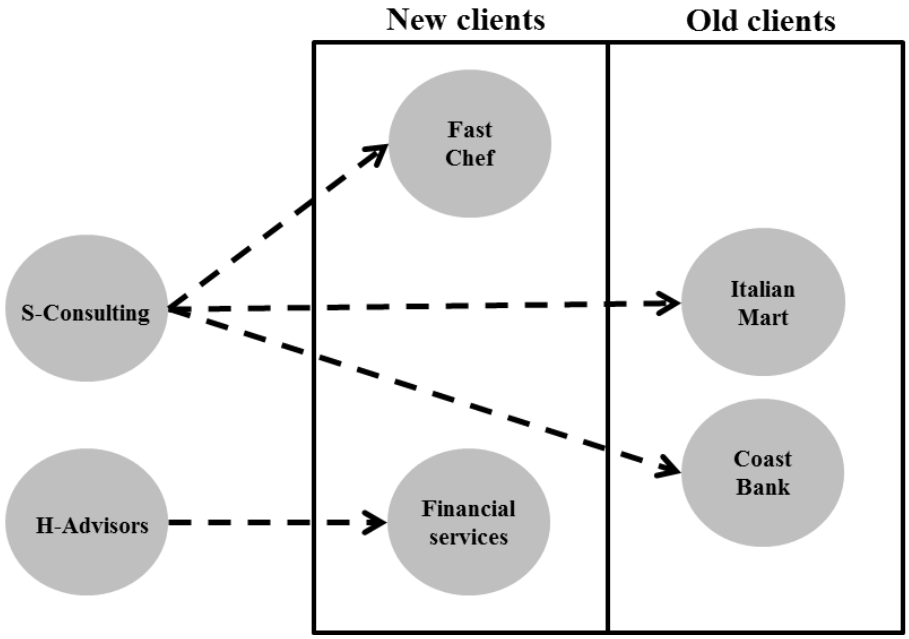


Figure 2.2 State of the relation between consulting companies and client firms

2.4 Interviews

To collect data for the retrospective case studies, semi-structured interviews have been carried out during a period of one year. The number of interviews for each project can vary based on key informants' availability. Interviewees are consultants, managers and employees that had assumed a role in the projects. I scheduled all the interviews at least one month after the end of the consulting projects and I conducted interviews face to face, to allow the development of a trusting relationship between the interviewer and his informants. Figure 2.3 reports a schema of the temporal position of interviews.

I started interviewing from the consultants' group: project leaders, senior and junior consultants. The average length of interviews is about one hour, but first interviews lasted more because informants provided extended information about projects, narrating the sequence of events. I typically asked the first two interviewees to account for the structure of the project. From the firms' side, full coverage of the managers and the employees that interacted with consultants was not possible, because projects involved headquarters or branches of large firms. I adopted a significance criterion, interviewing all the team members of the project from the client site, the sponsor of the project and a subgroup of employees that interacted with consultants in

the project.

Since the research design requires retrospective case studies to assess capabilities development after the end of the projects, I conducted the interviews at least six months after the end of the projects. Figure 2.3 shows the temporal location of interviews.

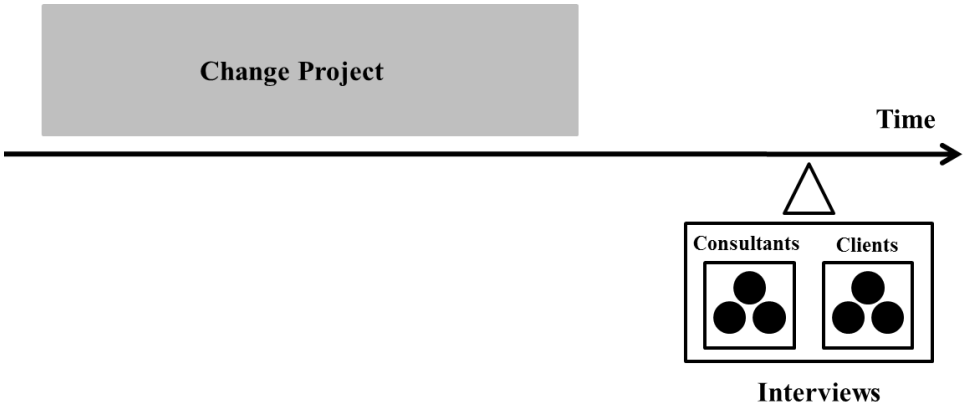


Figure 2.3 Temporal location of interviews

Interviewees have been invited to comment with a large margin of freedom specific topics and specific questions in a predetermined sequence (Gubrium & Holstein, 2002).

The structure of the interviews is designed to account for firms' core rigidities, external knowledge offered by consultants, organizational learning process, new dynamic capabilities developed by the managerial group and applications of the new dynamic capabilities. These elements have been considered in the research protocol and in the coding activity.

Core rigidities considered in this study are those identified in relevant literature (Leonard-Barton, 1992, 1995; Szulanski, 1996) reviewed paragraph 1.2 and have been identified in case studies through specific questions in interviews.

The contribution of external knowledge in the activation of a process of learning that renew firm's capabilities is addressed referring to the series of steps identified in Zollo and Winter (2002),which is considered a model for the analysis of the processes of deliberate learning. The study of the learning process can lead to identification of the

external stimuli that trigger the developmental cycle of knowledge.

Knowledge changes can be identified referring to the knowledge model of poorly performing single loops characterized by vicious cycles and the activation of a double-loop virtuous cycles of learning that reconfigure the routine system of the organization, (Argyris, 1976; Kumaraswamy & Garud, 2005).

Knowledge transfer processes can be analyzed according to different categories. For the purposes of this study, the type of transferred knowledge and the factors that facilitate the knowledge transfer are particularly relevant. I also consider some characteristics of the two organizations – the consulting company and the client firm – since previous literature confirms their influence on the knowledge transfer process. Table 2.1 reports relevant categories identified in knowledge transfer literature that support the interview protocol definition and the coding activity. A relevant category is the level of tacitness of knowledge (Kogut & Zander, 1992), because it affects knowledge transfer process and the encoding of organizational routines (Zander & Kogut, 1995).

To assess performance impact of consulting projects, I asked interviewees to identify performance variations that they consider outcomes of the project. Organizational change projects involving an IT section often require a Key Performance Index (KPI) measurement. I required informants to refer to some KPIs to discuss performance variations.

Literature about different classes of dynamic capabilities (Teece, 2007; Wang & Ahmed, 2007) and their level (Ambrosini et al., 2009) is considered to identify dynamic capabilities developed after the intervention of external knowledge. Paragraph 1.5 reports a review of the main theoretical contributions. As anticipated in Paragraph 2.2, specific questions address the study of events that can indicate the deployment of a dynamic capability: e.g. new change processes, further modifications in routines and resources. In particular, the interest is on managerial actions after the end of the consulting project: new activities or different way to conduct usual activities can be a trace of dynamic capabilities.

The development of new capabilities by the introduction of external knowledge is supported by the life-cycle model by Helfat & Peteraf (2003), presented in Paragraph 1.6.

Table 2.1 Knowledge transfer categories

Groups	Categories	Reference
Characteristics of the knowledge transferred	Tacitness	(Zander & Kogut, 1995)
	Observability	(Argote, 1999: 172–173; Meyer & Goes, 1988)
	Unprovenness	(Szulanski, 1996)
	Causal Ambiguity	(Szulanski, 1996)
Characteristics of the organizations	Geographical proximity	(Argote, 1999; Argote & Epple, 1990; Argote, Ingram, Levine, & Moreland, 2000)
	Motivation	(Szulanski, 1996; Zander & Kogut, 1995)
	Absorptive capacity	(Cohen & Levinthal, 1990; Szulanski, 1996)
	Retentive capacity	(Szulanski, 1996)
Characteristics of the transfer process	Stage of the learning (at the beginning of the projects or continuously)	(Argote & Epple, 1990; Argote, 1999: 174)
	Channel of learning (purposive with deliberate attempts, relational, and external arm length)	(Rulke, Zaheer, & Anderson, 1998)
	Co-working	(Galbraith, 1990)

The structure of the interviews protocol with the constituent elements is reported in Table 2.2. Main sections are reported on the left side of the table. On the right side the elements which will be the object of the questions in interviews are reported.

Table 2.2 Research protocol used in interviews

Sections	Elements
Narrative of the project	– Beginning, length and end of the project – Goals of the project (available documents or slides) – Sections of the project (BPR, KPI definitions, etc.) – Project stages – Approximate cost for the client – Composition of the consulting team – Composition of the management team – Personal role in the project
Core rigidities	– Types of problems experienced at the organizational level (unsatisfactory performances, loss of competitiveness, etc.) – Causes of the problems linked to the general typologies – Range of problems object of interventions – Strategies identified by consultants to overcome rigidities – Expected results
Deliberate learning process	– Identification of mangers' initial capabilities and of their capabilities gap – Strategies adopted by consultants to transfer new skills and competences – Identification of knowledge senders – Identification of knowledge recipients: members, tools and tasks (Argote & Ingram, 2000; McGrath & Argote, 2004) – Identification of used media (courses, tutoring, coaching, etc.) and documents issued by the consultants – Modes of interaction used in communications (meetings, phone calls, etc.) – Feedback given to consultants by managers – Evaluations about the factors identified in Table 1 – Evaluations about the knowledge transfer process (by managers and consultants): areas of success and of weakness – Presence of differences of opinion between the different managers and between managers and consultants – Strategies adopted to overcome conflicts – Immediate results of the knowledge transfer activity: reduction of the gap of capacities in managers – Identification of the stages by Zollo & Winter (2002): experience, articulation, codification

Results of the project	– Identification of the immediate results of the project – Areas of success and of weakness – Achievement of the initials goals – Unexpected results
Dynamic capabilities	– Identification of consultants' capabilities applied in the project – Identification of managers' capabilities developed during the project – Identification of the developed dynamic capabilities relying on managerial actions after the consulting project (new projects, new business, changes in organizational structures and routines) – Identification through classes by Verona & Ravasi, (2003): knowledge generation, integration and reconfiguration – Identification through classes by Ambrosini et al. (2009): Incremental, renewing and regenerative capabilities – Identification through classes by Teece, (2007): sense, seize and maintain – Identification of the sources of dynamic capabilities (internal, external, in the relations across firm boundaries with consultants)

Responded found categories from Verona & Ravasi (2003) difficult to understand because they present large areas of overlap, so I decided to propose their classes during interviews only when the respondent considered knowledge a relevant topic.

2.5 Documental analysis

Access to documents about projects supports the evidences derived from interviews. Documental analysis represents a "cross" technique and is complementary to other qualitative techniques. Relevant documents are useful to understand a specific context. They can be formal documents internal to the organization (e.g.: minutes of meetings, balance sheets, reports, presentations, manual, guidelines) or informal documents (e.g.: notes exchanged between team members, emails, personal notes).

Documents can also come from outside the organization, (e.g. articles from magazines, statistics, and field studies to be used as secondary sources of data about

case studies). Documents can clarify significant issues or interpretations identified by other techniques. The use of documents is also useful at the end of the research, to strengthen the interpretations offered by informants. Finally, documents can be used as means of "triangulation", to support the same evidence through different techniques.

I analyzed a large repository of documents (minutes of meetings, planning documents about activities and allocation of responsibilities, slides for presentations and courses, notes, emails, guidelines, reports, manuals) created during and after the consulting projects.

2.6 Collected data and coding

This study encompasses 51 interviews and a large amount of documents (more than one thousand pages). Table 2.3 reports an overview of the data collected in this study, indicating the number of consultants and members of the client companies interviewed along with their organizational tenure. From the discarded case studies, I collected other 10 interviews

Interviews, field notes collected, and the results of documental analysis had been transcribed to report the details of the observed phenomena (Lofland & Lofland, 1995; Strauss & Corbin, 1998). The analysis of field notes will reduce the variety and abundance of phenomena (collected during months of on field activity) into a smaller number of "concepts", i.e. labels assigned to the phenomena. This process of reduction allows to make sense to all the observed phenomena.

All interviews had been transcribed using F4 Transcription software, which automatically adds temporal tags at the end of each question and answer. I reviewed two different programs for coding activity: Nvivo 8 and Atlas.ti 6.2, which are the most popular tools for the analysis of qualitative data. Since I experienced performance problems in queries using Nvivo software, I adopted Atlas.ti to complete the coding phase, because it offered flexibility in codes definitions. I created a unique repository for all the interviews, and grouped the interviews in families related to case studies.

Table 2.3 Collected data

Case studies	Consultants		Company's managers and employees		Documents
Fast Chef (catering company)	Project Leader Consultant IT supplier **Total**	3 1 1 **5**	Chief Operating Officer (COO), Chief Information Officer, Two experts (operations and information systems unit) An employee of the Information Systems Unit Four plant directors Six operators from the kitchens **Total**	1 1 2 1 4 6 **15**	Slides for meetings, process re-design documentation
Italian Mart (store chain company)	Two Project Leaders (repeated twice) Two consultants **Total**	4 2 **6**	Head of the Organization Office Two employees of the Organization Office Two store managers **Total**	1 2 2 **5**	Minutes of meetings, transcripts of consultants' interviews with key informers
Coast Bank (bank)	Project Leader (repeated twice) A senior consultant A junior consultant **Total**	2 1 1 **4**	Chief of Human Resources A middle manager Two employees of the headquarters An employee from a branch **Total**	1 1 2 1 **5**	Slides of activities and about the progress of the project A published article about the project
Financial secrets (financial services)	Manager Project Leader (repeated twice) A senior consultant A junior consultant (repeated twice) **Total**	1 2 1 2 **6**	Top Manager of the unit Unit coordinator Call Center Coordinator **Total**	1 1 1 **5**	Internal documents and articles which describe the project A published article about the project

I also created a super-family for consultants and another super-family for firms' members. This distinction allows to identify quotes from each group in each case study. The possibility to group quotes in families related to case studies and in super families related to the interviewee (consultant or firm's member) allows also to compare different interpretations about the relevant categories. For example, consultants can provide an interpretation of core rigidities, which is different from the interpretation provided by firm's members.

I analyzed interviews and documents, identifying relevant quotes and associating them to two different groups of categories. The first group is theory led and encompasses general codes derived from the theoretical framework of this study (Eisenhardt, 1989a; Yin, 2003). Table 2.4 reports the first group of categories.

Table 2.4 First group of categories

Categories	Description
Project goals	Initial projects goals
Project narrative	Sequence of events
Results	Outcomes of the project
Further organizational changes by internal members	Further changes adopted by managers. Proxies of dynamic capabilities (see Paragraph 2.4)
Core rigidities	Initial situations of stickiness of the firm. Organizational rigidity in adapting to environmental changes
Knowledge transfer	Description of moments in which knowledge transfer develops
Tacit knowledge	Transferred elements of tacit knowledge and means
Explicit knowledge	Transferred elements of explicit or codified knowledge
Organizational learning and deliberate learning	Any element related to organizational learning and deliberate learning processes
Knowledge codification	Transformation of experience into explicit knowledge

Capabilities developed	Any kind of capabilities developed during the project or after
Ordinary capabilities (competences)	Ordinary capabilities developed during the project
Dynamic capabilities	Capabilities that can meet the requirements of the dynamic capabilities definition This category is articulated in sub-categories related to the 3 classes of dynamic capabilities presented in Paragraph 1.5

The second group is composed of emergent codes noticed in the analysis of the data (Strauss & Corbin, 1998). This approach is similar to a grounded theory building approach (Van Maanen, 1979). Emergent codes can be linked to others and grouped in second level categories, which rely on theoretical concepts (Berg, Grant, & Johnson, 2010; Gioia & Thomas, 1996; Mattarelli, Bertolotti, & Macrì, 2011). Table 2.5 reports the first group of codes.

Table 2.5 Emergent categories

Categories	Description
Consultants as boundary spanners	References to the role of consultants as boundary spanners (figures at the boundaries of two different organizations)
Dynamic capabilities as methods	Methods that firms' members learn from consultants. E.g.: project management, techniques for managing time, or conducting a meeting
Dynamic capabilities as rules	Presence of a set of rules that applies in particular situations. They have the form: if A than B (Bingham & Eisenhardt, 2011)
Organizational identity	Elements related to organizational identity
Adaptation of existing routines	Adaptation of existing routines to deal with environmental requirements, operated by lower levels members of the organization

Generation of new routines	Generation of new routines to deal with environmental requirements, operated by lower levels members of the organization
Perception of consultants	Positive or negative perceptions of consultants. Elements of trust, distrust, appreciation, anger.
Innovator role of consultants	References to the innovator role of consultants
Role of legitimation of consultants	References to the role of legitimation of consultants

2.7 Data analysis and interpretation

The empirical part of my dissertation is structured in a narrative and in an interpretative part according to Pettigrew (1990), which suggests a procedure to compare case studies. This approach is particularly useful in dynamic capabilities assessment because it accounts first for evolutionary processes and, then, for evolutionary patterns (Jantunen, Ellonen, & Johansson, 2011; Laamanen & Wallin, 2009). Table 2.5 reports the stages adopted in case analysis and their correspondence with previous studies.

In the first step, the presentation of analytical chronologies allows a clear vision of the data, clarifying sequences across levels of analysis, identifying causal linkages, and establishing early analytical themes. Adopting a narrative approach, I present case studies, in Chapters 3, 4, 5, and 6, explaining the development of events. The second step requires the identification of strategic concerns, which favor the theory building stage (Pettigrew, 1990). Each narrative chapter presents an analysis of core rigidities, organizational learning process, and capabilities development.

The third and fourth steps are related to the theory building activity. In the third stage, an intra-case interpretation is presented, to assess the pattern of change. After the detailed analyses of the change processes reported in Chapter 3, 4, 5, and 6, an explicit attempt to interpret narratives is conducted in the Chapter 7. Conceptual and theoretical ideas inductively derived from the cases need to be linked both to stronger analytical themes within the cases and wide theoretical debates in the literature (Pettigrew, 1990).

The fourth stage provides a meta-case analysis and an interpretation of the qualitative data, supported by main theoretical categories derived from literature. The interpretation is intended to focus on the research questions of the dissertation offering possible theoretical explanations of the exanimated processes of change.

Table 2.5 Steps in case studies presentation

Stage	Description	Level	Analytical procedure	Correspondent stages in literature		
				Pettigrew (1990)	**Laamanen & Wallin, (2009)**	**Jantunen et al. (2011)**
1) Narrative of events.	Accounting for the project and the company evolution	Intra-case	Thematic analysis of documents and interviews	The case study as analytical chronology	Describing the patterns of company evolution	Describe the evolution patterns of the cases
2) Identification of main theoretical categories	Deductive coding according to coding scheme	Intra-case	Deductive coding according to a theoretical led codebook	The diagnostic case	Identifying capability development actions and the resulting capabilities	Categorize different types of dynamic capabilities
3) Interpretation of case studies	Interpretation of capability development processes	Intra-case	Inductive coding Reconstruction of the relation between main categories	The interpretative/ theoretical case	Uncovering the dynamics between the cognitive intentions and capabilities development actions	
4) Cross case comparison	Comparison between different cases to assess the different patterns of knowledge transfer and capabilities evolution	Cross-case	Identification of second level categories in coding and analysis of the relations between categories	Meta level analysis across cases	Examining the formation of cognitive intention and developing an overall theoretical framework	Assess the similarity in the composition and manifestation of dynamic capabilities across the case companies. Search for a logic behind the development of dynamic capabilities

Chapter 3 Case study: Fast Chef

3.1 Presentation of the firm

Fast Chef is the largest cooperative in Europe, leader in the Italian restaurants, and the largest Italian-owned. Fast Chef was the first company in Italy to enter the market of school canteens and is the first in terms of sales. It is in the restaurant business, which annually produces about 21 million meals, managing both internal canteens and canteens with food conveyed from its production plants. Fast Chef manages the catering services in about 130 hospitals and nursing homes. It is present in commercial food service in city centers, malls, exhibition centers and craft centers, with various commercial brands. The organization is divided into two main business lines: restaurants and work canteens services.

Restaurants provide catering services at retail. Customers are located in many Italian cities, serving directly the end user without intermediaries. Work canteens services range in a variety of different services: from an integrated service of school meals to the catering service outsourced to other companies. Catering service for schools range from the formulation of an adequate diet provided by specialists to the simple catering service itself.

3.2 Genesis of the consulting project

This consulting project had regarded the Fast Chef plants that produced meals for companies, schools and hospitals. They are large kitchens that can produce up to 8000 meals per day. Two main units of the headquarters had been involved in the consulting project: the Operations Unit and the Information Systems Unit. The first is a line unit, which is responsible for the production in all plants and restaurants in Italy. The second is a staff unit, which is responsible for the company's information systems.

The consulting project was about the development of a food traceability procedure in the industrial plants. It did not involve retail restaurants at the beginning.

The consulting project was divided into two distinct sub-projects: the first was a pilot project for the development of traceability in two kitchens; the second was the implementation of the traceability process and materials management in other four kitchens to maintain the ISO 22000 certification.

The following paragraphs present the two sub-projects describing them in detail. An explanation of the distinct traceability systems is necessary to understand how they differ and consequently influence the operative procedures in kitchens.

The first stage of the project started in February 2010 but there have been two previous attempts to work on traceability. The first is carried on by a staff unit, the Office for Quality Assurance that developed a paper traceability procedure for kitchens.

Another project was developed during 2009 by Information Systems Unit to develop a full control over traceability, working with one of its suppliers of information systems. A pilot project was started in Castelfranco plant.

Figure 3.1 reports a timeline to explain the temporal sequence of the projects.

According to the order presented in the timeline, I present the paper traceability, the pilot project in Castelfranco and the consulting project dived into two different sub-projects. Then I discuss the results.

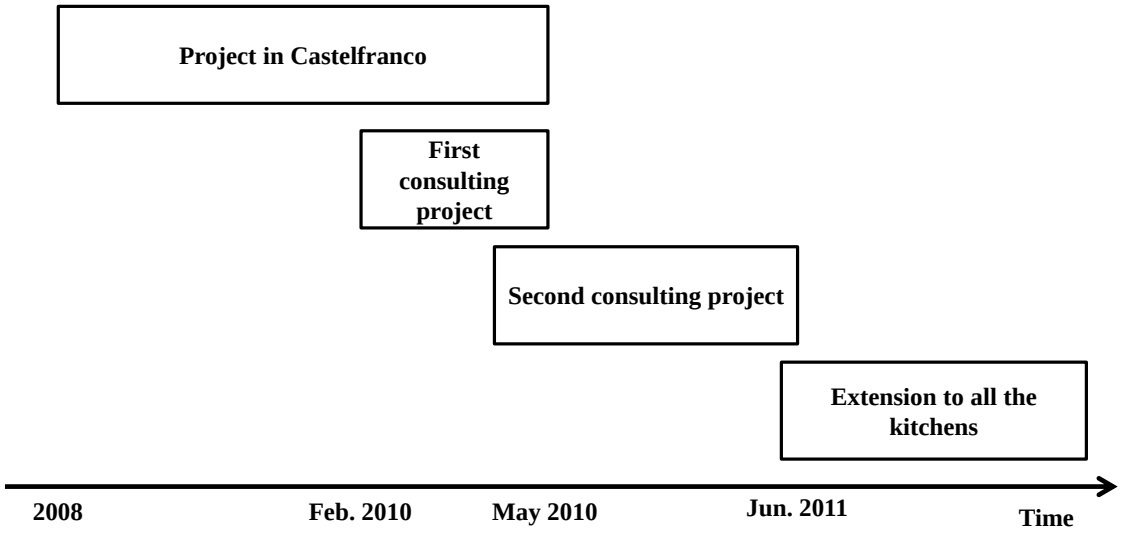


Figure 3.1 Timeline

3.3 Traceability

A traceability system allows to know in which dish the various ingredients used in preparation end up. Thus, a traceability system provides the link between upstream and downstream supply chain. The customers are primarily government agencies, schools and hospitals. Customers often require that contracts follow strict rules on safety and food traceability. In particular, their demands relate to ISO 22000 standard. This standard regulates food safety by incorporating the HACCP norms. The purpose of this section is not to describe in detail the ISO 22000 standard. For further information, I remind to detailed technical discussions and to the standard requirements specification. For the purposes of this dissertation, it is sufficient to know that the ISO 22000 standard requires companies to identify and document information one-step forward and one-step back in the supply chain. Business operators have to provide information about the names and the addresses of their suppliers and clients, as well as the nature product and the date of delivery. Operators have also to keep information about quantity or volume of a product, the batch number and a more detailed description of the product such as it is raw or processed.

These simple requirements already allow to understand the enormous amount of information that must be processed by a food processing plant. Initially, Fast Chef

ketches used a paper-based system. Then, Fast Chef developed two distinct solutions, described in the following paragraphs.

3.4 Traceability – paper solution

The first traceability system was developed by the Fast Chef Quality Office. The system was based only on paper documentation. Whenever a worker made a picking from the warehouse of the kitchen, the batch code and the picked quantity were recorded on paper forms. Operators of the kitchens were required to indicate on dedicated forms which dishes had been prepared with the picked ingredients. The registered batch code was not a Fast Chef internal code, but a batch code from suppliers. Each registration was difficult to be carried on because the batch codes could have different forms depending on the supplier.

A possible request for traceability for a dish required employees to examine all the documents produced in a single day. All pickings related to the particular ingredient had to be recorded. The result was an exceptionally large number of documents that had to be processed to identify all the ingredients that were picked to cook a dish. Furthermore, each meal consisted of a series of dishes and some kitchens, particularly those working in hospitals, were required to detail the traceability for single dish and not for multi-portion container. Therefore, the amount of paper documents was very high.

The interviewed employees were well aware that the paper-based system did not provide an adequate support to traceability. In addition, the management was aware of those problems.

> *"We set up a paper-based system. Among other things, it was especially expensive. Each structure had 4-5-6 hours a day dedicated to this task manually. Even if it cost, it gave no guarantee in respect of traceability"* (COO)

In particular, there could be errors in recording picking activities. An employee could forget recording the picking in the form so it would become impossible to trace that ingredient. Another source of error was related to the batch code: the workers could report on the form the wrong code, because there could be different codes.

> *"I saw that they recorded, in theory: nevertheless they had to read the supplier's batch code, because there was no labeling. So they had to read the batch declared by the supplier, then it was not easy in the middle of ten thousand labels to understand what the supplier batch code is and the date and write what they had taken on that date for that day"* (Project Manager Operations)

Because of the limitations of the paper traceability system, Fast Chef decided to undertake a project to develop a new information system for traceability.

3.5 Traceability – second solution

The second solution to manage traceability had been developed by Fast Chef as a pilot project in a single production facility. This facility serves only a hospital, yet it requires a very precise traceability of food up to the individual patient. The kitchen produces on a forecast base because many dishes require semi-finished products with long production lead-times (e.g. sauces, some second courses). Every day, operators prepare the dishes for each meal of the day after and store them in a cold warehouse. For each patient, the hospital staff defines the menu for every meal and sends it to the kitchen the evening before. In the kitchen, the final meals are assembled on a tray and dispatched to the wards. The dishes are dispatched in a cold state and they are restored to the right temperature by the particular container, which is able to heat one side of the tray, leaving cold the other side, in which vegetables and bread are disposed.

The hospital norms and the contract between the hospital and Fast Chef require traceability of all food served to the patients. For this reason and given the particular complexity of this kitchen, in 2008, Fast Chef decided to create a project for achieving traceability through an IT supported process. The Information Systems Unit headed the project and a software house was identified as supplier. The software needed some changes to adapt to the particular workflow of the kitchen.

The idea behind the developed solution is to trace every movement of the food, from the supplier to the final consumer, in this case the patient. Each incoming material, such as pasta or tomato sauce, is labeled and stored in the warehouse. In every day pickings, batch codes are associated with the dishes that have to be cooked using palmtops linked to a central server. For example, when an operator picks salad and

carrots, he records on the palmtop the batch code of salad and the batch code of carrots, using a palmtop, and associates them with the dish which they relates (e.g.: a mixed salad). When the ingredients require one or more stages of cooking, the cook prints a label for the batches of semi-finished or finished products before storing them in the cold warehouse. For example, when some meat-sauce is needed, the cook picks every ingredient of the meat-sauce recording its label with the palmtop. Then the cook brings them to the work place and prepares the sauce. The semi-finished product – the meat sauce – is stored in a container with a new label that identifies it and is associated with the ingredients that have been used. For example, in preparing macaroni with meat-sauce, the cook goes to the warehouse and picks the meat-sauce, associates it with the pasta, and picks the other ingredients such as macaroni. After the preparation, the finished product is stored with a new label. Once the meals need to be prepared, a new label identifies each dish in each meals and the database associates them to the initial ingredients.

This solution is very similar to the paper based solution. A difference is that the software collects data by filling in the appropriate tables of the database. There is a clear advantage in comparison to paper-based system: when traceability is required, operators do not have to scrutinize large amounts of paper documents, but simply control in the database the ingredients in each served dish.

The problems of this second solution are relevant: like the paper-based system, it does not protect from errors or omissions of the operators. There could be three types of problems.

The first problem is an incorrect association of an ingredient to a dish or a semi-finished product. For example, if an operator is preparing pasta in red and white sauce, he should match at least one batch code of macaroni to the pasta in red sauce and at least one batch code to the pasta in white sauce, but, unfortunately, he could match the two codes with the same kind of final dish, e.g. the red pasta. In this way, traceability is no longer possible as there would not be a batch number associated with the pasta in white sauce and it would not be possible to identify the supplier of that kind of pasta. This type of error becomes more frequent as the greater the overlap between the possible ingredients of dishes. Though there are many dishes with similar ingredients, it is possible that operators combine the ingredients to the wrong dishes.

The second problem an omission: the operator may forget to record the handheld code of the batch of the picked product. This type of problem has no simple solution but employees can make repeated checks at later stages in which semi-finished and finished products are traced to system. Software could warn that a dish has been produced without having picked any ingredient. However, these controls require the existence of very specific data on the compositions about the dishes – a sort of bill of materials of the dishes.

The third problem does not occur during pickings but during production. When an operator is producing very similar dishes, he could invert the ingredients using the ingredients picked for a dish in the preparation of another dish. For example, an operator who is preparing two sauces with tomatoes could use the tomatoes for the first sauce in the preparation of the second. This type of error is likely to become more frequent as the number of dishes with the same or similar ingredients increases.

The director and the operators of Castelfranco kitchen report all the described types of problems, with particular relevance of the third. Furthermore, they point out that the recording activity was really time-consuming.

3.6 First consulting sub-project

In February 2010 the Operations Unit activated a consulting project with S-Consulting firm with "*the aim of computerizing the process of production of two pilot kitchens, through a step by step approach that involves the resources of the kitchen with the help of a working group, using two different software packages, one for each kitchen*" (S-Consulting slides).

In particular, the idea behind the project was to develop a pilot project and study some issues:

1. The compatibility of the two software programs with the needs of the kitchens, in other words the gap between the operating modes of the kitchens and the functionality of the applications
2. The possibility of computerizing the process of inventory management, considering traceability and reducing the impact on operations
3. The time required to computerize the process of production, shipping and billing in one kitchen

4. The level of involvement of the resources and the necessary skills

The idea behind the project was to closely study the processes of a central kitchen and see what problems would emerge. The two different locations presented different types of production and productivity levels. The project was designed as an experiment: different software had been implemented in each kitchen, managed by one of two suppliers and, by this way, Fast Chef would be able to make a software selection in the field.

A working group was created joining consultants and employees from Fast Chef headquarters who came from Operations Unit and Information Systems Unit. A local working for each kitchen was defined. The local working group was composed of an administrative employee, a cook and a nutritionist. The entire project was sponsored by Fast Chef top management.

In conducting this project, consultants immediately adopted a comprehensive approach typical of the development of new information systems. They considered that before their intervention the company had never proceeded in a structured way in developing information systems or in managing IT changes when required. In some cases, the Information Systems Unit authorized changes on systems without assessing their impact on all the relevant processes of the company.

The working group of the headquarters started with a detailed study of the process, to understand the critical points and what would naturally had emerged with the introduction of changes due to the automation necessary for computerized traceability. The project members studied the existing traceability systems of the two kitchens, which were of the paper-based type. Those analyses led to the definition of the changes required to the two software houses to ensure that even the programs, and not only the process, would adapt to the production needs of Fast Chef.

In the definition of the model of the traceability process, the working group started from the model proposed in Castelfranco. To allow a fast and easy introduction of the system in the kitchens of the company, the working group tried to minimize the changes needed to adapt Castelfranco model. Nevertheless, in studying that model the main problems of the solution emerged. The workgroup, led by the S-Consulting project leader, decided to adopt a different solution to manage traceability. The solution is explained in the following paragraph. After this set up stage, the project moved to a

more operational phase, with the actual implementation of the system.

3.7 Traceability – third solution

The third solution to manage the traceability of the food had been developed by consultants and proved to be more effective in terms of the level of security and more efficient from the standpoint of cost and time for information management. The difference with the previous system is that the ingredients are associated with dishes in a different way. In the previous one, operators had to indicate the dish, for which the ingredients were picked. In the new, associations are made on the basis of the date and the recipe. In this way, the operator only needs to track the bar codes of the lots taken from the store without worrying about their destination. In this system, the recipe of each dish must be previously stored in the system and each time a dish is produced, the total amount must be indicated. Therefore, before making the pickings from the warehouse, employees should define the menu with related quantities. Each dish of the menu has a recipe with its ingredients. The recipe is a sort of bill of ingredients to prepare the dish. The difference with respect to a bill of materials is that the materials are altered in their state during the cooking: for example, tomatoes can be cut into slices or used in a sauce. For this reason, the measurement units depend on the ingredient in the bill.

Thanks to the presence of the recipes in the system, when an operator has to make a picking, he just records on the palmtop the batch code and inserts the picked amount. He no longer has to select the target dish. The system inserts the batch code of the ingredient in all the recipes used that day. If traceability is required, the system returns a list of all the batch-codes of ingredients that have *potentially* been used in that dish. In many cases, the list can appear too long in comparison with real quantities, because it contains a superset of the batches actually used. The system reports the batches of all the ingredients picked that day from the warehouse, which are in the recipe. For example, if two different sauces have been produced on the same day and both use tomatoes, operators record A1 batch code of tomatoes for the sauce 1 and A2 batch code for the sauce 2. Operators do not indicate in which of the two sauces each batch ends and the system reports a list, which contains both the batch codes for each sauce and is

too large for the real quantities, but contains a superset of the batches actually used.

Mismatches can occur: for example, operators can mix up the batch codes of the sauces and use the A1 batch of tomatoes for the sauce 2 and, again, the A2 batch for the sauce 2. Nevertheless, the system addresses the mix-up problem: during picking, operators do not indicate in which of the two sauces each batch ends up, because the system records for both the sauces both the batch codes A1 and A2. Then, if someone requires traceability for one of two sauces, both the batches will be displayed by the system. There are two main advantages of this system. The first advantage is that it reduces the activities performed by operators. Errors of type 1 (see Paragraph 3.5) are avoided: the system performs and automatic association between ingredients and final dishes relying on the recipe. The precision level of traceability is reduced by providing a less accurate result. However, this solution significantly increases the level of security it avoids also errors of type 3: an operator can make the mistake of using an ingredient for a dish, which was picked for another dish. Nevertheless, the system automatically associates the ingredient in every dish that day has used that ingredient the same day. This solution has also reduced the number of records that operators must perform. Operators and plant managers refer large benefits from this solution.

3.8 Results of the first consulting sub-project

The project was conducted without a strong commitment by the company but it became more relevant when in May 2010 an event caused the activation of the second sub-project. The activities of the first sub-project were carried on but the commitment by management team decreased as the second sub-project started.

The first sub-project led to results documented by consultants' presentations about work progress. The project constituted a benchmark for future developments: it worked as a first model of roll out, which would had been applied later in other kitchens. The working group measured the time used for activities in the two pilot kitchens using checklists, differentiating between days spent by software supplier resources, by the working group and by resources of the kitchen. Estimates of the timing were defined considering the size of the kitchens. Thanks to this study and the analysis on suppliers, a limit clearly emerged: the software houses that supplied the systems were not able to

parallelize the initial stages of roll out to more than two kitchens, because their small size forced a careful use of resources.

During the project, a greater understanding of the potential of information that a traceability system can offer was reached. The top management team realized that there was the possibility to obtain the exact amount of costs of materials for each dish prepared in the kitchens. This information has a great value for both top management and kitchen directors, because it allows the former to have more control over the various kitchens throughout Italy, even far away from the headquarters, the latter to define commercial quotes relying not on their experience, but on historical series.

3.9 Second consulting sub-project

In May 2010, the ISO 22000 certification agents raided the kitchens and controls proved unsatisfactory, as it was not possible to verify the traceability of certain products. Their controls involved a group of kitchens that still had been using the paper traceability. The system was considered too muddled and employees had not complied with all the complex and time-consuming guidelines. In the four industrial kitchens visited by certification agents, verifying traceability was impossible and certification agents decided to make another inspection just before the end of 2010, asking Fast Chef to change its traceability system in the visited kitchens.

The updating project of the information systems quickly moved from the state of an internal project to a key project with a strong impact for the entire company. Indeed, the possibility to maintain institutional customers such as schools and hospitals depends on the ISO certifications. The Operations Unit and the Information Systems Unit activated the second sub-project. Consultants have been engaged to manage tight deadlines in the development and roll out of new information systems, to support the management and the employees of kitchens in order to avoid the loss of the ISO certification.

The team was leaded by the same project manager from S-Consulting, a junior consultant, a Fast Chef specialist in information systems and a Fast Chef specialist from Operations Unit. Since the project acquired a high relevance, a larger group of support resources was provided.

Considering the reduced dimension of the software houses that supply the information systems, consultants suggested maintaining the two suppliers for strategic reasons. The two companies could represent a bottleneck because they engaged only few developers or they could be acquired by bigger players. Therefore, to be bound to only one of them would have been a strong risk for Fast Chef.

In this second project, consultants gradually reduced their intervention according to a greater autonomy level of local resources. The group that followed the project on the company side was strongly involved in the project activities. The interviewed consultants confirmed that the phases regarding the migration of the kitchens to one of the new information systems became a project carried out by the client side of the project team. Consultants maintained an overall support to the client members involved in the project. The project leader of the consultants group assumed the role of coach of the team. In addition to his new role, he sustained a change in the working procedures of the Information Systems Unit.

In the kickoff of the project consultants highlighted that the main object was the maintenance of the ISO certification and not the automation of processes. The risk of a temporary increase in activity against the kitchen had to be accepted. The accurate quantification of the costs could only be done after the project and the grant of the certification. The releases of the two systems would be similar, if not identical, to those carried out in one of two kitchens of the pilot project, trying to avoid customizations. A strong sponsorship by the directors of the kitchens was essential.

The project had tight deadlines, and started in a period in which kitchens were involved in many activities concerning the starting of the school year.

> *"We started the 20th of September with this project, on the 20th September all schools started. The game was beautiful. Altogether, it means you do not know where to put your hands"* (kitchen director)

The urgency of the project and its vital role for the companies had a strong impact on resources. Nevertheless, some cases of resistance had been documented.

3.10 Results of the second consulting sub-project

The second sub-project has led to satisfactory results: at the end of 2010 and in June 2011, the inspectors checked again the four kitchens involved in the project and granted the certification. Traceability conducted with the new system has allowed us to obtain more reliable results.

Given this success, the COO decided to undertake different actions. The first was to extend the project to all the kitchens of the company to monitor the traceability, but also to collect valuable information. The traceability system links the amount of raw material to finished dishes, so it makes possible to measure the cost of raw materials. Supported by those data, the company can then develop decisions at various levels: from more conscious quotations for new clients to a more accurate standardization of the menus at a national level.

After the end of the second sub-project, a new project started with the purpose of roll out the traceability system to all the kitchens of the company. The team remained the same, without the participation of S-Consulting. The project was based on the models of the previous ones, and all the documents created have been used. The company started also other projects, which involved consultants to define new customer management procedures for the commercial restaurants.

The two consulting projects laid the foundations for a new cooperation between Information Systems and Operations Units. This collaboration is developed thanks to the use of coordination roles: recurrent meetings and joint projects that are assuming the features of a task force in which members from both the units are involved. Table 3.1 reports relevant quotes.

Table 3.1 Quotes about the results of the project

Results	Quotes
Traceability	*The big thing is that I helped to manage the system, the recipes of various dishes, since it was basically a big load of work for the cooks.* (Consultants Project Leader) *But, let's say, we definitely have implemented a system for the governance of the process that did not exist before. I would say that it changes a lot, yes, definitely. Both because the cooks are realizing what*

	is their job, it is also a matter of company image, and also of safety, because the directors have become aware of the change, the quality of the work we have done. The traceability that we put together is not a fake, it is not end in itself, it is real (Operations Expert)
Raw materials cost	*Thanks to the traceability of raw materials, I not only fulfill such a requirement of certification, not only fulfills a requirement for the biddings, but I put myself in position to have a tool to manage the cost of the raw materials. I can also change the relationship between the center, the headquarters to our branches, setting at the central level policies for the preparation of the offer, spreading them in the periphery. And from this point of view, we are organizing production in a more appropriate way, doing all the policies that a normal company that works in the chain is able to do. We can act effectively on the finished product which we are not able to do today, because, today, to take an appropriate action on the offer to the customer, we have a chain of control, not only very long, but it is a chain of control whose orders are made orally, which is a highly ineffective tool. Especially in a context where we are talking about 40 central kitchens rather than public 40-50 places.* (COO)
New projects	*We launched a project, we bought a software to manage maintenance. and asset management. And we have used the same methodology: I have enrolled a consultant who manages the methodological path, an internal man that is not called H. but F. in this case. And we have replicated the same way we have worked and we have now tested an application for asset management and maintenance tailored to our needs.* (COO) *We have gained confidence in the Operations Unit. It has much more confidence in IT unit. Castelfranco case is an example: the Operations Unit has used IT, but not from inside [the company]. In this case there was confidence that the synergy created has meant that the other party understand more clearly how we function. We are increasingly involved in projects of the Operations Unit: we have completed a project on the new software on the races of the biddings where the stakeholder was the Operations Unit and the person in charge was the sales manager. The go live was in May, it was presented at the last board. It was highlighted by S. [COO] as a successful project. The problem has shifted from IT to the operative management.* (CIO)
New approach to information systems	*They had a good benchmark on the side of the information system. It was the first time Fast Chef put in competition two systems. In the past Fast Chef measured itself with just an only software of its paternity. They outsourced the supply. Surely, they gained, because they put [the work] in the hands of someone who in life only do that and had all the skills. By outsourcing the supply of this software, Fast Chef obtained the*

	product itself and also know-how in that software in general, because the developers worked a lot with us, with Fast Chef members. Then they began to understand the critical issues that they struggled to manage in the past with their software. They began to see how people, doing that kind of job, overcome problems. Then, in general, the company has definitely gained value by comparing two software, so having the best of both at the most competitive price and everything else. (Consultant)
New roles for coordination	*Q: Do anything change after this project?* *A: With the human resources unit, we have started a group called "facilitators". That is, a group of people, mostly young people, but there is also some more old-fashioned from this point of view here, which are those people the company aims to make them grow because one day they can give a contribution of some kind. Among this group of facilitators there was also N [CIO] from information systems. These two things, put together, have made collapsing the barrier that separated from the production systems. Today we can say that the dialogue between operations and information systems is certainly much better than before. The success has been shared: the Operations Unit is able to appreciate that, even within information systems, there are people with their skills that can contribute to the company. We understand that information systems realized that the operations has some problems that must be solved and so there is a better understanding. This project along with other facts definitely that has helped to overcome the mistrust barriers that existed between various business functions.* (COO) *What has emerged, in the December 2010 meeting, after the certification, is the need to repeat on future projects, also of different nature, the fact of creating heterogeneous groups.* (CIO) *Q: Has this procedure of not formalized interactions between offices changed?* *A: More than changed, it has evolved, has been institutionalized.* *Q: Can you tell me how?* *A: The fact of making periodic states of progress meetings is a trivial example. It was common when there were problems.* *Q: When you say institutionalized do you mean in the sense that everyone recognizes it?* *A: Everyone recognizes the importance of meeting regularly to discuss about the progress of things, not only to highlight problems as in the past, but also to propose solutions. So getting prepared to the state of progress meeting is saying "Yes, we have this problem, we plan to do so"* (CIO) *In fact we have shown that, with the consultant, a empowered joint working group, which until now had never been done, by working*

	together, we were able to bring home a result that seemed impossible (Operations Expert)

3.11 Core rigidities

This paragraph reviews the main core rigidities of Fast Chef. The consulting project had an impact on these core rigidities activating a change process.

The first core rigidity is a reduced level of inter-functional coordination across its units, in particular Information System Unit and Operations Unit. Before the consulting project, the two units pursued different goals and were separate entities. Information Systems Unit is a staff unit that is responsible for managing the SAP and other ERPs that the company maintains. It was perceived as a group of people far from everyday productive activities that took place in the kitchens as service without direct impact on strategic decision of the firm.

> *"One of the limitations of the relationship with Information Systems Unit, was that it still has this problem here: how information systems could be perceived within their relationship with the various functions. We believe that information systems should take note of a series of production processes, and to some extent at the enterprise level, identify strategic areas and bring their professional contribution to achieve strategic goals. They would like to be decision-makers on the design of new processes. They should be like that share the process, but without being the owners of process management. Why do they say: "If not so, then we does not evolve. I never ever emancipated from my role as a service". But this is not the road anyway. There is a problem then, since the Information Systems do not know the processes, we run the risk of making bad choices".* (COO)

This perception of Information Systems Unit is common inside the firm and also consultants identified it. Table 3.2 at the end of the paragraph reports a group of relevant quotes about this core rigidity, and also for the following ones.

The reduced inter-functional coordination is detected not only by internal managers, but also by consultants. It had strong impacts on past projects carried out by Information Systems Unit and Operations Unit, and is strongly related to the second core rigidity.

The second core rigidity concerns the inability to work on projects that involves more than one organizational unit . An example is the Cu.Ce. project (which stands for

centralized kitchens). This project aimed to develop a system for production management in kitchens (hence the name). Information Systems Unit internally conducted all the activities with a strong impact on kitchens. The project did not receive an adequate sponsorship by the Operations Unit and was characterized by a very long length and a reduced impact on the kitchens.

> *"One of the problems of the past, with the Cu.Ce. system was that it started with two assumptions: information systems took decisions, because they met the requirements of the administration, so they provided a product that was not useful, because they had to serve administration"* (COO)

A consultant remarks that the two units are not connected by a coordination role:

> *"the person of the information systems had no power to impose anything to the person of the operations. I speak of two high-profile individuals. Since there is not a common supervisor they are headed by, since there were those two high profiles, if one said one thing and the other did not agree, in the end, the people who were reporting directly to the first of these two lines, the highest of these profiles, they should continue to do what they did. Therefore, if a project has the paternity of another member organization that has no direct connection with you, it means that you do not feel your task in the project as a priority. So everything is a delay. There was in effect the need of someone who could coordinate"* (Consultant)

The second project characterized by reduced outcomes was conducted in autonomy by the Operations Unit in Castelfranco plant. The project refers to the development of the second type of traceability described in paragraph 3.5. That project revealed as a failure because Operations Unit had not the competences to manage an IT development project and decided to rely on external supplier without defining a clear control on its activities. Problems especially arose because the definition of functional requirements was too general and the software house released a product with a weak coherence with the processes of the plant.

> *"The project manager was guilty of not implementing [the system] and of leaving the management to Novelty, without realizing that this process made [the activities in the kitchen] too heavy"* (Consultant)

> *"In Castelfranco, the operation unit had been operating in a completely autonomous way. A project manager was chosen, under the COO control, who led a software selection, chose the vendor, went there and defined the functional requirements. The supplier did it [shakes his head]. They [referring to the Operations Unit] managed the project independently"*

(Employee of the Information Systems Unit)

The Consultants Project Leader confirms:

> *"in the presentations and interviews after site inspections, S-Consulting showed that all the gaps were strongly related to shortcomings in the process, not in the IT system. Then the system was going to follow"*

The third core rigidity is the inability to change in front of a changing demand or a strong contingency. An employee of the Information Systems Unit refers:

> *"Exactly, the cultural level was very low. The new is a stranger, is different, it fears. Why should I change? There are people who receive low wages and are not interested in change. We have made the web interface for orders entry and the greater concern is the loss of employment, so they opposed to it. It is because they are people who take orders by phone or fax and fill the form in the system. And what will I do tomorrow? They do not think that their life could change, they could do more interesting jobs"* (Employee of the Information Systems Unit)

Also in the Operations Unit there is the same feeling:

> *"it is not a fault to be referred to the fact that Fast Chef, being a cooperative, does not have a boss who decide. We move but we are a bit messy from this point of view. We do not have a straight way. Basically, there is not. Every manager has his office, and, like the others, he gives orders. There must be an agreement"* (Operations Expert)

Decisional processes are very complex when they involve more than one organizational unit and this affects the responsiveness to the environmental demands.

The three exposed core rigidities clearly reinforce one each other: le lack of coordination between different organizational unit affects their capability to conduct joint projects, which results in a general stickiness in front of external contingencies. The typical disadvantages of the functional structure can be seen as the causes of these core rigidities. The contingency posed by traceability highlighted this situation. In particular you can see that on the one hand the Quality Assurance Office worked trying to get a paper-based tracking, the Operations Unit conducted a pilot project for software development in one of its kitchens and the Information Systems Unit implemented a solution for the management of production inconsistent with the requirements of the kitchens.

Table 3.2 Quotes about core rigidities

Emergent category	Quotes
Low level of inter-functional coordination	*The Information Systems Unit was not what they are today in companies, that is the center of modern business management. It was a service, rather than being an element of the strategy: it was seen as a service. Besides, it was a service committed to administrative activities and control. It had done little for the sales area which was as important or even more important as the production. For sales, it was really zero: it had done absolutely nothing, very little for production* (COO) *We were not involved [in Castelfranco project] at all, because there was the fear that information systems were not able to give the answers they had been requested to give* (CIO)
Incapacity of conducting projects	*The problem was that they do not so easily reached the result. There was an identification of the individual in his own work, not in the project goals. Therefore, people could feel distant from the project: they automatically made it very difficult to offer their support. Someone else was close to the project, but with his view, a vision, but many times, if there was to do something different because it was agreed to proceed in a different way, he did not give his input, because his type of approach was not supported. But when people work together you must also marry an approach that you do not share if the group decides to take that direction* (Consultant) *They continued opening their projects, then not having a plan, failing to highlight benefits and costs that the project could bring. That went on and on. And it is typical of organizations that are not structured for projects. They make the innovations, they actually do the experiments, these experiments would had become standards. If you experiment a thing, you have to give a deadline, you must have goals, consider the benefits, the costs and then finally say "does this trial work or does not? and what do I do I at the end?* (Consultants Project Manager)
Inability to change	*[A consultant talking about the two referents from Information Systems Unit and Operations Unit] What I can tell you about C [information systems expert] is that since the beginning of the project, every time we saw the demo of these new information systems, she said "Oh, but Cu.Ce. system already does it, but this does not. Cu.Ce. system can calculate this thing here". Then C. was the classic person bounded to what she had done for years. Nothing wrong, she seemed a little reluctant to change, because she felt a very strong sense of belonging to the IT system that she herself had helped to build, deploy and test, and because she coordinated its implementation in some kitchens. She felt the system like her. Therefore, towards these two new systems, the*

	attitude was a bit of closure. H [Operations Unit Expert] showed a sort of distrust due to the paternity of the project. He was a man very close to COO, the whole group [operations group].This project came from the Information Systems Unit, it was asked by the Information Systems Unit: [they showed] distrust by default (Information Systems Employee)

3.12 Knowledge transfer and learning

This paragraph explores the elements of knowledge that are transferred from consultants to internal managers. It analyzes the type of knowledge transferred, the transfer mode, and how that knowledge is internalized through a process of learning.

Both explicit and tacit knowledge is transferred. Explicit knowledge is conveyed through a series of documents prepared by consultants: two manuals about the two information systems and slides which describe the progress of the project or highlight key issues to be discussed in meetings with to the project sponsors. Presentations offer a detailed analysis of different topics: problems emerged during the implementation of the systems and possible solutions, change requests to submit to the software houses, and future extensions of the project.

Tacit knowledge is mainly conveyed by team working: consultants collaborate with internal members of the team in the project activities. In particular the experts of the Information Systems Unit and of the expert of the Operations Unit had developed a learning process, working side by side with consultants.

Various levels of competences have been transferred from consultants to managers and employees. Besides skills related to technical issues, a project management technique and a general method in approaching change projects is the subject of knowledge transfer. The two experts report that they developed a project management capability observing how consultants carried on the activities. Table 3.3 reports relevant quotes about the process of knowledge transfer, differentiating the roles of the participants.

Table 3.3 Quotes about the process of knowledge transfer

Categories	Quotes
Source of the knowledge	*I have to say that people who have worked with me had grown a lot in these three months. Fast Chef's project members, especially C [Information Systems Expert] and H [Operations expert]* (Consultants Project Leader)
Recipient	*Let's say that A. [consultants' project leader] was the most important, then there was the F [consultant]. From a theoretical point of view, they have often done brainstorming meetings, to focus on problems and help out. I work well with A. and he had experience in process analysis and implementation, he knew very well how to approach the resources and had done a great job of coordination and management. […] F. conducted the process analysis, too. She has made the documents, she is very good. She made an very well done analysis of the processes, I've never seen one as good as her. We have never done [the analysis] internally. It was the know-how of the S-Consulting from this point of view* (Operations Expert) *Consultants attracted us for the know-how that can they give us at the organizational level and at the technical level, because part of the know-comes from A [Consultants Project Leader]. Definitely on the processes, even on the analysis of what people do, process analysis, specifically, how to treat people, like going to explain how new processes impact their work. I maybe would had been more brutal on certain things. A. said: look, if we intervene in this way, it is wrong here, because too brutal* (Operations Expert)
Recipient	*It was essential to have a different view of that rationalizes a bit.* *Q: Let's go into detail on the word "rationalize", what does it mean? A: It gives a structure, also based on other experiences. I am the daughter of this company, I grew up here and I had no chance to see how you operate elsewhere* (Information Systems Expert)
Sponsor	*For example, we have H [operations], who is a person that tomorrow I can safely use for projects, perhaps less challenging. Certainly, in this work, he has made an important experience so much so that we are using the same methodology of this project. Even in production, working with goals well-defined in time fosters a self-esteem in people. A project goal is reached very quickly in the organization and creates a very high confidence in themselves* (COO)

Consultants found a strong cultural gap between them and the company's members. This gap was primarily due to the absence of previous successful experiences in projects with external parties. The transfer mode applied by consultants proved particularly effective because it allowed consultants to legitimize their selves in front of their interlocutors. To overcome this barrier of initial distrust and legitimize their selves, consultants adopted two main actions: they deepened their knowledge of the business in which Fast Chef operates and used their past experiences. Table 3.4 reports relevant quotes.

Table 3.4 Quotes about organizational learning

Categories	Quotes
Culture	*There is a big cultural gap between us and them. That is, the units with which we have worked are not accustomed to working with consultants. When you go in a company that has not worked a lot with consultants, this gap is much stronger* (Consultants Project Leader)
Knowledge about the specific business	*Q: What was useful in knowledge transfer?* *A: To succeed in learning, you need to know their business and explain the terminology, with the words they use* (Consultants Project Leader)
Previous experiences	*In general, both at the operational level, both in terms of the structure of the working group, our operative mode is based on experiences. So we said: look, I'm talking at the working group, if we make a plan on a project that lasts n months, we need to make a weekly schedule, because in previous experiments, it brought results. You can then handle anomalies, non-compliances about deadlines and, still it is equivalent to get the result or to be able to estimate what is late* (Consultants Project Leader).

The learning process has also regarded figures that did not belong directly to the working group of the project, but to the two involved organizational units. The project is seen as a positive model to follow within Fast Chef, because it led to satisfactory results. For the first time, Operations and Information Systems Units collaborated in a project reaching positive outcomes. Table 3.5 reports quotes about the interpretation of the project as an operative model.

Table 3.5 Quotes about the interpretation of the project as an operative model

Group	Quotes
Consultants	*I think this case really has a value in the sense that Fast Chef is very unstructured so we have forced them to do a project, an integrated working group between multiple functions with a work plan that would reduce times, with the analysis of the process. So, first: interdepartmental working group, then a approach with a steering committee that is a guide, then the project organization to which they were not really used* (Consultants Project Leader)
Company	*It is clear that today we had made an experience that is in part used. [omissis] This mode of working needs to be established over time in order to replicate it in other projects. We are in the nascent state. We cannot say "we earned". We galvanized ourselves. It showed us that we can achieve the objectives in a very simple, very effective way, but we need to replicate it. To be able to replicate we need to operate at other levels, at the level of top management. Since this way of thinking needs to be applied by the top management of the company, and not just by one. Not all of us today are committed. This is due to the fact that we have a management team that is close to retirement. If we were all forty years old, it would be a different. We have our own context* (COO)

The interpretation of the project as a model for further projects has made possible to replicate its structure, procedures and activities. In the headquarters, other projects started with the same organizational structure which included a collaboration between Information Systems Unit and Operations Unit. This can be considered as an effect of the internalization of knowledge from the consultants. No direct codification of those external knowledge has been performed, but the same structure and rules for carrying on project have been used.

3.13 Developed Capabilities

In this paragraph, I present the capabilities that Fast Chef developed thanks to the project. Some of them are presented using relevant quotes from interviews, other are deducted from the course of events that has been described. In this paragraph capabilities are not discussed adopting theoretical categories, but they are presented highlighting their relationships with the consulting project.

Two members of the working group had developed project management

capabilities, which can be considered individual skills.

The project has become a model for the company: the routines developed in the project became a way to enable the collaboration between the two units. Thank to those new routines, Fast Chef is now able to introduce further innovations into its procedures and to create new projects devoted to strategic purposes.

Fast Chef shows a strong replication capability: they are able to roll out the traceability system in the other kitchens of the company. They developed also a higher level capability still replication capability: they became able to replicate the same project structure to other similar projects which need the introduction of new information systems. Table 3.6 reports relevant quotes.

Table 3.6 Quotes about developed capabilities

Capabilities	Quotes
Capability to transform ideas in results through collaborations	*A project which reach a goal very quickly in the organization creates a very high confidence in ourselves. These are side effects, but extremely important, while we had a deep distrust towards change in the company also due to the inability to turn some ideas into facts. Within a company there may be many people who have original ideas, who know the market, who can give indications, such as path, but we must have that intermediate level, those professionals who know how to transform an idea into a concrete project that allows the company to obtain benefits (COO)* *The consulting project is the source of this project [a change project in restaurants], among other things. It surely helped. The most important thing is to have achieved a goal. It is extraordinarily important in a company, because it makes you say then we can do it* (COO) *Today, information systems and operations are starting to work in this way. They understood that cooperation brings results.* *Q: Can you make me an example?* *A: The project for bids. It concerns the fact that the COO created an office that coordinates all the national bids. In order to optimize, they needed a software to manage the flow. It had been a project carried out in close collaboration* (Information System employee)
Capability to import knowledge from outside	*When I said that the physical barriers fall down, it means that we not only worked well on that project. The dialogue has allowed us to think in a free manner, trying to go to see the market, the solutions offered by other companies. If we say to the information systems, which is N*

	(CIO): "oh, is it possible that we fail in dealing with this thing?" Then he calmly answer: "I'm going to see what is happening around the world". Then come back and tell you. It something that we did not do before (COO)
Replication capability	*The fact is that they decided to work with this approach on projects, by borrowing the rules that we introduced [in the consulting project] to make a schedule, to have a structured team, to have a sponsor, and to estimate costs and benefits* (Consultants Project Manager)

Chapter 4 Case study: Italian Mart

4.1 Presentation of the firm

Italian Mart is a cooperative company which operates in retail distribution through a network of mini-markets, supermarkets and hypermarkets. The network spans three Italian regions and encompasses 110 stores (38 mini-markets, 64 supermarkets and 8 superstores) with approximately 6,000 employees.

The organization of the headquarters presents a divisional structure related to the format of the stores. A division controls mini-markets and supermarkets, another division controls superstores. Company's headquarters are near the larger mall of the group and are responsible for developing the organizational structure which has grown in the last years by acquiring small retailing cooperatives.

Italian Mart is strongly committed in presenting an image of strong attention to the values of safety and security of the customer and of responsibility for the territories in which the various stores are located. Italian Mart participates in many activities of social solidarity, as well as promotions of local initiatives. This feature creates a sort of inner duality: on the one hand, the values to which any company is oriented, as the creation of profits and the sustainability of sales, on the other hand, the attention to customer values and the desire to treat employees more as partners than as employees.

4.2 Genesis of the consulting project

The project of organizational change started in 2007, when Italian Mart had engaged a strategy boutique for the following reasons:

1. The retailing industry was subject to a steady decline in performance and corrective actions were urgent
2. Environmental conditions were changing and the company required an organizational restructuring and appropriate actions for change.

This situation was recognized by several actors within the organization, both from the head office from the various stores all over the territory, regardless of their role and their level.

> *"In recent years, many large retailers have closed more stores than they opened. A new organization of stores has not been developed, since there is no one making money. This happened in the worst years of retail: not only Italian Mart, but all the retail distribution, because then we're altogether in this situation. When we lose a percentage each year and the labor cost becomes higher, what happens?"* (Store Manager)

The organization was already conducting a change process that began with a series of interventions in the central headquarters with the purpose of modernizing the management of certain procedures, such as supply chain management, some tools, such as the ability to manage orders via web interfaces, and, above all, with the goal of centralization of decisions in the headquarters.

Many superstores were provided with considerable autonomy, ranging from deciding the prices of products for sale, the choice of suppliers, up to the choice of promotional campaigns. Top management, however, decided a sharp downsizing of the autonomy of superstores, and used the opportunity created by change projects, to go along this direction. An employee of the Organization Office (headquarters) reports:

> *All the hypermarkets of the system were created as independent companies with autonomous organizations and elaborations of their sales policies. Then, little by little, the company began to centralize: someone started before, we [superstores division] started very late in centralizing all the activities in the headquarters and we arrived last. Nothing more is chosen [in superstores] from the point of view of sales by choice of the operations management unit.* (Employee of the Organization Office)

The consultancy project presented in this case study aims to examine and modify

the structure of the organizational processes in supermarkets. The project was divided into two sub-projects: in the first a strategy boutique was involved, in the second, S-Company was engaged to support the last part of the organizational change project.

4.3 The initial situation

In 2007, facing a reduction of its profitability, Italian Mart decided to activate a strategy boutique to conduct a project. This paragraph presents the project and its activities. The profitability reduction regarded its superstores and consultants produced a detailed analysis of costs. They studied the organizational structure of superstores. Figure 4.1 reports an organization chart from the documents provided by interviewees.

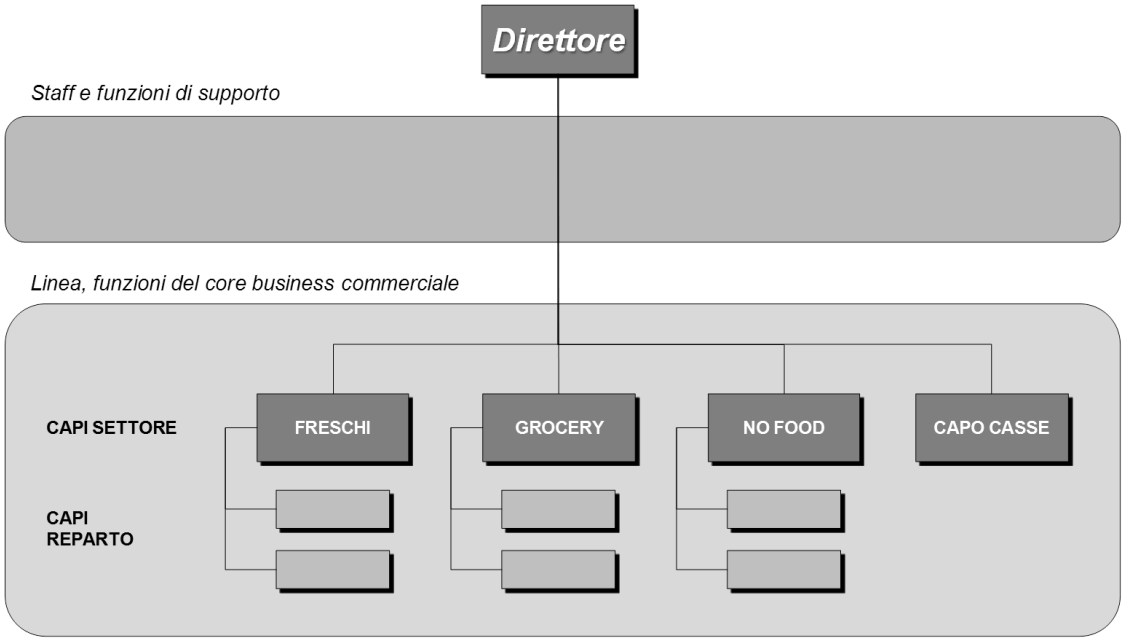


Figure 4.1 Initial organizational structure of the stores
(from documents provided by interviewees)

The organization chart is deliberately imprecise and does not represent the true detail of the company organization chart, but provides only the macro-elements that allow to make an analysis. Superstores present a divisional organization, with a group of staff units. The store manager is at the top of the hierarchy and the various heads of departments are immediately below him. Each of them operates in one of the four

macro-areas defined by the company.

The head of a department coordinates and manages the various units under his control. Each unit operates in an area characterized by a more limited and precise reference product category (liquid, textile, fish, meat, grocery, bricolage, etc..). For each of these areas, a head of the department is directly responsible for coordinating all activities necessary for its operation, such as the delivery of orders and receipts, the replenishment of the shelves and the management of the warehouse. His duties consist in the complete management of a particular type of merchandise. He coordinates a group of employees and workers dedicated to operate exclusively in his specific area, and to respond only to his figure. In this particular type of organization, the level of expertise in single areas were very high, but there was also a mismanagement of resources, because workers could not be moved from their department to other departments, for three reasons. First, they were physically unable to leave their area according to labor shortages. Second, there could had been power games or possible conflicts between the various heads of departments. Third, replenishment and purchasing activities required skilled workers in order to deal with particular products. In particular purchasing activity was fragmented: each department head was responsible of reordering the related types of goods. Every department had the responsibility to generate its orders without relying on a minimum dimension, which could allow to obtain a significant bargaining power with suppliers or even just to be able to make profitable economies of scale. In addition, each department had a considerable autonomy and there were different among the various departments that are part of the same store. In particular, display methods, criteria for order planning, allocation policies and management of goods in the warehouse were different across departments. The role of supervision by the store manager was mitigated by the fact that the same store manager often was responsible for more than one store, thus reducing significantly the time available for monitoring activities.

4.4 First consulting project

Consultants identified the problems described in the previous chapter and developed a new organizational model for superstores. The idea behind the model was

to try to regain profitability by: (1) improving the effectiveness of the procedures, (2) reducing the labor costs, (3) improving the customer service.

Consultants suggested to move from the existing departmental organizational structure, which is the classical and currently most used model in the retail market, to a model consisting of an organization centered on some core processes. The basic idea was to make human resources, the general staff, as flexible as possible and able to move effortlessly among the various departments. This organizational change aimed to obtain a cost reduction through what in slang is called "pooling of resources". A significant change of the organizational chart and roles within it was necessary along with the redefinition of job positions and job descriptions of the various resources.

Figure 4.2 and Figure 4.3 propose the organization chart designed by the strategic consultants, in synthetic and detailed views. The production area (1) is responsible for coordinating the activities of production, orders delivery, preparation and sale of goods for the fresh departments. This area is the least affected by the change project as it continues to operate as a unique department, internally divided into units. This is due to the peculiarities of fresh products, such as their reduced life time, and the skills required to workers.

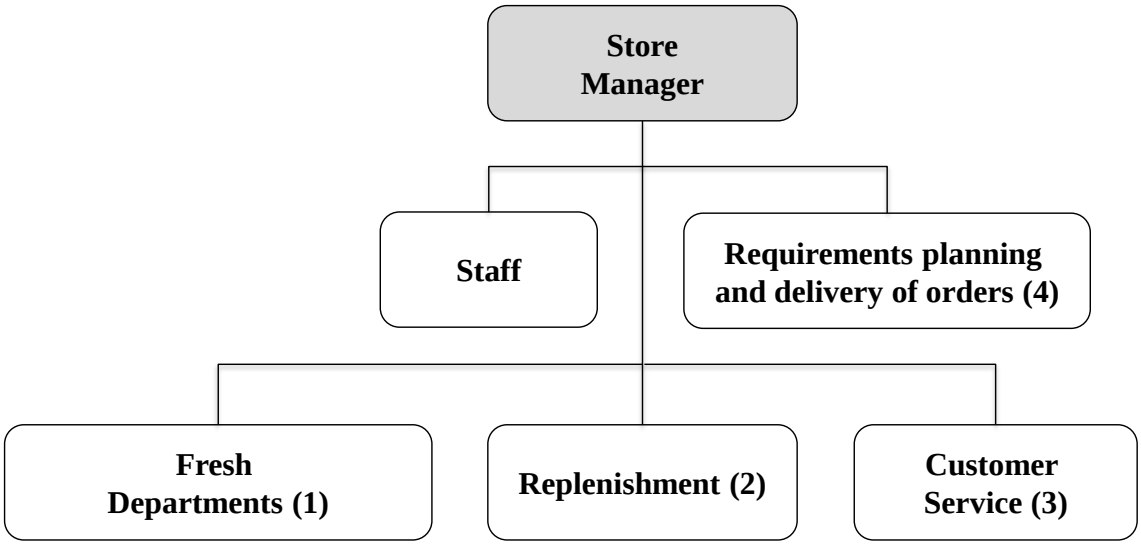


Figure 4.2 Second organizational model
(synthetic version)

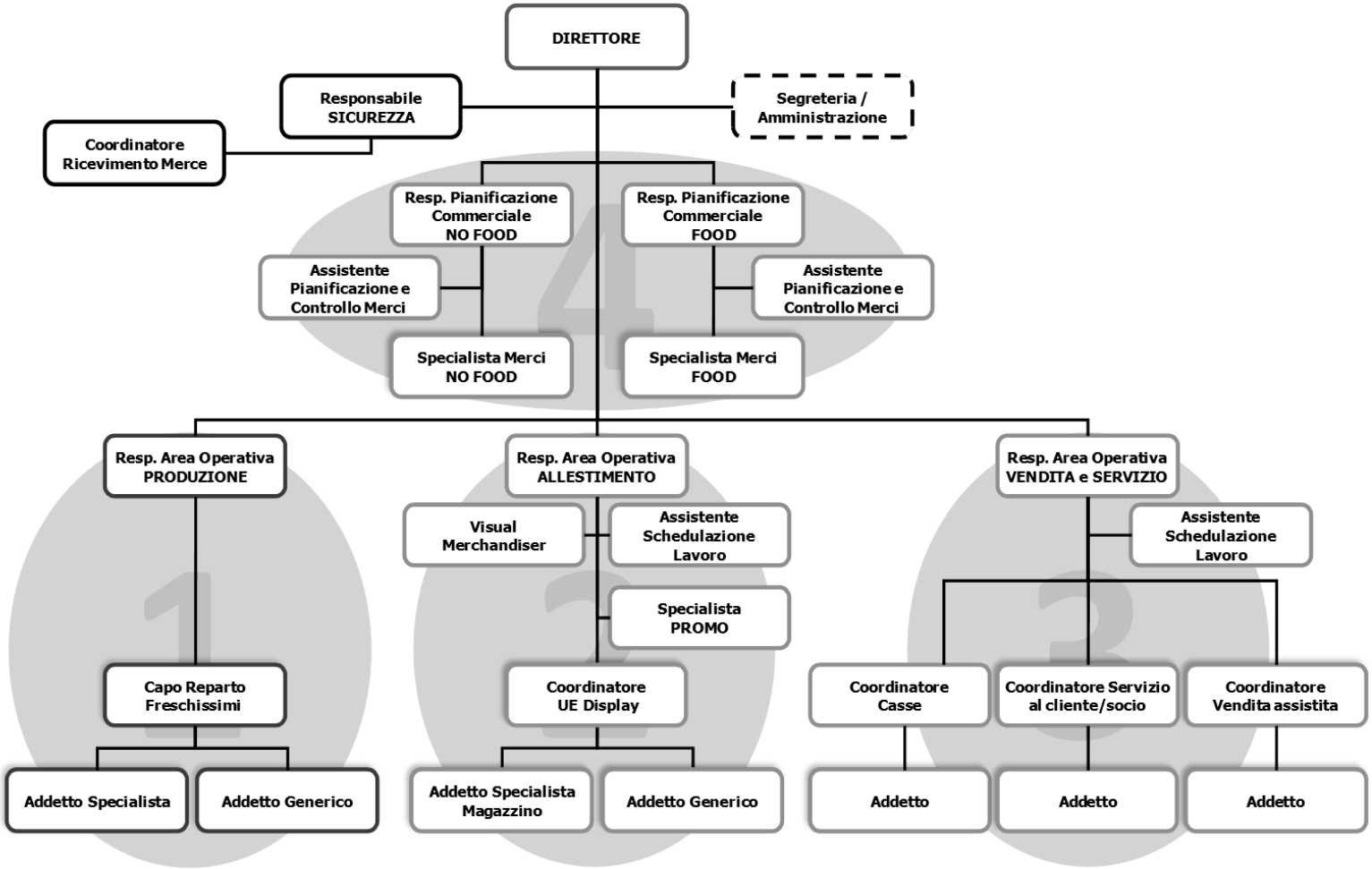


Figure 4.3 Second organizational model (complete version, adapted from documents provided during interviews)

The Replenishment Area (2) ensures the preparation of goods for sale within the store area according to criteria shared by teams of workers and coordinators. This functional area manages internal resources, plans work schedules, organizes promotions and campaigns and is responsible for handling goods from the warehouse to the store area. It has a strong impact on the level of customer service, because it is the final part of the chain of value of the store and represents the image in terms of order of the shelves the customer has entering in the store. In this area, the change of the organization chart is significant: a new figure is inserted between the head and the workers who physically replenish the shelves with goods. It is a unit coordinator which has the task of managing teams of workers in relation to the priorities identified at the beginning of the day. Workers have to deal with every type of goods and are divided in teams headed by different coordinators, depending on the planned workload. Workers can be associated with different coordinators according to priorities. Resources are no more associated with a unique department, but to a single process of fitting which involves the whole store, without distinction on the basis of the type of goods.

Customer Service Area (3) defines includes all the activities related to the customer: services at the checkout counters, customer care helpdesk, after sale services, and multimedia department services, which require specific skills in serving customers. This area is oriented in ensuring the maximum level of customer service.

Orders Planning Area (4) encompasses orders planning and management, and influence all the activities which connect the replenishment area to the warehouse. It is directed towards the maintenance of the range of products the store offers. Focusing on a unique business management process, it has been centralized at the store level, ensuring the benefits of a higher bargain power due to the greater volume of goods handled in comparison with the previous subdivisions in departments. The area maintains the distinction between types of goods: food and non-food (textiles, multimedia, etc.), because products with different characteristics require distinct management methods. Planning is also interested in the introduction of information technologies, which support to the orders delivery process.

The strategic consulting company proposed the new organizational model to Italian Mart top management, without defining a plan for its implementation in the stores. It was just a theoretical model and the headquarters decided to activate the

implementation supported by a consulting firm that provide the information systems for its counters.

The headquarters organized a team to manage and support implementation, consisting of various directors and middle level resources from the headquarters. The team started working on pilot projects and disseminating the new organizational structure in stores.

4.5 Results of the first consulting project

The results of the first consulting project were not satisfactory for two reasons: (1) the company had not competences to autonomously implement the new model, (2) the model had internal problems that were related to its compatibility with a store chain company.

The first problem that emerged from the first implementations in the stores: the entire process of change was not sufficiently supported. A consultant from S-Consulting refers:

> *"The first experience was a total failure, that they failed to influence the new organizational model. What a failure! Who has helped to implement it did not have the right skills, did not think about change management: it was a total failure. It was a total failure, because you worked with the same level of resources, you change overnight even the craft of resources. The most failing thing is that when you implement a theoretical model, it has a very big impact from the point of view of people, because you has little boxes with names and surnames that are people that do a certain job. Among these people, some kept the same job, though they were going to do it in different organizational units, some even changed jobs and went to work in new organizational units, without knowing what that job was like, and nobody knew".*

The change to the new model generated heavy inefficiencies and a negative organizational climate with strong impacts on performances. The staff was not adequately informed about the change and there was not an adequate knowledge about the new structure and the staff had not all the required skills, with no chance to fulfill them except through experience.

The internal team dedicated to model implementation showed a strong gap of change management competences. Members of the team did not have a complete

knowledge of the new model because they did not designed it directly. In explaining the model in stores, team members did not provide a link between the old operative procedures and the new ones, so it became difficult to propose a transition process to resources.

The second model presents also internal weaknesses because it required a considerable amount of interpersonal, intra-departmental and inter-departmental coordination, creating complex situations: (1) problems in aligning the order planning process with the replenishment process, (2) problems in managing new product categories which requires the coordination of two different organizational departments, (2) problems in being able to manage new resources that were previously assigned to other departments.

During the implementation of the model, the level of absenteeism increased. There was also a shift towards a model in the middle between the two organizational solutions, the first model and the new one, with a mix of roles and an overlapping of responsibilities and competences.

Dissemination of negative information and gossip in the various branches disfavored the implementations of the model in further stores and increased strikes and labor unrest. Performances of the stores migrated to the new model rapidly decreased and the company decides to intervene.

4.6 Second consulting project

Experiencing the problems described in the previous paragraph as long as a rapid collapse of performances, the company engaged S-Consulting to define a change project in the remaining three superstores in which the model had to be introduced. The first store was not still open so resources needed to be formed from scratch. The second store was open from long time, and there was a strong relationship between the store manager and his employees. The third store was the largest superstore of the company in terms of size, sales and profitability, with a strong level of labor unrest.

S-Consulting defined a series of activities to develop the change process. Consultants started analyzing the as-is situation, to understand the new organizational model, its strengths and weaknesses. They interviewed relevant figures such as store

managers and coordinators and conducted field observations visiting other stores. Finally, they defined a work plan in several stages, consistent with the goals assigned by the company. The goals of their interventions where the following:

> *"(1) Develop and align the skills of the various resources to those required by the new roles, filling any gap; (2) Intervene on several critical issues identified in terms of processes and/or activities important for the organization; (2) Support and facilitate the transition to the new organizational model through a unified communication; (3) Ensure that store manager become the engines of change and responsible for the success of the new model"* (notes from a consultant)

Unlike the previous attempt, consultants tried to obtain a strong sponsorship for the change project, motivating this choice with the theory for the success of any organized change, which suggests to enroll internal members and top management as sponsor.

The collected documents show two different areas of intervention: the first is a technical support to develop business related competences, the other is a change management support, which aims to communicate and facilitate the transition offering proper methodologies to reduce resistance and demotivation. The outline of the interventions is reported in a slide collected during interviews (Figure 4.4).

The words of one of the interviewed Consultants Project Leaders describe the methods used during the change project to induce the new organizational model:

> *"We worked on communication and then at the launch of the organizational model. We set up a training exercise and during all this launch we worked on, let's say, the collection of all the "stomach pains" that this model could create in people. Therefore, this activity was pretty long and also articulated. Then we gave them many explanations, too. However, since the process was not always clear and straightforward, there were so many questions, so many stomach-aches, and much still to create a team spirit, to say "we can do it", "however we can do it, if we work together, if we make this journey together". This is something that we can say: in all the three cases actually it worked well".*

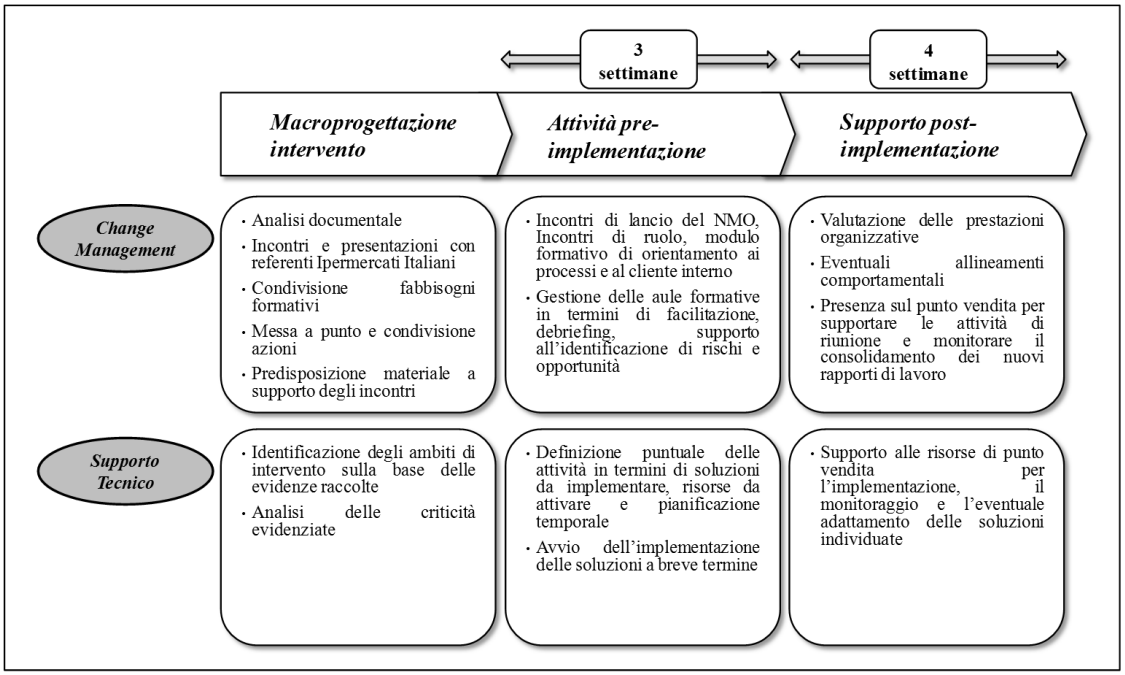


Figure 4.4 Outline of the project
(slide collected during the interviews)

The launch of the models in stores started with a pre-implementation phase, where consultants proceeded with a series of joint meetings in which they talked to members of the various departments about the transition to the new organizational model, what that change was about, what would be the new roles of the resources in the organization. These meetings also served to reduce the resistance and limit the diffusion of negative information about the new model which occurred both at an intra and inter store level and was one of the main causes of failure of the previous attempts started only with internal resources. These meetings took place in a flexible way to adapt to the context of the three stores and to the different leadership styles of the store managers. For example, in some stores, consultants decided to involve only the resources directly affected by the change, with the intention of creating a cohesive and compact group as a starting point from which the knowledge would be diffused to the rest of the store. In one store, the entire organization was involved since the beginning, to avoid rumors and the diffusion of unfounded fear. During meetings, consultants highlighted the organizational sense of community and the difficult market situation, to push people to accept some

disadvantages of the new organizational model. They also conducted many activities with employees and workers to identify with them the risks and the advantages of the new model: thanks to these formalizations the sense of fear and also the level of organizational resistance had been reduced. Figure 4.5 is a slide that reports the activities conducted by consultants in each of the three stores.

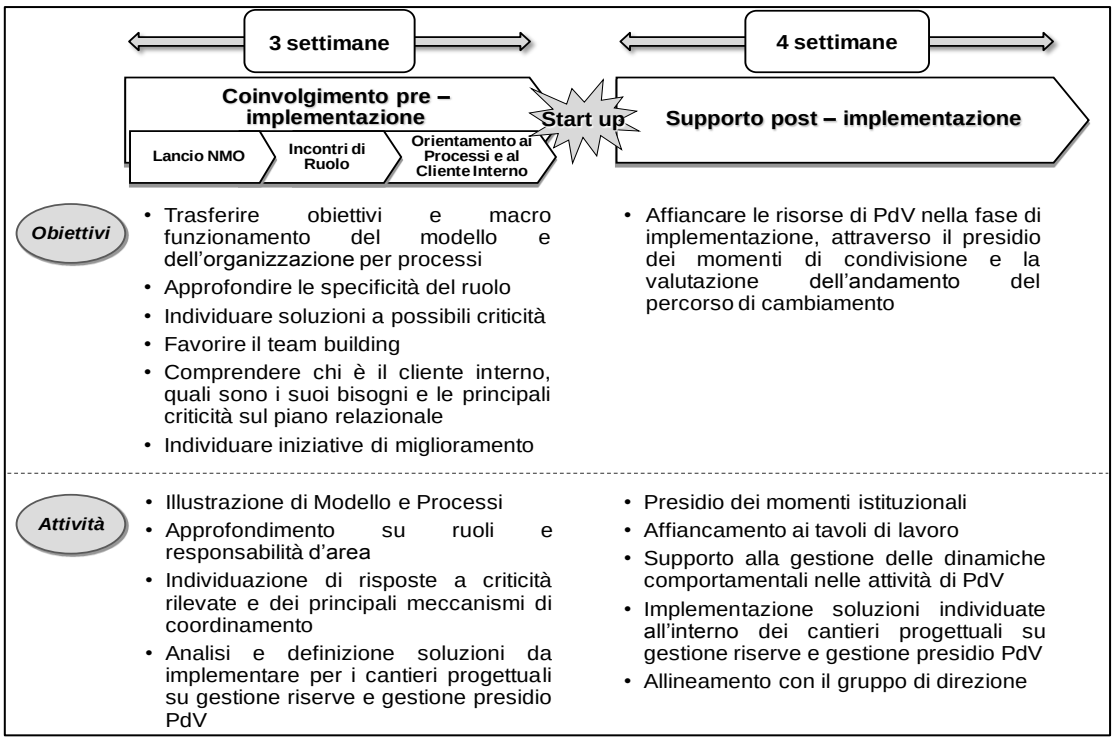


Figure 4.5 Detail of the activities conducted by consultants
(slide collected during the interviews)

All the roles of the new organization were clearly defined presenting new role cards. An example is reported in Figure 4.6.

The new organizational model required the setting of daily and weekly meetings to coordinate resources responsible of the various processes. These round tables meetings lasting from few minutes to an hour with the purpose of determining the daily activities or planning the following week.

TITOLO DELLA POSIZIONE: **Responsabile Vendita Assistita e Servizio**	AREA OPERATIVA: **Vendita Assistita e Servizio**	SUPERVISORE DIRETTO: **Direttore**

OBIETTIVO DELLA POSIZIONE	È responsabile del servizio al cliente nella sua accezione più ampia. Ha una responsabilità diretta sui livelli di servizio offerti dall'ipermercato, sulla buona gestione del Punto d'Ascolto e del Post Vendita e nel mantenimento di un elevato livello di servizio nelle aree assistite (Multimedia e Farmacia). Supportato dal Coordinatore del Punto d'Ascolto e del Post Vendita, è responsabile dei servizi offerti ai clienti durante la loro permanenza nell'ipermercato. Supportato dal Coordinatore Vendita Assistita, assicura la buona gestione del Multimedia Store, coordinando le risorse nelle attività di vendita e nella gestione di riserva e allestimento. Gli è demandata la supervisione dell'operato dell'area Farmacia.
PRINCIPALI ATTIVITÀ	• Monitoraggio e verifica dei Livelli di Servizio offerti dall'Ipermercato • Gestione delle risorse e pianificazione dei loro orari di lavoro • Gestione della Barriera Casse, del Punto d'Ascolto, del Punto Soci e del Post Vendita • Gestione delle attività di allestimento relative al Multimedia Store • Coordinamento delle attività *in store* rivolte a soci e clienti • Monitoraggio e supporto nelle attività di Customer Satisfaction • Coordinamento e supporto su attività straordinarie relative ai sistemi informativi o di barriera in uso

Figure 4.6 Example of a role card

The model design the strategic boutique required to integrate different processes – planning and replenishment –, but without giving guidance on how the coordination process should be carried out. Therefore, in the first implementation the level of coordination was particularly low. Given the complexity and novelty added by round tables, consultants provided formats for the meetings, identifying detailed procedures, meeting rooms and templates for documents, to codify the outcomes of the meetings.

After the preparation phase, consultants supported during the switching of the two models. They monitored activities in the stores, both in terms of technical performance, quality of the expositions, inventory control, management of issues with clients, both in terms of relations between the various internal actors, paying attention to the occurrence of conflicts, communication problems or lacks of information transfers between actors. Consultants acted to solve conflicts, improve decisions, schedule and control meetings to keep the interest on the relevant points.

4.7 Results of the second project

The second project led to satisfactory results in term of performance in the three involved superstores. Consultants monitored a set of performance indexes for the following four weeks: after an initial decline, absenteeism level, productivity and average number of stock-outs improved in comparison with the other stores.

The second sub-project enabled the development of the organizational model designed by the first consulting firm. The advantages of the model emerged clearly along when its innovative procedures were adopted. The Consultants Project Manager refers:

> *"the pros definitely: it had streamlined, it had a better performance, then you had a lot of resources that were responsible for more things". A store manager supports this idea: "One thing is to make a completely new stuff, perhaps in that context. Consultants proposed to us a thing that had ever been seen in any supermarket. That time we had been really the first. When we went around in the other cooperatives to say what we wanted to do, there was really no one other. For me that was an evolution that could lead to great things, made at the right time".*

The most important improvement was the reduction of the labor costs. By creating a situation of resource pooling, with coordinators of teams of workers, the number of required workers decreased because they were more flexible. Part of the workers became de-specialized. A more homogeneous and interchangeable workforce is able to cover any absence, holidays or absenteeism in any department. Therefore, the number of seasonal workers decreased, and, in the short run, economic performance grew up.

In the long run also the disadvantages emerged clearly showing that the creation of numerous figures responsible for coordination led to a situation of increased costs over the years. Table 4.1 reports relevant quotes at the end of the paragraph.

First, career advancements would have generated a series of figures with middle management wages substantially higher in comparison with workers' salaries.

Second, the requirements imposed by the new model created inertia and resistance to change, especially among those who were sources of motivation in some of their previous works and were going to lose their position facing new requirements. These people very often had a long personal history in the organization, thus they developed resistance.

Third, the increase of coordination roles and activities led to a decline in personal responsibility. The creation of new roles, the change of tasks, combined with the resistance of the various actors due to the loss of part of their previous activities, led to a lowering of the efficiency of coordination and an overlap of roles. Consultants faced analogous situations during the project as reported in the quotes at the end of the paragraph. Consultants addressed those situations with change management initiatives, but at the end of the project a lot of cases still remained. S-Consulting operated only in 3 superstores, but many cases emerged from the others. Some superstores failed to perform all the coordination round tables. The new model required many coordination round tables: the Area Table, with the purpose of sharing information within the area to organize work, the Promo Briefing Table, with the purpose of organizing promotional spaces and activities, the Superstore's Operating Table, directed towards an efficient and proper management of resources and in finding the best solutions to various problems that emerged during the week. The difficulties in conducting round tables were mainly two: (1) there was not enough time to complete all the material provided for meetings and the employees were burdened with a lot of operative tasks and had no time for meetings or discussions, (2) employees were unable to find advantages in carrying out such meetings and they conducted the meetings without strong commitment.

Fourth, planning and replenishment processes operate for any goods category. Nevertheless a strong level of coordination was required along with a division between the two processes that was not always present in the stores.

Fifth, employees had to be able to deal with the goods of any department: food, and non-food. However, employees with a significant past history were emotionally tied to their previous departments. In some stores, resource pooling remained unused, because the groups of workers were divided by departments on a practical level and took care exclusively of products and issues of their previous department. A quote reported at the end of the paragraph shows that the proposed model has been ineffective not only because it had not been well explained in the first superstores, but because it had the exposed internal problems.

Sixth, there was a loss of responsibility on the overall process, which was fragmented into two distinct sub-processes. The lead times of these processes were very

short and did not allow the use of the dedicated coordination solutions in an effective way.

Table 4.1 Problems of the second organizational model

Problems	Quotes
Increase of the cost of middle management	*In all the superstores, a new organizational unit was introduced. It had severely disrupted the previous organization and procured, in my opinion, a growth of full times and levels, which then, produced the first great disaster in superstores. Many people were awarded among the least bad. Here, there is more people that give orders than people that work* (Head of the Organization Office)
Inertia and resistance to change	*The problem was where there were the department heads with 5-6 years of experience. The problem was that we were not able to make the change there. If you tell to someone who has played a role, however, that everything changes completely… For example, in the old model, the head of department had to manage people. In this model, those who become product specialists do not handle people anymore, but goods. It is not easy to accept this thing. At the beginning, I was managing people and orders, but now only orders. In practice, you subtract the work they were doing. It is not easy to convey this thing.* (Head of the Organization Office)
Increase of coordination roles and activities	*I was not there when I got this phone call. This is what I heard: "I discovered that a lady, instead of assuring that the process works, has left some cards, post-its, where she knew that her former colleagues would had gone – the ones she had coordinated and now does not coordinate anymore –, telling them how to do things. What does this means? If you do that, the process is not active. There is someone else who now does what she did, she does not accept this, because basically she does not like that person and so she is trying to coordinate these people and is giving indications, which can often be contrary to the indications given by the new coordinator* (Consultants Project Leader) *Then we added the mechanisms of coordination, because this organization involved the use of working groups, and provided a very active role of the directors, but they did not exercise it. In the morning, we had to meet to see a report of the levels of service of the night before. Which means that I have empty counters, and I do not do anything until tomorrow morning. Until the next morning I discuss why I have empty counters. It is abhorrent! If I have problems at night, I must act, and who is present or the garrison of the store intervenes on problems. Why do I miss bread? milk? Do I have it in stock? Then someone takes it and*

	goes to put it out, not that the morning I discovered that last night I had no milk (Head of the Organization Office)
Coordination problems	*We had the interruption of the supply chain and no one knew who should activate because there was some people who made the orders. Nevertheless, once these orders were issued, their task was finished. They did not worry anymore if, where, and when the goods arrive. There was another category of people who took care of this.* (Head of the Organization Design Office)
Loss of responsibility	*The most negative aspect of this organization was the total lack of responsibility. So if I became a super specialist in orders, I would only do this, and I would not be interested. I come at work till Friday. On Saturday and Sunday I am at home.* (Head of the Organization Office)
Pooling inefficacy	*The resource pooling had been done only in part: resources belongs to departments because we are specialized. Who makes the preparation of textile department develops skills and knowledge, that anyone who has not, if goes to put his hands during the season change, has no idea of what to do. The textile dept. as the multimedia dept. has the need of a specialized workforce as a fresh food dept. Moreover, if I take a self-service dept., where there is a display at the end of the corridor, though I know I have to do the rotation of the products, the problem does not arise, because I am going to put the goods exactly as they are placed in the display, and anyone could do. In non-food, it is not so, because, if I have to go for a tour of the house dept. or the multimedia. Basically, consider a display of pots and pans: I know that there is a logic to put them on the counter, or else I need weeks before I understood the right joint to put the pans on the counter. If those people are not so well aligned, so well formed, so well able to do what they must do, in reality this is not efficient, then you do not get it. It is not said that perhaps even the size [of the store] makes you get it* (Head of the Organization Office)

4.8 Second change to the organizational model

In early 2011, the top management of Italian Mart decided to introduce changes in the organizational structure of the superstores, to face the continuing effects of the crisis and to solve the problems highlighted above. The Head of The Organization Design created a new team to develop a new organizational model: they started conducting interviews in the superstore near the headquarters to evaluate the existing problems. Then they designed a new solution, which aims to solve coordination problems, to

reduce hierarchical levels and to maintain pooling of human resources.

> *"The change process has tried to work on the contraction of personnel costs, going to reduce almost two-thirds of the figures in the old organizational model. The goal was to make the most possible with the various operational roles in the present organizational structure, reducing the coordination roles and, especially, all those figures of the intermediate level, not expected to be useful and efficient"* (employee of the Organization Office).

Figure 4.7 and 4.8 are part of a document collected during interviews. Figure 4.7 shows the differences between the previous model and the new model (reported in Figure 4.8), highlighting the interventions made by the team. The interviewee traced the crosses on some organization chart boxes to indicate the eliminated positions.

The internal team produced a document that reports the principal areas of its intervention:

1. Improvement in productivity
2. Reduction of operating costs
3. Reduction of the number of distinct roles in the organization
4. Maintenance of the logic of pooling
5. Inventory management under a single manager
6. Redefinition of job descriptions
7. New management coordination tables

According to these ideas the team changed the organizational structure of the superstores and created two main departments, food and non-food. Each of them controls planning and replenishment processes:

> *"The only good thing we want to maintain is that there is no longer the head of the department with people assigned and he does not make them available except under torture. In fact, there is an area of planning that maintains the effectiveness in the formulation of orders using the available tools, but at the same time, it acquires the responsibility of the shelf"* (Head of the Organization Office)

The team rolled out the new model in all the superstores during 2011 starting from the superstore located near the headquarters and extending to all the other stores.

Figure 4.7 Intervention on superstores organizational structure (from a document collected during interviews)

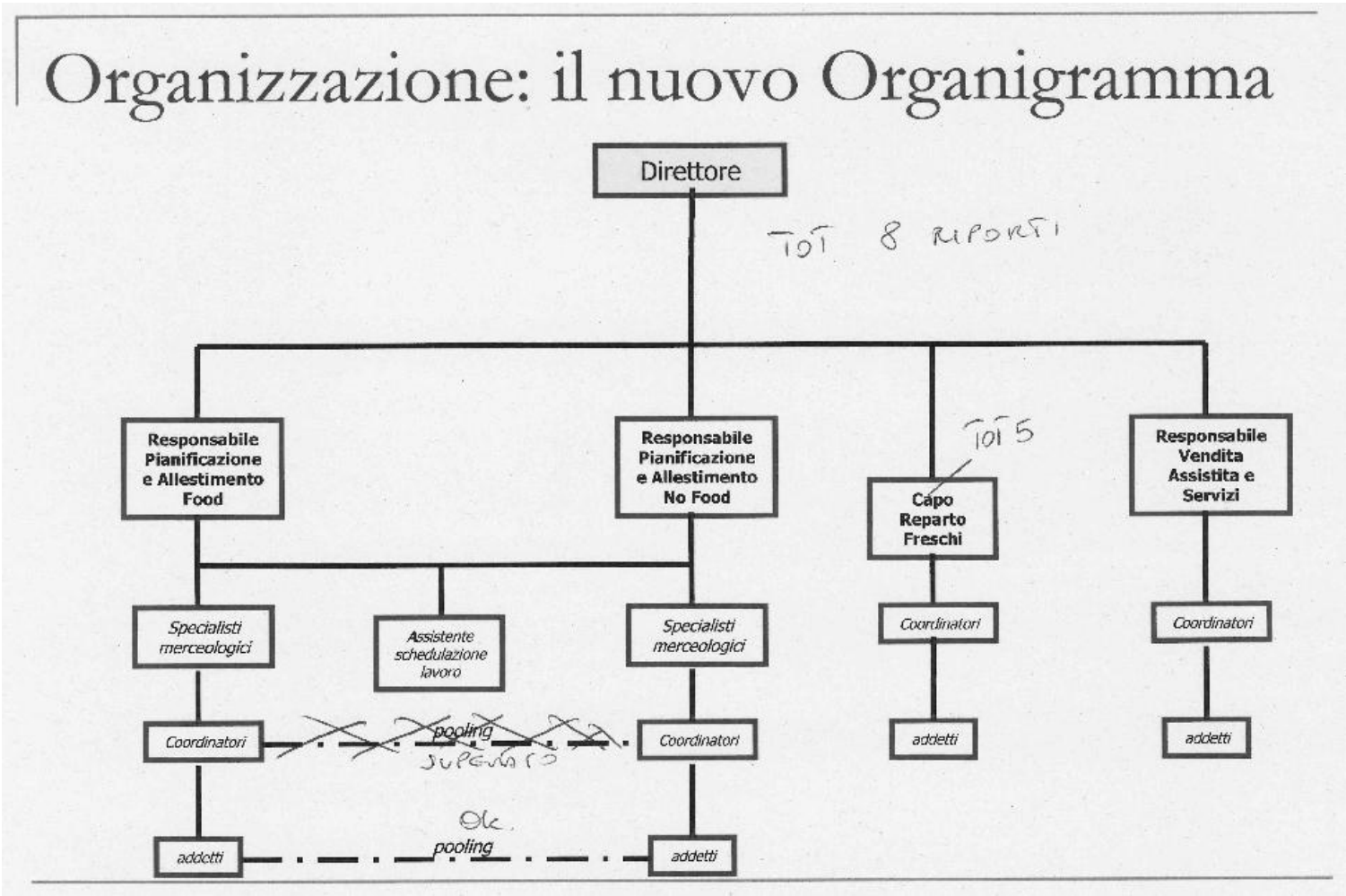


Figure 4.8 Third superstores organizational model (from a document collected during interviews)

4.9 Core rigidities

Italian Mart shows different kinds of organizational rigidities that can be understood through the sequence of events described in the previous paragraphs. The company shows three different approaches towards change projects. In the first phase, Italian Mart requires strategic consultants to develop a new organizational model. In the second phase, Italian Mart engages consultants (S-Consulting) to define and conduct a change project from the existing model to the model defined by strategic consultants. In the third phase, the company completely rejects a connection with consultants and independently designs a new organizational model and develops autonomously conducts the organizational change project.

In the first situation, the company does not have the ability to develop new knowledge from the inside and turns to consultants to get a new organizational solution. Then, in the second phase, the company is not able to use the knowledge received from outside: it fails in implementing properly the new organizational model and in reaching the expected performances. Two clear core rigidities emerge at the headquarters level: the first is related to the generation of new knowledge and the second is related to the application of that new knowledge in an organizational context.

The second consulting project enables the development of new knowledge, not only of technical nature and related to Italian Mart business, but also of methodological nature, such as project management, change management and meeting management competences.

The third organizational change operated by Italian Mart shows how these core rigidities have been overcome at the level of headquarters.

Superstores are characterized by a rather different situation: each of them shows a different level of resistance to change that can be interpreted as a rigidity. However, the type of rigidity is different and involves members of the lower levels of the organizations.

4.10 Organizational learning process

According to interviews, a learning process develops in particular during the second sub-project in which consultants created a joint team with internal employees of

the headquarters and store managers. Consultants transfer competences of technical and managerial nature. This new knowledge is transferred to the non-consultants team members and activates the development of new personal skills but also organizational capabilities and new routines.

The transfer of knowledge occurred through the presentation and the release of documents for analysis and planning, but also through the observation of the consultants in the field. Unlike the first consulting project, in the second project Italian Mart members benefited from the opportunity to see the consultants work directly in three supermarkets and to be directly involved in the activities. Therefore, the management team conducted a direct experience of a change project and its roll out on different branches.

In the latest change of organizational model, the tools used during the previous projects are applied and a collected document shows that internal management uses the same approach of consultants. A section of the document considers strengths and weaknesses of the organizational model, showing the same structure of a previous document made by consultants. The last change project fully reflects the previous projects: a pilot stage is followed by a roll out in the remaining stores.

> *"On many things we have exploited in the best way I hope what consultant had left, sharing also some analysis, some remarks and then we have deepened rather than changed, rather than integrated"* (Employee of the Organization Design Office).

Table 4.2, at the end of the paragraph, reports relevant quotes about the transfer and re-use of typical consulting tools. Employees of the headquarters have also observed preliminary interviews conducted by consultants during the second project. They used a similar method as reported in the last quote of Table 4.2. Nevertheless, the respondent claims that interviews have never been used in previous projects, but existing documents confirm that consultants conducted a round of interviews in the initial stage of the second project and provided part of the documents (transcriptions and minutes). The respondent clearly show the need of highlighting the difference between his work and the work of consultants, showing a strong organizational identity.

Table 4.2 Quotes about the transfer and re-use of typical consulting tools

Categories	Quotes
Re-use of documents	*We have reused the role cards made by S-Consulting, those with the roles of the new model, but basing on the variations [of the models], we have integrated and varied* *Q: You have maintained the format a bit…* *A: Yes, some contents that are legitimate, because the role is that.* (Employee of the Organization Office)
Direct experience in stores	*Q: So you have seen the work of these consultants. What kind of contact did you had? Have you followed them even in superstores where they went?* *A: I followed them precisely. Beyond that, I had a lot to do with consultants, also with Booz and Allen. I have relationships with the strategic consultants (first project), but these guys of S-Consulting, I just followed them in the bigger superstore.* (Employee of the Organization Office)
Re-use of technical tools and templates	*Q: What opinion do you have about how their work was done? Have they conveyed something? Did you receive something then you re-used as technics, methods?* *A: Well something, we did something together, such as the agenda of the reorganization. Some things have been done together and we have maintained as working tools. Therefore it is not all bad, not everything. Let's say other things: they [consultants] see everything from a theoretical base, too much. And I saw perhaps too from a practical point of view. It would need a way in the middle.* (Employee of the Organization Office)
Use of interviews and change management approaches	*Our winning weapon in sizing models was that we have interviewed operative people.* *Q: Has it never been done before?* *A: No* *Q: Not by strategic consultants?* *A: I do not know. Or at least not so obviously. Now we had this opportunity to interview them directly, to measure times with them, to make checks with the store. Physiologically, we have involved them in a strong innovation and then, a new sizing model, a new system for the formulation of service orders, a new system for managing attendances, involving people, letting them know that we simplify their operations but also increase their professionalism: they specialize with specific tools. However, it is important the store participates in the considerations. They do express their concerns. We ask for their feedback, we make testing, pilots, and then we go into implementation trying to involve everyone as much as possible. It's obvious that, having a goal, we try to go all in the same way, the goal is just that: involve everyone as much*

	as possible, bring them inside. *Q: Do you think this thing here was not initially present in the two previous projects?* *A: According to me, from what I have found, absolutely not.* (Employee of the Organization Office)

4.11 Developed capabilities

Thanks to the first two projects, Italian Mart has developed a number of capabilities that then applies in the last organizational change. First, the team of the headquarters that is responsible for organizational change has internalized the knowledge of external consultants and proves to be able to use it independently in different situations. Second, the team has the capability to observe what has been done previously and to evaluate it, highlighting the positives and the negatives aspects. Third, the team is able to define an organizational routine that allows to screen environmental conditions. Fourth, the team is able to design a new organizational model that can meet the environmental requests. Finally, the team has developed an organizational routine that links previous capabilities in a unique procedure that allows to monitor the external contingencies, to address critical issues creating a new organizational model and roll-out the model in the various stores. This routine is combined with a set of rules that are embedded in the tacit knowledge of the members. The routine is supported by a set of tools, documents or templates that help to perform particular tasks.

The team has developed not only a replication capability but also a design capability that enable to autonomously create the last organizational model, but also a sensing capability that activate the whole change process only when it is needed.

Table 4.3 Relevant quotes about developed capabilities

Categories	Quotes
Capability to manage an entire change project	*Please keep in mind that the capabilities we told were the following: [speaking as a member of Italian Mart] I participated to some consulting projects, from higher to average level, but it was with [internal] people who did almost nothing, with the slightly more applicative project supported by our people management team, and now I can manage by myself the modulation of the organizational model.* (Consultants Project Leader)
Capability to observe the results and design the future changes	*Now the problem is to maintain the synergy between food, chemical and grocery depts. and with all the rest. And it is compulsory. It is also compulsory to have a synergy between food and non-food. In these two areas there may be, for reasons related to organization, products, or other events, the availability from one side and the necessity from the other to exchange information. I acknowledge this merit to the new organizational model. If you hear what they say in stores, they always tell they had their own responsibility and they moved within that. Among other things, we have developed more extensively the exchange of resources in the area of fresh products, along with the mix of the tasks on which we are now working on, even with an union agreement which is going towards the double activity for cashiers: replenishment and payment counters. Just before, the cashier was cashier until his death and the replenishment worker did the same.* (Employee of the Organization Office)
Sensing of new organizational needs	*We have also developed a new organization for the reception area, which the consulting activity reduced only to goods receipt, both in terms of organizational and control. We actually found differences of inventory that must be defended. And, fundamental, we have now expanded its responsibilities not only to the reception, but also to stocks management.* (Employee of the Organization Office)

Chapter 5 Case study: Coast Bank

5.1 Presentation of the firm

Coast Bank is a middle sized bank that operates in North and Central Italy, on the Adriatic Coast. Until six years ago it had fifty branches, but in the last years it acquired other small banks in its area and became twice larger. It currently employs about 1000 people, 200 in Headquarters, the remaining in its 104 branches. Headquarters present a functional structure with 13 Central Management Services, in which one or more managerial figures control processes and decisions related to a topic, e.g. credit policy, compliance. Coast Bank's branches are located in zones where the main economic activity is tourism and gross salaries are higher than the national average. The bank holds the largest market share in its area.

5.2 Genesis of the project

The consulting project started in 2009 after a training course, called "Organization and processes", held in 2008. It involved area managers and the heads of the functional units called Central Management Services. The presented topics encompassed both soft competences (role of internal customers, problem solving, negotiating and goal oriented working), both technical and specific competences (risk management and process management). It had been a pure training course, which did not include an application on the field of the transferred knowledge.

At the end of the training course, top management considered that the fragmentation of the organization into distinct functions was creating a low level of interoperability and standardization of procedures and was blocking the possibility to address some clients' demands. It was unsuited to deal with the increase of size the bank experienced in the last years. Then, the management felt the need to reduce the problems caused by a rigid functional structure and move towards a process-oriented organization.

Top management considered that a focus on the internal processes needed to be enforced to develop a better knowledge of the different processes carried out within the bank, identifying the ways in which processes were carried out and the time that each process required to every distinct function.

The bank was facing the effects of the economic crisis and developed the awareness that environment required a change. The top management felt the need to create a new climate and stimulate a better communication, both within the headquarters and between the headquarters and the branches, to increase cooperation and exchange of information.

The bank, according to a consultant, needed to do a "qualitative leap", involving all the internal structures and activating resources that until now were not particularly trained or lacked the sensitivity to handle projects of organizational change. Furthermore, it was necessary to create, in short times, a different organizational context with a strong imprint of organizational change methodology with the help of consultants.

The consulting project was initially activated and supported by the new Director of Human Resources and Organization of the bank. He arrived in 2008 from a larger bank, part of an international group. He thought that a change from a classic functional organizational structure to a process oriented organizational structure was necessary. In addition, an organizational analysis project would favor an overall improvement of efficiency in the bank, involving the representatives of the various functional units with the help of consultants, who are able to provide a methodological support. He decided to rely on consultants, because inside the bank there were not the competences to lead a similar initiative. A consultant confirms:

"There was just a far-sightedness by the client, because we have proposed this thing many times in other banks, but he followed us so much that he became even promoter of the intervention".

5.3 Structure of the consulting project

The consulting project was divided in two phases: an individual project work and a group project work. The purpose of the two phases clearly emerge from an interview to a bank employee:

"the individual project work served to map almost all the processes in the functional units and to identify the processes or stages that presented problems. Then, using criteria or methods suggested by consultants, processes were shared in groups to try to examine critical issues and find solutions".

The individual stage precedes the group stage to allow a deep understanding of individual activities, as a consultant remarks:

"before you know your property and then you relate to all the others".

Figure 5.1 reports a schema from one of the many consultants' documents which show the structure of the project.

Figure 5.1 Structure of the consulting project
(from a document collected during interviews)

5.4 Individual project work

In November 2008, a classroom training anticipated the individual project work and lasted one day. It provided a presentation of the project, its goals and the discussed themes, to inform and involve the central functional units members in the project activities. Consultants conducted this initial activity because the project would be invasive in terms of absorbed time, resources and required outputs. A representative person of each functional unit was present. The main discussed points were: (1) concepts from the previous course about organization and processes; (2) methodologies to address an organizational analysis (identification of processes and allocation of the time for the implementation of key activities that constitute the processes); (3) techniques and tools for the detection and analysis of the processes; (4) tools for identify wastes ("lean banking" techniques); (5) kickoff of the individual project work activities.

Initially, top management provided specific guidelines to identify members of each function, suggesting to select resources with a high potential for which it made sense to invest in training that could have future returns. Consultants conducted four individual meetings for a total of ten hours for each member during individual project works. They transferred methods for organizational analysis and review the individual project works.

All the analyzed processes were composed of macro activities that the consultants decided to quantify in terms of Full Time Equivalents (FTEs). They wanted to evaluate the lengths of macro activities, to use results in later stages of the project and to identify possible areas of intervention. For example, if a step in a process employed many FTEs, it could make sense to look for wastes in that activity to gain a consistent improvement. In addition to FTEs, this phase allowed the calculation of the total resources committed and of Key Performance Indexes (KPIs), which measure volumes of activities and processes. The concept of KPI had been previously transferred in the classroom training. In collaboration with consultants, members defined relevant KPIs for processes. For example, the credit function identified two KPIs: (1) the elapse of time between the moment in which a customer sends a loan application and the moment in which the loan is actually paid, (2) the number of mortgages granted in a year.

A quantitative analysis (FTEs per process and process KPIs) and a qualitative

analysis had been primarily conducted during this stage with an emphasis on identifying strengths and weaknesses of the actual processes, wastes of time and problems. The processes involving more functional units had been managed in an inter-functional way, though consultants can rely on an overview of the processes.

Consultants had the dual role of providing the methodology and assisting members during the activities, interpreting and discussing the results. Four meetings were scheduled, with two or three weeks of distance each other, and, between meetings, members worked on assigned tasks.

The four tasks evaluated during the meetings were:

8. Articulation of processes, steps and macro activities
9. Quantification of FTEs
10. Definition and measurement of KPIs
11. Analysis of problems

To carry on the activities, Consultants provided templates of documents. For example, they proposed a table to match sub-processes, principal steps of activities, process owners, names of colleagues, FTEs, KPIs, critical points or problems, and general notes and descriptions. To complete the activities, consultants required resources to work in a cascade: each referent had to interview his colleagues.

The output of this activity was a report of three slides for each referent. The first slide indicated total FTEs, sub-processes, annual volumes of KPIs of the functional unit. The second slide was qualitative and presented several critical issues identified in functional units along with strengths and weaknesses that emerged from the analysis at the organizational level. The third slide focused on benefits and difficulties encountered during the implementation of the individual project work, so it was the participants' point of view on how they lived the activity. Every referent presented the results in front of the heads of the functional units, in order to promote the sharing of the organizational problems.

5.5 Results of the individual project work

The individual project work allowed to start thinking about possible areas for

improvement in the organization. Among all the reported critical issues, consultants selected a sub-group for each functional unit of the bank: they identifying the ones with the higher impacts on inter-functional relationships, whose resolution could allow the greatest savings and benefits to the bank.

After the discussion, consultants required that the heads of functions worked on a "continuous engagement": every head of function was responsible for continuous improvement within his own service, with the support of the contact person who has participated in the project and involving all the employees of the function. They had to fulfill action plans for the resolution of critical issues. These plans would be shared within the Organization Office, which assumed the role of project management office and supports the achievement of the goals.

Consultants report that the initial benefits of the first phase of the project were: an higher level of awareness of the impact that each activity could have in a process, the measurement of objective data related to study critical and inter-functional processes, the acquisition of new competences by participants, related to analytical skills, process mapping methods and presentation skills.

An employee refers:

> *"The individual project work allows to acquire competences on what is your work. It has allowed people to acquire a methodology, focus attention and develop awareness on what everyday life is. That allows you to approach the resolution of critical issues in a different way, so this type of analysis was necessary to switch to a group with greater awareness of its structure, activities and critical issues that are within each function. The group work was successful because each one had a better awareness of what was happening within his function".*

Another employee adds:

> *"You have a different methodological approach in terms of how you analyze a business process, how your own organizational reality is enacted, how its structure is. You realize what you do every day. People who participated in the project rationalized situations that they could have guessed or for which they could have had an impression. Through this individual work, they succeeded in making certain situations measurable and measured".*

The measurement of FTEs and of various KPIs allowed to focus discussion on critical issues. Consultants observe that, if someone does not like a certain activity, he tends to represent it as a critical and demanding task. Then, quantifying the actual time

to perform those activities often allowed to classify activities with low FTEs in non-critical group. In other cases, general rules underestimated the real FTEs, so some activities became part of the critical group.

5.6 Group project work

After the individual project work, participants attended a two days classroom to learn how to conduct a costs-benefits analysis of the possible solutions, and they learnt how to analyze and approach the points raised in the previous phase. Consultants presented problem solving methods, matrices of cost-benefit analysis, methodologies to create action plans.

This phase began in May 2010 with the creation of working groups, which met for four sessions of two hours per group for a total of eight hours, with the presence of a consultant. This phase served to identify possible solutions to critical issues that emerged at the individual level. Each group was composed by members of the functional units involved in the processes analyzed by the group. Working groups shared the view of different functional units about a specific problem. The previous individual phase served mainly to map all the processes of the function and identify critical activities or processes. Using the methods suggested by consultants, working groups examined problems to find solutions. The required output was a presentation of results and solutions to senior management.

This phase was articulated in the following sessions:

1. Analysis of the causes of problems
2. Definition of solutions
3. Definition of action plans
4. Creation of a group project work

An accurate analysis of the causes was a prerequisite to identify all areas of intervention. In the first step participants identified problems and critical issues with other group members, carried out analyses of the causes, shared the results to ensure that they represented the views of all the group members and finally collected the information trying to assign a weight to each cause of the problem. Consultant provided

a tool to support these activities: the Hishikawa diagram or cause-effect diagram, that allows to map the causes and sub-causes that generate the main effect of the analyzed problem (Figure 5.2 reports a model of the diagram).

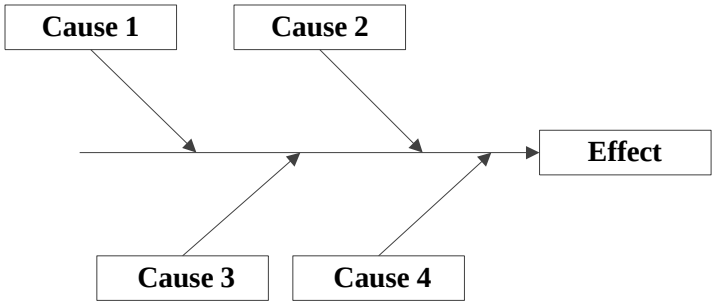


Figure 5.2 Model of the cause effect diagram

For example, one critical issue was an level of absenteeism in attending training programs which forced the Human Resources function to plan further sessions of the same course. Participants created a cause-effect diagram identifying important causes and grouping them in classes.

The next step was the definition of solutions and their evaluation. These solutions have been identified with an activity of pure brainstorming, to stimulate people to think without constraints. Consultants encouraged the working group to identify many and discuss proposals. Then, similar proposals have been aggregated in main categories of solutions, in order to create matrices and define implementation priorities. Working group members started from a list of solutions and placed them within two matrixes, reported in Figure 5.3. The first matrix combines efficiency and benefits, to differentiate solutions in terms of the costs-benefits rate and highlight solutions that could lead to major improvements with an acceptable cost. The second matrix combines complexity and number of involved members (employees or units).

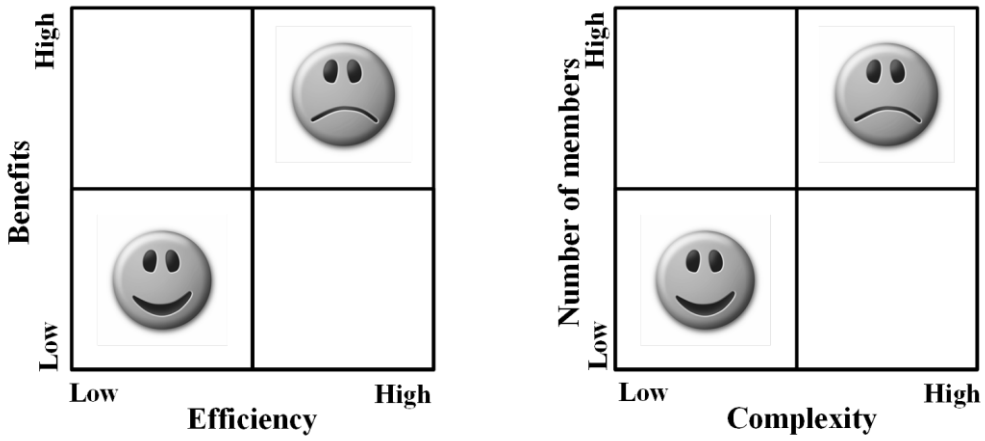


Figure 5.3 Matrixes used in the analysis of solutions

In the upper right quadrant of the first matrix, there are solutions with maximum levels of benefits and efficiency; in the lower left quadrant of the second matrix, there are the most feasible solutions that involve the lower number of employees or functional units. The best solutions of the first matrix could not coincide with the best solutions in the second matrix. Evaluating the pros and cons of each solution, consultants and working group members defined a priority list to implement the solutions.

In the fourth step, at the conclusion of the activity, every member sketched an action plan related to the top solution in the list. Members had to fill a table with the following columns: activities, responsibilities of the process owner, other stakeholders, length, quantitative and qualitative benefits, estimated costs.

Two employees of the branches were invited to participate in the group works to highlight issues related to branches and smooth the duality between headquarters and branches. The identification of critical issues related to branches had two advantages: first, it provided a richer analysis of the activities of the bank and, second, it constituted a signal to the bank's branches. One of the two employees refers that the involvement meant to "bring on board" the branches in the project and was a change of attitude, in the direction of a higher integration:

> *"I felt good that I was part of a work group. From the point of view of the network, anomalies always happen when choices suddenly rain down, that is when things are already done and no one asks anything [to the branches].*

It was the first time we participated and expressed concerns about what was missing at the level of communication".

5.7 Results of the group project work

After the end of the second step, results of the four working groups were combined in a final presentation to top management. Every group member presented three slides: the synthesis of the causes, the evaluation of priorities, and possible solutions with an action plan. The project had a great impact on top management.

Group members achieved remarkable results: they participated in an action learning initiative, experiencing a change process and developing a learning process. They learnt methods to deal with organizational issues and tools to use in the formal analysis of the problems, in the definition of possible solutions and in the presentation of results.

In July 2009, consultants reviewed project results to start the new projects. Nevertheless, the Italian Central Bank decided to take control of the bank because it has been engaged in illicit activities using its foreign subsidiary. According to the requests of the Italian Central Bank , the managerial responsibility passed from top management to two commissioners and the bank operated in a condition of receivership. This fact had a great emotional impact on employees: they felt the risk that after the receivership period, the bank would be merged in a group and they could lose their work, or face a different organizational climate.

After their arrival, commissioners decided to launch a great change project to redesign the organizational structure of the headquarters.

5.8 Change project during receivership

This project was activated during the condition of receivership, and was promoted by commissioners, which requited consultants' intervention. The purpose of this project was to intervene solving the problems of the bank. Internal working groups were created to analyze specific topics: organizational issues, credit management, internal controls and commercial activities. The project was similar to the previous consulting

project: Organization Office assumed the role of Project Management Office (PMO). The role of consultants was oriented towards a formalization of the activities of the PMO, providing tools and rigorous methods. The project goals encompassed not only the analysis of solutions, but also their implementation. The previous consulting project was conceived as a training program, which would activate inter-functional coordination. In this project, there was the need to reach results, so the heads of each function participated along with the members of the previous project. Members of the new project felt the influence of the previous one, although some of them had not been previously involved: they were influenced in the organization of the activities and in the deployment of the project. There were five similarities. First, members addressed more critical issues, according to a similar procedure: the definition of the setting of the problem, a preliminary meeting, in which PMO assigned responsibilities to members, the analysis of the problem, the creation of a working groups. Second, working groups analyzed critical inter-functional processes. Third, different functional units and branches were represented into each working group. Fourth, the PMO coordinated the working groups assuming the role that consultants had in the previous project. Fifth, each group created detailed reports with data and performance indexes.

Thanks to the receivership, there have been four major interventions within the bank, one for each working group (organizational issues, credit management, internal controls and commercial activities). The first intervention defined a new organizational model, which emerged from a discussion with the commissioners, defining the strategic evolution of the bank. Headquarters passed from a functional organization to a process-oriented organization. In addition, all the operational part was merged into a single structure in order to have economies of scale and enable outsourcing policies. The second intervention is related to credit: an new organizational solution allowed a more effective control on credit recovery and on the overall process. The third intervention was related to internal control: all the functions dedicated to control were centralized in order to comply to new policies. The fourth intervention was the creation of a short chain of command between the Commercial Unit of the headquarters and the branches, simplifying the structure of the commercial areas.

The first project with consultants highlighted that the creation of reports was a very confused and inefficient process because of the redundancy of information, the

multiplicity of reference points and the presence of too much information scattered in too many sources. The issue of reporting was addressed during receivership through a new specific project.

Thanks to this project, a new service model for the branches was released providing customer segmentation and the association of ad hoc operators to different classes of customers.

Other changes involved the creation of a unit for the management of information systems and the merge of Organization Office and Human Resources function in order to have a closer alignment.

Consultants currently are supporting the bank in implementing the decisions taken during the project, defining timings, making sure that deadlines are met and collaborating in various projects. They are also transferring further project management methodologies to the Organization Office.

In 2011 the bank exited from the receivership without the necessity to merge with another financial group. Consultants and internal members attribute this outcome to the results of the change project, which deeply renewed the organization.

5.9 Core rigidities

This paragraph analyses the initial condition of the organization, offering a picture of its organizational rigidities.

Before the consulting project, the bank presented different organizational rigidities that consultants and some internal members clearly identified. The size of the bank increased over time, generating a number of issues related to its internal organization. The headquarters of the bank presented a functional structure, but scaled on the size of a smaller bank. In the past, a high level of coordination between the functional units was not necessary because employees felt part of a united family. Just before the start of the consulting project, a unique managerial figure played a coordinating role, assuming also the characteristics of an information broker. After his departure, the bank lacked of formalized processes of interaction between functional units. The functional units did not treat processes in an integrated manner and this resulted in the impossibility of giving quick answers to the network of branches. Table

5.1 reports relevant quotes.

The bank presented a high level of inertia and resistance to organizational change. The reason relied mainly in the fact that it operated with good performances for several years and procedures became crystallized. Human resources followed an internal carrier path and new management was chosen among internal employees. Consultants refer that employees felt like in a large family and presented a strong organizational identity. Nevertheless, the closure to external knowledge produced a condition of rigidity towards every change demand from outside.

The relation between headquarters and branches was characterized by a climate of distrust. From the point of view of headquarters, branches lacked of competences and were not interested in following the right procedures. From the point of view of branches, headquarters were slow in providing answers and not able to deal with clients' needs. This clime favored a low level of integration and a reduced capability to deal with environmental changes.

Table 5.1 Quotes about core rigidities

Categories	Quotes
Organizational structure	*What clearly emerged was that there was a fragmented organization, and with poor interoperability and poor organizational relationships between functions. There was a star-structure, in the sense that many small planets revolved around a single center of gravity, which becomes the recipient and the distributor of information, both strategic and even more operative. So there were frightening overlapping functions because they were doing the same things, with total areas uncovered, in the end, because it was a system so messy that it was inevitable that in managing new initiatives the risk was that there were scary holes.* (Human Resources and Organization Office Manager) *From a dimensional point of view there was this kind of situation: structures that for their content should had larger staff and structures that were supposed to have half of the staff they had.* (Human Resources and Organization Office Manager) *The heads of the central functional units saw only their small garden, they did not have a common or broader vision of what the issues were, the impacts on other functions. The fact that there were no common moments of discussion, coordination, sharing leads to have the heads of functional units with only one eye and then unable to see cross*

	solutions, even also for little personal weaknesses, because in a model like that to be just good performers was more rewarding. (Human Resources and Organization Office Manager) *Offices do not have internal open spaces and this is a limit: people tend to stay locked in their offices and communicate only with formal tools, such as emails with few opportunities to meet and this is a typical example of how the organization does not speak* (headquarters employee)
Low level of formalization	*Then there was also a topic of low formalization, perhaps a result of the fact that this bank was small in size. It had fifty branches up to 5-6 years ago and suddenly, within a few years, with the acquisition of branches from Bank of R., it had become almost twice larger. Thus in changing its size, the element of greater formalization of the processes remained in the pen of the Chief of the Organization Office.* (Human Resources and Organization Office Manager)
Inertia	*I had initially tried to involve the heads of the central functional units in training courses designed to introduce an inter-functional logic and to undertake cross-functional working groups and things like that. Nevertheless, results were quite bad and have not fulfilled the expectations, so in the end I thought the best thing was to map all the activities at the level of central functional units.* (Human Resources and Organization Office Manager) *The classic response is "why are you doing this activity in that way?" They answer: "Because we have always done in that way", or they answer "Because we were always told to do so", which is even worse. It is not always easy because from the outside you hear: "you have to be dynamic, flexible, but it is true that when you come here from 8 in the morning, then at 15 and exit at 17, in the end it is convenient to have your schemas set up. Nevertheless, we have to work to undermine this system.* (Human Resources and Organization Office Manager) *You could say: "this is a rich bank, so it works well". It was actually a bank who lived on an annuity for the extraordinary position of having a leader market share in an extremely rich area* (Human Resources and Organization Office Manager) *One of the strongest critical points that I encountered in the classroom it was the resistance to change. We expected it and we were prepared to have to deal with it, but also in terms of the number of people that present that problem, the rigidity was very strong. The reason is certainly related to the substantial inertia: "We have always done that, why would we do differently?" Especially despite the presentation of new goals, that would bring positive change, the feeling was that it is*

	just another hoax of the Organization Office. So there was a lack of confidence in an Organization Office that has repeatedly proposed paths of change, declaring them as change, which then did not bring a real change. This made the people in the classroom more resistant.(Consultant)
Headquarters-branches duality	*Branches say "I have this problem and, when I call the headquarters, they do not answer or they are not polite". Headquarters say: "I spend all the time to answer saying the same things to those branches that do not read circulars, do not know the legislation, cannot do things properly"* (Consultant)
Identity	*The strongest thing we have found is a beautiful sense of belonging. Nevertheless, this is also a major difficulty in questioning the same logics they criticized.* (Consultant)

5.10 Knowledge transfer and learning

Thanks to the consulting project, participants acquired methods to address organizational problems and develop virtuous cycles of change. Already in the initial training course they acquired theoretical concepts. A document reports a list of competences that that consultants had transferred during the project. Table 5.2 reports its translation in English.

Table 5.2 Competences transferred by consultants (from a document collected during the interviews)

Categories	Competence
Action Learning	Living a field experience of Lean Banking and take concrete action for continuous improvement Learning a methodology to start a virtuous circle in functional units of the bank Improving operative procedures also during the project receiving a demonstration of the benefits Learning the importance of proper knowledge, standardization and coordination of activities
Involvement of people in the cascade	Opportunity to listen to colleagues and understand their needs and expectations Opportunity to work together and share experiences

continuous improvement process	Importance of listening to realize unknown problems
Ability to have an overview of the processes	Professional development towards a broader and more comprehensive view of the bank activities Overview of the processes managed by a functional unit also in terms of time effort and complexity of the work carried on by colleagues Understanding of the consequences of the way in which activities are carried out
Opportunity to reflect to help others to reflect on the basis of objective evidences	Importance of monitoring KPIs and will to apply it in practice Ability to think about personal jobs and control for mistakes and weaknesses Importance of planning and of dedicating time to design activities rather than jumping directly into operative tasks, with the risk of losing important components for achieving the goals

Consultants transferred tacit knowledge and explicit knowledge elements. Tacit knowledge is conveyed in the form of templates for reporting the results of the meetings, tables or other models for documents. Tacit knowledge was transferred through the direct involvement of consultants in the project activities. Participating in the meetings, consultants stimulated the discussion and encouraged participants to reflect on relevant issues for the achievement of concrete results. Interacting with the consultants, the participants were able to observe new routines to manage processes of change. These routines range from a micro level, such as managing a meeting, to a macro level, such as planning a project that involves several organizational units. Relevant quotes are reported in Table 5.3 at the end of the paragraph.

The theoretical training course proposed before the consulting project did not activate a process of learning, because it conveyed only theoretical knowledge. Participants experienced the use of that knowledge in performing part of the project activities. An employee refers:

> *"the course was done involving various business functions, but then by the management that there was no the intention to say "now you make such activities". What instead has happened with the subsequent experience of the project".*

The process of learning allowed to create a routine that involves different functional units in identifying organizational issues, analyzing them and propose coherent solutions. Thanks to the practice of this routine, employees applied different methodologies and developed a pattern of communication between functional units along with communication interfaces.

Table 5.3 Quotes about knowledge transfer and learning

Categories	Quotes
Explicit knowledge	*Methodologies, let's say. As we said before: organizational analysis, processes mapping, identification of critical problems, measurement. [We had learnt] All these thing from the individual project work.* (Consultant) *And then the group work started. We transferred the methods for analyzing costs and benefits, to identify, first of all, the priorities of critical problems. For example: "I have 50 things that were going bad: which one should I focus on?". Then, I chose a short list of the top 10 and, now, what are the costs and benefits of interventions? That is, if a critical point weighs 5 and I spend 10, should I work on it or not? There are things that in theory they should already know, but, as I said, somehow we transferred the issue of measuring things, measure the problems, measure the commitments to solve a problem.* (Consultant) *Minutes, project cards, presentation of the work in progress. From macro to micro level.* (Consultant)
Tacit knowledge	*Consultants pulled discourses and organized the day.* (branch employee) *Q: About the contributions of consultants, one could criticize this project because consultants actually did not do something concrete here, did they? They organized meetings. Willing to play the devil's advocate, you could organize meetings by yourself.* *A: It would not had been the same thing, because discourses would had gone on a tangent, because if you did not go deep at the heart, consultants stimulated you, forced you to talk about it.* (headquarters employee) *And, then work in groups. Those were all soft elements: relationships, meetings management, all these things. Let's say, all softer. Also public speaking, because in the end when there was the final event they had to expose.* (Consultant)

	At the end, consultants' role was to carry out perceptions, the feelings of colleagues involved in the project. It worked well, in the sense that colleagues felt good in working groups. An important part of technical competence came by our own colleagues, but we knew that things needed to be organized using methodologies with which you can discuss with other colleagues. (headquarters employee) *You can be the person with the best technical knowledge, but you could have a wrong approach, you could be unable to analyze. It is superior to more than 1000 technical skills: you can learn technical skills studying, but these things here are not taught in books, but on the field. That's why I said at the beginning that, here, teachings emerged from something that you collected in an unconscious way. It is not a rational knowledge, a technique, but it is something that stays with you without you realize it. And I think that the target was just that, regardless of the efficiency of processes that there has been.* (headquarters employee)

5.11 Developed capabilities

Different capabilities have been developed thanks to the project. Some of the capabilities are related to competences developed during the project and refers to single tasks: e.g. meetings managing, process mapping. Other capabilities are related to coordination between different functional units. Headquarters employees have developed these capabilities interacting with consultants and participating in the project's activities. Table 5.4 at the end of the paragraph reports relevant quotes.

After the end of the project, the bank has been exposed to further organizational changes due to the receivership condition. In the further change project, the employees of the headquarters were required to autonomously conduct a change project. The role of consultants was reduced to a support activity to the PMO. Participants applied similar methods to organize the project, trying to replicate and adapt what they had learnt during the previous project. Quotations in the last section of Table 5.4 show how the organization acquired the capability to deal with further organizational changes in autonomy. This high level capability results from the combination of lower level capabilities, which have been developed during the previous project. The organization has experienced a process of change with consultants and now it is able to replicate that process in a routinized form.

Table 5.4 Quotes about developed capabilities

Categories	Quotes
Capability to purposefully conduct meetings	*Meetings are definitely more operational: they have a more efficient operating structure. There is one defined day, a minute, directions of operative activities to do, lead times. Participants make larger use of Gantt diagrams.* (Human Resources and Organization Office Manager) *My colleagues understood what it means having a meeting, participating actively in a workgroup, then properly planning and organizing your and others' work.* (Headquarters Employee)
Project management capability	*The Organization Office changed its role. It is still growing in a decisive manner to a much larger role of synthesis, design and coordination. It had been easier with the arrival of the commissioners making a first analysis, and opening a change project, and it was normal in that context for the Organization Office to play the role PMO with the support of consultants.* (Human Resources and Organization Office Manager)
Capability to work in teams	*I would say especially [we developed] the capability to work in teams, orientation to towards internal customer and towards results* (Headquarters Employee)
Capability do deal with inter-functional issues	*Sensitivity changed within the organizational structures: now, for instance, we started with a revision of the overall reporting and I expect that there might be a significant impact. We are managing the involvement of the different functional units that oversee reporting today. It can be done because in the past we have sown a certain way of working.* (Human Resources and Organization Office Manager)
Capability to deal with further organizational changes	*If it were not for the consulting project and other things, what was done with the support of the commissioners would not have been done. Commissioners themselves were not able to do what was done, the presence of Commissioners was a necessary condition that made it possible, but not enough. If there had been no analysis conducted during 2009-2010, the commissioners would come and they would not had perceived that necessity, or if they had perceived, there would not have had the time to prepare the analysis.* (Human Resources and Organization Office Manager) *The change project proposed by the commissioners is something born out from what we experienced before with the consultants. The experience with the consultants served to understand that to work on critical issues as extensive as those faced during the receivership we have to operate with a method and to work in result oriented team-projects.* (Headquarters Employee)

	Q: What capabilities had the bank developed from this type of activity? *A: A greater capability to analyze processes that involve the activities you conduct, the ability to work in teams, the ability to lead a working group, the ability to manage meetings and lead the group towards a common goal, the ability to approach other functional units and understand how your activities have an impact on other structures: these are all capabilities that have been learnt from the project with consultants.* (Headquarters Employee) *We brought within the last change project the inter-functional cooperation and the group working that, I think, has been also enhanced. A risk in a situation like that was related to a strong component of emotional problems because we did not know what the bank would became. Approaching the change project asked by commissioners using these dynamics of teamwork has allowed to live all in a different way. This is something that we brought with us in the last year and I must say it has been helpful because we felt part of a common reality. Even within the last project, we have set up inter-functional working groups with the participation of resources from the branches. So we have brought with us dynamics of collaboration that have been winning.* (Headquarters Employee) *The way in which we replaced the old with the new evaluation report for human resources, hiring the right supplier, was an our internal capability even though we had the support of consultants. This was an effect of what we had learned, and it served as a way to manage this change of procedure.* *Q: Did you used the methodology you learned from consultants?* *A: Yes, because here we needed to define the setting of the problem, evaluate different solutions, choose again the supplier, and then write the circular that modified the evaluation process. Even that is a skill that we have learned to use during the project with consultants.* (Headquarters Employee)

Chapter 6 Case study: Financial Secrets

6.1 Presentation of the firm

Financial Secrets is a company specialized in credit information systems, business information and decision support. It offers its services to banks, financial companies, insurances, multi-utilities and other companies along with a qualified support for risk management and marketing. It integrates high quality and complete information assets, advanced decision support systems, specialized technologies, software and consulting services. Today, the company is the Italian leader in solutions to manage retail credit. Thanks to the experience acquired in more than 20 years if activity, it is now the leading group in continental Europe in the field of credit banking information and one of the leading international company in integrated services for business and commercial information, and credit and marketing management. Today more than 1,800 banks and financial companies in the world use its services.

6.2 Genesis of the consulting project

Large part of Financial Secrets products are data banks accessible from web services. Clients use web access to data banks to retrieve information about different subjects: e.g. credit ratings, loans.

Since 2005, Financial Services outsourced its information systems to IBM, which managed all of their data center mainframes. In 2005, the company started an in-

sourcing project of IT, creating its own data center. In 2008, the company decided to activate its own call center, which was responsible to deal with any problem that clients could face using its services.

Call center activities were assigned to the Service Delivery Unit, which was responsible to collect data about systems crashes or problems from users' phone calls or emails and from automatic detectors that replicated users' behavior on information systems. Operators analyze the nature of the problems and evaluate if they can solve them directly or they need to forward a request to the IT Development Department.

The Service Delivery Unit actually controls different processes: processes related to crash or problems management (incident management, event management and problem management), processes related to the management of change requests on information systems (change management), processes related to service management (service catalogue management). Figure 6.1 presents a schema of the processes controlled by the Service Delivery Unit.

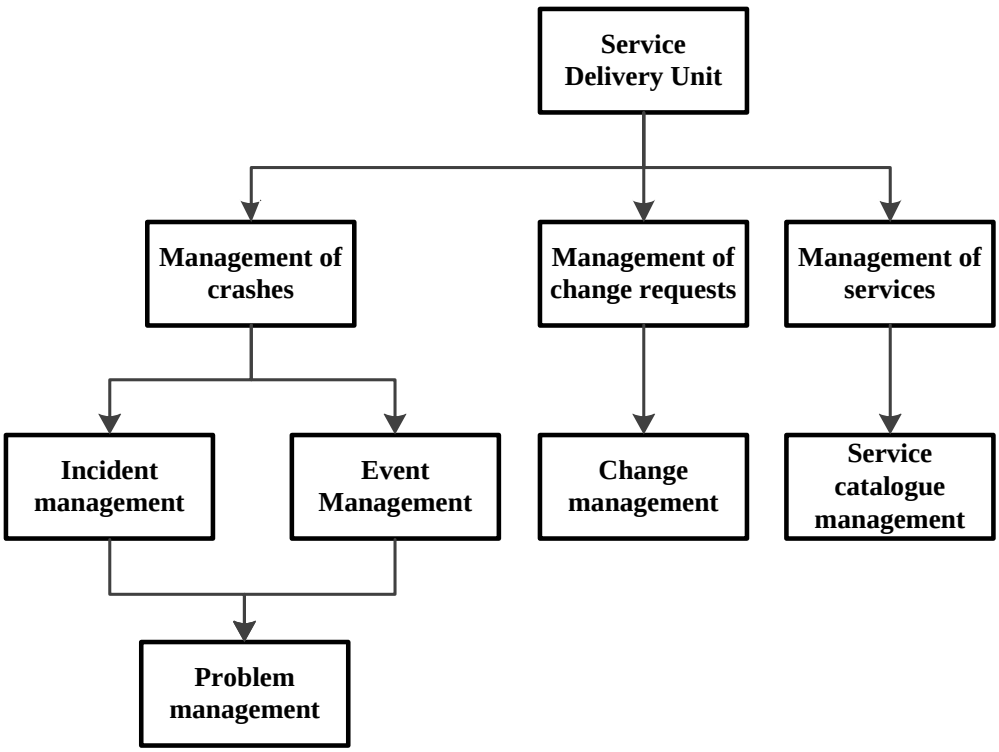


Figure 6.1 Processes managed by the Service Delivery unit

6.3 Initial situation

Service Delivery Unit is an interface unit that collects reports of problems in information systems and operates a selection process. Reports can come from clients and automatic detectors that emulate clients' activities. The unit is organized in three levels. The first level receives requests from clients or alerts from detectors and evaluates if there are immediate solutions to the problems. For example, if a client forgets a password to access the system, an operator can restore the password and solve the problem. If the operators cannot solve the problem, they forward the documentation to the second level composed by more experienced colleagues. If they do not find a solution they can involve specialists of the third level or other organizational units as the software development unit or the hardware maintenance unit.

Internal procedures remained undefined for various years, because unit members acquired a tacit knowledge of the processes and reinforced it through continuous practice. The number of employees of Service Delivery Unit gradually increased during the years according to the company's growth. In many cases alert and customers' requests arrived in shared email folders visible to all the employees of the first level. Each employee could forward the requests to others. There was not a tracking system and the control on processes became complex because of the increase of products, clients and markets of the company.

> *[The process] was not structured. In practice, depending on the type of alert, you forward the problem to different people. Therefore, if infrastructure is a problem, if you see a solid red, you should contact the specialists of the network, depending on whether the problem is network, systems, and so on. Therefore, there was not a ticket system, which took track of all events. So they had no idea. Note that each detector that launches an alarm, they receive an email. We are on the order of 15000 emails per month. It's a job I want to do, too! Therefore, the process had to be better defined, and also the tool for tickets with established metrics to measure the process.* (Consultant)

The unit manager decided to involve H-Advisors in defining a change path for her unit. She wanted to align the unit's performance to general service delivery benchmarks. A framework for the management of IT production services is ITIL, which is an international collection of best practices. The manager decided to try to create a shared

language within her unit, because she wanted to create a common knowledge base and terminology to enable her resources to manage critical business services. So she organized a training course involving H-Advisors. The goal of this course was to test consultants before activating change processes with them.

After the course, the Unit Manager decided to activate a consulting project to address a process performed by her unit. She requested H-Advisors to redesign the process according to ITIL framework. After the first project, H-Advisors operated on other related process.

6.4 Incident project

Incident Management Process is the process that manages customers reports about systems crashes or malfunctions. The process was not structured in Financial Secrets. There was not a ticket system to track all the incidents. The consulting project purpose was to define the process, to support the development of a tool of ticket management and to identify a set the metrics to measure process performances. The major requirement was to standardize this frequent and repetitive process, defining roles and responsibilities of resources and designing an IT tool to support the activities. Consultants identified a workflow tool as the most suitable system to manage the life cycle of an incident: it allowed to collect the incident story, record important data, assign the incident to a team, define the solution and close the request.

The project started in 2008 with an initial assessment phase, where consultants made a series of interviews and meetings to fill checklists to understand the as-is situation. Interviews aimed also to understand the interactions between the process under consideration and other service management processes within the IT department. Consultants summarized the collected data in a document shared with the most important figures in a single meeting. They showed critical points and identified areas for improvement relying on their previous experiences, their knowledge and the particular situation of the unit. Figure 6.2 represents the activities of this analytical phase of the consulting project.

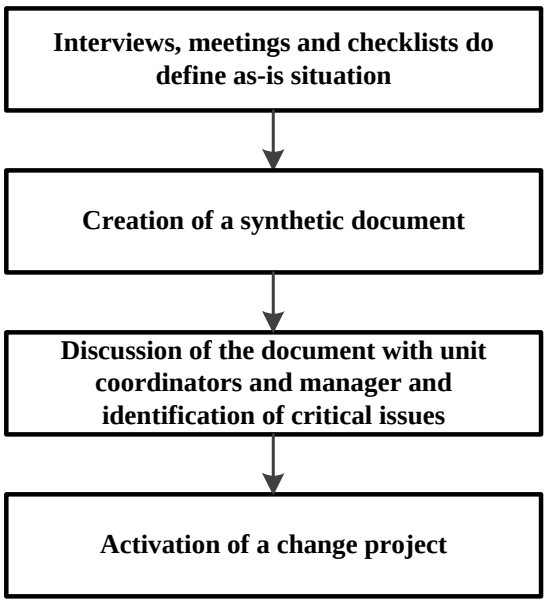


Figure 6.2 Steps of the analytical phase of the project

The critical issues identified by consultants in this process were: (1) the unclear assignment of roles and responsibilities, (3) the lack of clear coordination mechanisms between the different groups within the unit and between the Service Delivery Unit and other units. The solution proposed by consultants required to record all the incidents on the same system, storing standard information and linking every incident with the impacts it could have. Consultants suggested to centralize all the responsibility for receiving the incident report in a single structure, to control the activity and obtain economies of scale.

> *One of the changes we suggested was to centralize all the responsibilities for the incident reception in a structure. Therefore, these initial and easier activities, that do not require specialized skills, could all be done by a single structure, obtaining economies of scale or scope, by centralizing the control and lowering the costs. An incident is reported to a specialist who is a person who typically has 10-15 years of experience and thus he costs a little more. He initially makes quite an easy job: he talks to you, understands what it is the problem, tries to intervene. Those are all activities concentrated in a help-desk facility that typically has a younger structure where there may not be the need of graduates. There are holders of high school diplomas, there is no need for a person with 10 years of experience, and there is one with 1 or 2 years.* (Consultants Project Leader)

The unit manager accepted the solution and activated a consulting project for the development of functional requirements of a ticketing system and the definition of a process with roles and responsibilities. During the design phase, there were different milestones to check the status of the project and validate decisions and outcomes. Table 6.1 presents how consultants addressed the requirements of the project.

Table 6.1 Matching between problems and proposed solutions in Incident project

Problem	Proposed solution
Lack of standardization	Creation of a workflow system
Lack of a clear allocation of roles and responsibilities Lack of coordination	Centralization of the responsibility of receiving, and eventually forwarding, the call in a single structure
Demand for a better management of the classes of incidents	Creation of different classes of incidents and evaluation of their impacts

The management decided to internally develop the tool, according to the functional requirements proposed by consultants. Team members conducted different analyses related to incident priorities and consultants delegated the definition of the priority list to unit members. The project led to the definition of a functional tool to manage tickets in a structured way. Consultants supported also the definition and measurement of KPIs.

6.5 Service Catalogue Management project

The second project conducted by H-Advisors was related to the Service Catalogue Management. Within Financial Secrets, there were different definitions of IT services, not consistent one with each other. The dialogue and coordination between different organizational units was complex, because they had different catalogues of IT services: the catalogue of services certified by Quality Office to maintain ISO 9001 compliance, the catalogue of IT services offered to customers by Commercial Unit. In addition, the

Service Delivery Unit was in rapid evolution, so the standardization of its activities necessarily required a unique identification of delivered IT services.

The management asked consultants to define the requirements of a tool to manage a list of the IT services and a process of maintenance and updating of the catalogue. Consultants proposed to develop a service catalogue system to collect the list of all the services delivered, the associated customers and related service levels (the quality of the provided services). It allows you to track information that link a service to its components. Service Catalogue Management is the process that performs the continuous update of the information about the services provided.

For this process, consultants started almost from scratch. They designed Service Catalogue requirements, proposed a process according to ITIL framework, defined roles and involved figures. They set up the project to ensure that immediate results without buying commercial tools or conducting software developments. They started populating an Excel template with the information required for the catalogue; then they created an Access database, so they provided a model for the new tool. This approach met budget constraints and ensured a focus on the goals of the process, without wasting energies in the design and customization of complex tools.

The company developed by itself a IT system on the model of the database provided by consultants. The design and implementation process of the Service Catalogue Management and its services requested a total of 3 months with an internal full time and 30 days of consulting.

The Service Catalogue project opened the opportunity to strengthen the dialogue between internal units thanks to shared definitions of the services provided by the company.

6.6 Event project

Financial Secrets uses a monitoring application that is part of the IT infrastructure. To perform continuous monitoring, a set of software detectors verify the correct operation of applications. In cases of problematic situations, a detector launches alarms which are evaluated by operators who can decide whether to intervene or not. Possible cases can be (1) uncertain situations which do not require intervention, (2) situations in

which some intervention must be done, but not related to malfunctions, (3) situations in which intervention could be automatic, and (4) situations that result in a malfunction. The starting point is a triggering event. Then, there is a first level of analysis which investigates what is causing the alert. First level can find a resolution. If it cannot find a solution, or the problem requires further investigation, depending on the cases, second and third level will receive a communication in relation to the classification and the type of detected problem.

Event reports come from the infrastructure and incident reports come from customers. Reports can overlap because detectors and clients can face the same problem. This situation could generate confusion between different alerts. Although, incident and event processes present points of contact, there was not a clear interaction model.

The Event Management was not completely structured. There was not a ticket system to track all the events, so the purpose of the project was to define the process, the tool for ticket management and a set the metrics to measure performances. In addition, a further goal was to interface Event Management with the already defined processes (Incident Management and Business Continuity). Event Management operated using emails: each time a detector identified a problem, trying to perform a transaction on the system, it sent an email. Since each failure of a transaction produced an email, their number was rapidly growing along with the number of services offered by the company. Moreover, the monitoring team was composed by an Italian section and a smaller group in the U.S. to ensure h24 service. One of the main requirements was to have a structured process so that the American branch could follow the same procedure used in Italy.

The project began in June 2010 and ended in December 2010. The people involved were three consultants and an external person who was in charge of the operative part. The approach was similar to the incident project: consultants conducted a first round of interviews with a dozen of informants, involving all the areas related to the process, filling a checklist. This was done to understand how operators interactions within their unit and with external units. After the interviews, consultants decided to directly observe operators in their activities to design a process that could met their needs.

Consultants proposed a structured process that was decoupled from the available tools. In addition, they provided an operative procedure with a high level of detail. The process was based on ITIL best practices, but they adapted the guidelines to the specific needs of the unit and to the specific software tools that would be used in Event Management. Table 6.2 presents the solutions provided by consultants.

Table 6.2 Matching between problems and proposed solutions in Event project

Problem	Proposed solution
Lack of standardization	Re-design of the process according to ITIL best practices
Unclear sequence of activities and complex interaction with other processes	Design of interfaces of the process with other existing processes
Substitution of email alerts	Introduction of a ticketing system
Demand for a clear evaluation of the process	Introduction of KPIs

Consultants proposed the new process to the unit manager and the unit coordinators. The macro-points of the change were: (1) the introduction of a ticket system, (2) the formalization of the process, (3) the creation of dashboard of KPIs. The unit members were divided in three groups: the first level collects information about the problem; the second level acts as a back-office; and the third level is composed by system analysts.

A call center performs first level analysis of the events and can find a fast solution. If the solution of a problem requires deeper attention, there will be an escalation of levels determined by a predefined scheme that depends on the type of problem. Operators do not have to choose the receiver at the second level because the system automatically forward the request, reducing the waste of time in finding the appropriate expert. This organization allows economies of scale, because it levers the capacity of the call center and second and third level members. It allow to focus experts'

activity on complex problems. Therefore, it maximized their attention on critical issues reducing the need of further high profile employees.

Financial Secrets realized the tool adapting other systems already present in the unit and interfacing the various input sources (sensors, detectors). The implementation was done with the support of consultants.

6.7 Change management project

If there is the need to modify something in production IT systems, operators can open change request. The change process defines the change requests for IT systems. Requests usually come from clients. In Financial Secrets, there is a group evaluates whether a change request is possible from a technical and economic point of view. The decision is made according to technical impact and budget availability. If the request is accepted, software designers conduct the development or coordinate the outsourcing to suppliers. Then the solution is evaluated and activated on production systems. A final test considers if the result corresponds with the requested change and closes the change request.

This process, unlike the others, was the only that the company decided to develop without the support of consultants. This decision stemmed from the conviction of the management that they already had the experience of how to define the process and the operative procedure. Unfortunately, the team performed worse than expected because members had not all the required knowledge and were involved also in their operative activities. Therefore, they had not enough time to formalize an entire process. The unit manager decided that the final process was not as exhaustive as she expected, so she asked consultants to review the entire work incorporating a variety of needs not yet formalized and clearly transposed.

6.8 Problem management and new projects

When a series of events or incidents is repetitive, Service Delivery unit opens a Problem activating a problem management process whose purpose is to manage and resolve the issue in a definitive way, regardless of how long it will take. The Event and the Incident processes focus on the return to an acceptable level of system operation in

the shortest time. Event and Incident Management can require the intervention of first and second level operators, which have more experience. The solution of a problem can require the intervention of the third level or of other units to perform deep changes on software or hardware.

The management decided to address Problem Management process in a different way, changing the role of consultants. They were asked to identify the points of contact and information to be exchanged between Event and Incident Management processes and Problem Management. Then, the management decided to conduct the project with internal resources, relying on an external support by consultants.

H-Advisors are still collaborating with Financial Secrets in projects oriented to the extension of ITIL best practice to other business processes.

6.9 Core rigidities

The initial condition of the Service Delivery Unit is characterized by the lack of standard processes to deal with customers' requests. The unit does not present a structured organization with a clear distinction of roles and responsibilities. This results in a general lack of coordination between operators with different levels of experience. The increase in the number of clients and in the complexity of products exposes the unit to a decline of its level of service. Financial Secrets lacks of internal routines that support the coordination between different organizational units and information exchanges are not supported by modern IT systems.

Consultants associate these elements to the history of the firm and the culture of its founder. Internal management focuses primarily its attention on core business activities, and does not define a plan for future evolution of the organization. Because of the fast growth of the company, management is unable to align the organizational structure to the actual needs of the core business activities. While the company shows a strong dynamism in expanding its market, the organizational structure remains underdeveloped for the actual needs. Moreover, since managers and middle managers dedicate the large part of their time in dealing with day-by-day activities, they present a strong dynamism in taking operative decisions, but they are not able to analyze the actual situation, design future scenarios, and define long term projects. Table 6.3 reports

relevant quotes about core rigidities.

Table 6.3 Quotes about core rigidities

Categories	Quotes
Lack of standardized processes	*Unlike other industries, mechanical or production in general, IT has a strong technological complexity. Nevertheless, for what concerns the processes, the way of work is very traditional. Therefore, in production services, costs of services and production cycles are standardized, and if you do not standardize and control everything, you risk to have a negative margin. In the IT industry, it is different, because of its "youth" and rapid evolution and also because of the fact that perhaps until now, until yesterday, there was not much need of a spasmodic attention to costs. Then, for ten years the IT industry had been in crisis. Before there was a waste and nobody worried too much. For these reasons, I think that there had not been an industrialization in processes and thus neither in services. Few organizations have standardized the services. Today a bit more.* (Consultants Project Leader) *They managed incidents also before, because otherwise, at the first stop, everything would stop, but they managed incidents in a homemade way without any trace of a single tool such as the life cycle of the incident, so maybe everyone tracked the incident on a different tool, someone did not track, and so on. Without having defined an encoded stream, the incident was reported once to a person, once to another person, once again to another person, once a specialist, once the operator to the first level, once to a manager who maybe could not do anything, because he did not see the instruments and then just had to speak to someone else. Therefore, it was necessary to work in a more industrialized and more controlled way. Even the issue of control is very important, therefore measurable.* (Consultant) *They had no numbers, nothing except the count of the emails. We did a count of the emails and in the end it proved to be just misleading.* (Consultants Project Leader) *They had the team composed of a section in Italy and a section in the U.S. in Atlanta to provide monitoring 24 hours a day. If the Americans do not have procedures, they do nothing. Therefore, one of the main requirements was to have a structured process because abroad it does not work as in Italy: they should have written things to do things. They needed a procedure to make Americans sticking to that procedure.* (Consultant)

	Definitely, before the definition of the process we have always had some problems in communicating what was happening in the structure. (Call Center Coordinator)
Lack of definition and assignment of roles	*My interpretation and my perception is that they realized that the size was such that they needed a qualitative leap. They did not have a clear idea, at least before the course, of how to make this qualitative leap.* (Consultants Project Leader) *Surely, there was not a clear assignment of roles and responsibilities. Moreover, this is a critical issue at the organizational level, which is true for all the interventions we have done on that customer, not just the first, in some cases more, in other cases less. It is also normal because, in a time in which you switch from a homemade way of work to a little more industrialized, the first step is to clarify who does what. As long as the way of working is craft made and we are few, we distribute work basing on the needs: who see it first, or who at that time is freer and has more willingness… When you industrialize, you tend to standardize. So this was surely a first critical point at the organizational level, the lack of a clear assignment of roles of responsibility.* (Consultants Project Leader)
Lack of coordination	*Another [problem] is connected with this is the lack of clear coordination mechanisms between the different areas which then lie immediately ahead. When you need to do something, you first must understand who do what. The next step is to understand how different actors are eventually involved in the same process that has the goal of resolving the incident, taking a census of the services, carrying out monitoring. How should the various actors interact? This is important because, to perform the process from start to finish, an actor does certain tasks, another does some other tasks and all must act in a coordinated manner to ensure that the process is done on time and in a predefined way.* (Consultants Project Leader) *Roles were not defined, so there were different actors, different organizational units or areas that could receive the report of the failure from the user or from who pointed it out and started the process of resolution. The numerical and geographical growth forced them to struggle with the problem of how to manage.* (Consultants Project Leader) *They solved the problems, but we need to see how long they took and if they lose more time for internal organizational inefficiencies: they had to call, asking "Did you solved it or not?" It is different when you can see from a tool those who have in charge, if they are working or not.* (Consultant)

Organizational inertia	*Q: Do you think they lacked the ability to see outside? A: Yes, yes.* *Q: Ok. From what have you noticed it? Provide me an example. A: From their resistance to change in general. The advantages of working differently seemed obvious to me, but probably they were so locked in their traditional way of working that a change was not a benefit for them, in short, they did not see benefits.* (Consultant)
People embedded in operative routines	*They are people accustomed to do a very schematic, repetitive job*. (Consultant) *They are operative, very operative. The management is very operative, too, specialized in doing what it does. To have a higher vision, you need to pass to top-management.* (Consultant) *Organizational problems: it is a classic! It is a structure very bounded to operations because people roll up their sleeves and do. Among IT personnel oriented to operations, you can find technicians able to solve problems. They are competent from the point of view of systems and software but capabilities about how to organize roles and responsibilities, plan activities and assign goals are scarce.* (Consultants' Manager) *When there is a focus so strong [on operations], all things which do not produce the result are placed with lower priority.* (Unit Coordinator) *Financial Secrets has chosen not to have people who have process management duties in their jobs. There is no one who do that work in Financial Secrets. All the people with whom you speak are certainly dedicated to other activities and among their activities there is also the activity to be process owners. There is an office within our structure that deals with the processes. It is called Organization Office and deals with the definition of processes, in particular from the quality side, but it does this activity collecting experiences. Nevertheless, this group does not have a control over the processes. [omissis] It conducts audits to see if people actually know the process. It checks with the manager if the process is periodically adjusted to operations. The other functions are delegated to process owners that actually make also their work.* (Unit Coordinator)
Dynamism in decision making	*Every time I attended meetings, involved as a manager, I was surprised by their speed in making decisions. It is an index that managers and directors feel the delegation to bring home the results. They feel they have decision-making autonomy, without which they could not bring home results. They make organizational decisions. How to integrate teams of different organizational units? Who is responsible of a thing?*

	Who is the process owner of a new process to be set up? The benchmark is that they are 10 times faster than the average. (Consultants Manager) *This dynamism of the company has stressed the practicality of the operative figures. In this operative environment, operative staff has been required to be able to solve operational problems even more. Our projects have revived these people from the flattening of general operations. We are talking about resources with more than 8 or 9 years of experience.* (Consultants Manager)
Company history	*It was a family business. How has the owner managed the company? First, I understood a certain thing: risk management. All that does not require that competence is not important for him, is residual and requires no investment. I take care of it or I delegate, but without impacts on the organization. E.g.: sales, IT management are underestimated. Second, I do an arm length check on the activities.* (Consultants' Manager)

6.10 Knowledge transfer and learning

Internal management is committed in defining in detail the interactions between managers and consultants: the numbers of meetings and the time that internal employees dedicate to project activities is limited. Consultants have to conduct part of the project activities working directly with clients, but this rule is oriented more to control consulting activities, than to activate processes of knowledge sharing. This high structured relation favors the transfer of explicit knowledge, especially in the form of codified documents, but not the transfer of tacit knowledge. Consultants appear mainly as providers of operative knowledge: they are asked to define solutions to contingent problems, as KPI measurement.

Being overwhelmed by day-by-day activities, employees cannot engage in detailed learning processes. Only middle level management tries to understand consultants methodologies, but their comprehension remains at a superficial level. Table 6.4 reports relevant quotes.

Table 6.4 Quotes about knowledge transfer and learning

Categories	Quotes
Introduction of new routines	*Q: You said "we tend to fossilize on a way of working and seeing how another person works could help"* *A: Yes, within the same structure after a while you go ahead and acquire inertia.* *Q: Can you think about an example where it was so in the beginning and then the arrival of consultants on these projects has changed things?* *A: Within Financial Services, some areas were already using trouble ticketing systems and management of reports. In our area, there was not the attitude to use things like those. Participating in a consulting project with the practical realization of these types of tools helped us to convince operative employees that it was right to use them and it was not a hassle.* (Call Center Coordinator) *Consultants have helped in re-encoding. We already had the documents in some cases. In the service catalogue process, we started from zero, we had almost nothing and they suggested us which process to use, which figures to involve, which the basic steps to have an updated service catalogue were. And we let them guide. In the incident process, we had a document that was already at a good level. They helped us to change and adapt. The event process was created from scratch. People managed events, but the process was not codified and there was no trace of tickets. One important thing in processes is the measurement: it is not always easy. H-Advisors in some cases helped us to find metrics to measure the efficiency and effectiveness of the process. The ideal is to define what to measure. First, you measure the change process, you change the process, you continue to modify and you see how much you have improved. Very often you cannot do the measurement at the beginning, because you have not set up the tool to do it, because you build the instrument when you change the process. Even in this case, having a consulting company that comes in and is not affected by your way of thinking is helpful. If you deal with all issues with only the company staff, people are strongly influenced by the world in which they worked up to that day.* (Unit Coordinator) *We proposed a structured process that was decoupled from the available tools to be applied in their context.* (Consultant) *As well as the process, we designed an operating procedure which went into details, because the process was considered too abstract.* (Consultant) *We transferred roles, responsibilities, procedures.* (Consultants Project

	Leader)
Co-working	*Consultants have done much training on the job. The days with consultants had to be always here, on-site. In contracts with consultants, I rarely allow them to do the hard work at home and then bring it here already done. I need they to remain here to work alongside me and my people. In projects with a project plan there is always the task load for Financial Secrets and for the consultants. There is always a mix of these two things, there is never a task load only for a consultant. This requires that Financial Secrets people work alongside consultants and provide a set of deliverables that are shared or, however, are not just made by consultants. Above all, I ask to consultants that, while they work with people, they must understand what these people need to work. For example, it happened when we prepared the event process. I have a monitoring group that made the monitoring of our services and then deal with whether there are any problems, send communications, so it's a fast process and must have fast tools. So rather than the manual where they go to look for things, we developed a wiki where they go looking and now they have this information online, a knowledge base to look for the problem and seek an already presented solution. This is the kind of value that the consulting firm has to identify, having an overview of all the tools that can be adopted and used: what the structure needs at any given time.* (Top Manager) *Q: Did you do this design work at Financial Secrets headquarters or in your offices?* *A: Mainly at Financial Secrets, because, by staying at the client side, you can better deal with this aspect of change management and share ideas.* (Consultants Project Leader) *Q: Ok, so you were there?* *A: Yes, I was there. I said: "Which state is this ticket in?" Then they opened, I saw the category and said "Oh, this should go here as it is written on this procedure. When you have this type of ticket you have to do this other way". I was just there to take samples: I was not there to make tracking with them. It happened that I went there and saw.* (Consultant) *The internal Project Manager urged that we were there. We saw their work when there was an alert. However, our practice is always to be close to the client.* (Consultant) *Since they were very operative people, they saw consultants as people who spoke of nothing. The fact of working there and knowing in detail what they did made us closer to them.* (Consultant)

	They pushed a lot on this side: how much operators would be able… *Q: Do you mean the generation of new knowledge?* *A: Yes, to become independent, to try to produce by their selves. Excluding the fact that they are fulfilled of work and it takes time to do something like that. Then, frankly, I do not know precisely if the operators have the ability.* (Consultant) *We have not read manuals or glossaries. We made with them a step by step path of what we went to make. They introduced as output what should be done, but without asking us to read manuals or instructions that were already defined.* (Call Center Coordinator)
Articulation	*Q: Did you give them any time to discuss among themselves about problems that there could be?* *A: Yes, and also for the check list that we started doing with them. It was not created by individuals: they made it together. They defined all together as a team what the critical issues were. So, yes they have had time to discuss.* (Consultant)
Type of knowledge	*We based on the experience from previous cases more than on documents already prepared in previous cases. When you need to redesign, you need to start from something that is clean such as ITIL or other best practices.* (Consultants Project Leader)
Motivation	*Operators were not very receptive to change just because, on one side, they were operative figures, and the more you are operative, the more you are subjected to change and you do not see the benefits. From the other side, they were subjects difficult to motivate because they were hired with project contracts which has its weight on motivation level. You are there and you can do this thing better, but in two months they leave me at home and not even know how to pay the rent of the house... [omissis] If tomorrow I do not know how to get to the end of the month, perhaps the fact that, if I trace the activities, the process is more controlled, is good, but it influence me up to a certain extent. I think that, according to the difficulty of the subjects, they could probably be more motivated [by managers]. Nevertheless, we have made every possible effort. There were no levers to motivate them well.* (Consultants Project Leader)
Knowledge transfer	*Surely, we have done analyses, interviews. We have talked about processes in the strict sense, then about the interactions of the various ITIL processes that then always need to be customized. Interviews were based on defining the configuration of the process in the vertical direction, the interactions between the process and other service management processes within the IT department. And from this analysis based on our experience and prior knowledge and according to the peculiarities of Financial Secrets, we defined critical elements,*

	possible solutions and directions. We got to that point through interviews and intermediate deliverables presentation, sharing these documents with the project sponsor – the classic mode. Therefore, if we talk about the project deliverables in the catalog of services, we produced a template in Excel and then we populated it with the information within a catalog, up to a Access database done to create the tables. (Senior Consultant) *Facing a critical problem and an action for improvement, I should say what the benefit of doing a certain action of improvement is and what the negative impact of the critical problem is. What we had done in the first project was to evolve and make more effective the way they structured critical problems and the way in which they grouped them and presented the impacts.* (Consultants Project Leader)
High defined interactions	*At the beginning of the project, you already know that you have to produce that output and they often require this kind of relation. It is a very coercive reality in this sense.* (Senior Consultant) *We worked with frequent assessment. In the various processes, we have agreed from the beginning what was the commitment of Financial Secrets. In the projects done with H-Advisors, the estimated commitment of Financial Secrets is shown. It is due to the fact that the commitment of the people on this issue steals time from business: you have to limit and use it well. The other issue is that what we do with H-Advisors is to reason in terms of work packages: the entire project is broken down.* (Unit Coordinator)
Adaptation to standard routines	*At the end of the assessment, we started to think on which processes work: one of whom was the incident. What happened is that H-Advisors did not said "This is the ITIL Best Practice and you have to adapt the way you work to it". What they said was: "This is the Best Practice: we would be very good, if we could do this. We do not do, we find the right balance between what the literature says and what we do". That's what we did. We got a process that might not be the best, but is the best compromise between what people were doing and what they should do. Consultants often tend to make you change and take you on what literature says. First because it is convenient for them: they have a deep knowledge of the literature. Their knowledge about your experience is much less and to be able to think like the customer requires a major effort. It is easier to propose to the customer what they already know.* (Unit Coordinator)
General method to introduce change	*Q: You talk about consultants' method. How do you define it?* *A: They have their own: for method I mean the way they broke down the different activities in this case and obtain the information needed to define the process.*

	Q: Ok, basic skills and then a way to organize? *A: Yes, a method to organize information. I like the way in which H-Advisors schematized the information. Surely I will use it, if I need.* (Unit Coordinator)

6.11 Developed capabilities

Large part of the capabilities developed during the consulting project is of operative nature and related to technical knowledge.

In the projects dedicated to Incident and Event management, Service Delivery Unit members acquire some incremental capabilities: they conduct in autonomy part of the project activities and identify incremental improvements in processes. Table 6.5 reports relevant quotes.

At a managerial level, the series of similar sequential consulting projects shows that the company aims to define a pathway to manage its organizational evolution, gradually introducing structured routines. The incremental standardization of processes leads the company to a better definition of interfaces between different organizational units, to clarify interrelations and regulate information exchanges.

Table 6.5 Quotes about developed capabilities

Categories	Quotes
Incremental capabilities	*Probably without realizing that much, many things will change the way to work without realizing it, always natural. We are moving from a passive to a more active role. We define the process and consultants reprocess them, give us some suggestions and formalize. In the other cases we had made the definition of the process together with the H-Advisors.* (Unit Coordinator) *Talking about the management, I would say that the most successful result was the ability to design processes their own. I can assure that making your own what the consultant says is a rare thing. Assimilating the technical skill is precisely the goal and the minimum object of the project. What's more? Thanks to their participation and co-working, they acquired the ability to evolve processes with these incremental improvements, the sensitivity to feel the need to improve. I think this is a success.* (Consultants

	Project Leader) *Operators have learned to perform a series of activities in a standardized process flow, which is the primary goal of the project.* (Consultants Project Leader) *At operational level, I definitely would say that there was no transferred capability. No ability to improve the process based on what the consultant has done. Another thing that may have been transferred is the importance of working in a industrialized way and following a series of processes and defined procedures. I would speak of awareness of the importance of some things.* (Consultants Project Leader) *Now we have acquired the basics to be autonomous in carrying out activities.* (Top Manager) *Q: Do you see the changes they can introduce as incremental improvements or substantially stronger changes?* *A: Incremental. In my opinion, the consultant helps with an improvement step. If he is good, he leaves you the tools to improve incrementally.* (Consultants Project Leader) *If we see improvements as "Now I invent a new macro process", I see it as something that they do not, and will not do. If they did, I would not suggest them to do that today with the information coming from all sides. There is so much information that invent something does not make much sense. There is someone that has done better than how you can invent, then, at first, look around.* (Consultants Project Leader)
Openness to further changes	*Each time a project produces benefits, also related projects find less resistance.* *Q: A greater openness?* *A: A greater openness to change or to the type of change, to a similar change because saying that with a change people go toward further change is perhaps excessive, but they can definitely go toward a similar change that goes in that direction, involving the same people, with the same logic.* (Consultants' Project Leader) *The perception of the importance of organizing processes and of coordination of roles and responsibilities both within the unit and between units. This perception has increased.* (Consultants' manager) *The project we are doing today with H-Advisors no longer sees us with them in defining the process. We have reduced the part of*

	collaboration with them and H-Advisors expects us to directly give them much of the information. For example, in the problem project the goal was that we defined the process on our inputs, but H-Advisors made most of the formalization and of the definition. (Unit Coordinator)
Use of a structured approach	*They liked this structured approach and tried to replicate it. I say this not because I have seen them doing it directly, but because I understood it. Sometimes it happened that they asked me: "I have to do an assessment, don't you have some templates, some documents, some guidelines that can help me?" So, from this request, I understand they are trying to replicate the approach.* (Consultants' Project Leader) *They had seen a structured approach, they recognize the value and then trying to tend to it and to replicate it.* (Consultants' Project Leader)
Re-use of the routines	*Q: Did it happened that you have applied this new method in a different context?* *A: We have applied it for the management of production, then also on the development, the area of development where we develop software. Even there we are certified. [omissis] Before, there were two separate worlds, structured according to software development with all its procedures and processes, and the management of the production did not have well-structured procedures. [omissis] As we started working with the application of the ITIL framework to define all the processes involved in production management, who did what, how that was done and was measured, this allowed us to have more dialogue with the other parties [other organizational units]. Then it allowed single coordinators to use this methodology to adjust also much simpler processes.* (Top Manager)

Chapter 7 Discussion and conclusions

7.1 Introduction

This study has an exploratory nature and aims to contribute to dynamic capabilities literature, explaining how, through a process of deliberate learning, organizations overcome core rigidities and develop new dynamic capabilities, thanks to the external intervention of consultants. Previous literature does not explore how dynamic capabilities evolve, fostered by external knowledge. This study tries to contribute to a better understanding of this process.

In this chapter, I discuss the results of the four cases studies with the contribution of the theoretical concepts exposed in Chapter 1. The theoretical model presented in Paragraph 1.9 is developed with the empirical evidences from case studies, to contribute to build a theory about capabilities evolution.

This chapter presents a schema of each case study, then it focuses on three core themes: the process of dynamic capabilities development, the patterns of capabilities development and finally the role of external actors. This chapter presents propositions and a model for dynamic capabilities development.

7.2 Comparison of firms' initial situations

The analysis of core rigidities accounts for the organizational problems that firms faced at the beginning of the consulting projects. Core rigidities are defined in literature

as a gap between environmental demands and current firm capabilities (Leonard-Barton, 1992). Literature about core rigidities, stickiness, and path dependency is broad and present different categorizations of conditions of rigidities. Some categories relate to knowledge (Leonard-Barton, 1992), other to strategy (Szulanski, 1996), other to path dependency and organizational characteristics (Vergne & Durand, 2011).

This paragraph focuses on the presentation and comparison of case studies, showing the exiting gap between environmental contingencies and organizational capabilities. During the coding stage and the analysis of the results, categories from literature showed various weaknesses. They do not allow a clear representation of the case studies in particular in the distinction between three relevant elements: external condition of the environment, internal set of capabilities and causes of organizational rigidities. They can provide an initial reference for categorization, but they do not support a cross case comparison for two reasons: first, because they are general, and, second, because they present large areas of overlap. For example, in the majority of the circumstances, rigidities in integrating knowledge from outside are combined with innovation stickiness. Furthermore, during interviews, the questions related to core rigidities categories resulted confused and respondents asked to rely on the case to explain the initial conditions of the firm, rather than differentiate the organizational problems on the basis of abstract categories. Finally, in this study, the interpretation of core rigidities should match with the interpretation of dynamic capabilities and categories presents some differences and overlaps.

In this condition, confusion may arise in distinguishing the differences between the two categories. Therefore, I adopt a different approach that highlights the capabilities gaps in the four case studies and accounts for their solution. I consider core rigidities them as capability gaps, which are conditions in which firms have resources and capabilities that are not functional to deal with environmental demands or to compete in a particular market (Helfat & Lieberman, 2002). Capability gaps can be due to the fact that existing firms' capabilities are of different nature compared to the capabilities required by the environment or do not present the level of development required by the environment (Capron & Mitchell, 2009). According with this simple formalization, I analyze case studies proposing a distinction between the elements reported in Figure 7.1.

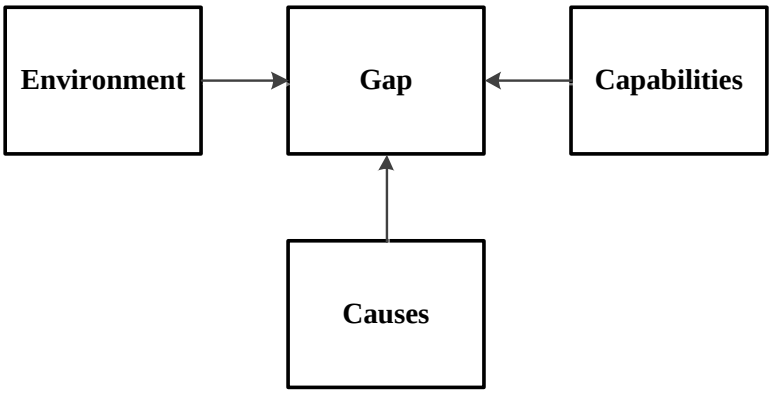


Figure 7.1 Analytical model adopted to study core rigidities

Environment stands for all the environmental conditions that can generate a situation of gap. Capabilities stand for the actual capabilities of the firm. The plus of this approach in interpreting qualitative data is that it allows to identify the causes of core rigidities, using the rich data provided by interviews. The next paragraph analyzes the case studies, adopting the presented approach.

7.3 Analysis of capability gaps

This analysis of core rigidities starts from external contingencies that highlight gaps in firms' capabilities. In the four case studies, environmental changes force firms to address them with appropriate organizational solutions.

In Fast Chef case, the environmental contingency is represented by the need to comply with an ISO norm. Inspection agents switched the level of compliance requirements from low to high. Fast Chef needed a new capability to deal with the fast change in environmental demands, because it was required to design a proper organizational solution to manage traceability in its kitchens. Nevertheless, it lacked of project management capabilities to organize its resources around a single project as reported in Figure 7.1. The effects of the capability gap caused an initial loss of compliance and the risk of losing relevant clients. The causes of the capabilities gap emerge clearly from interviews: there was a lack of coordination between Information Systems Unit and Operations Unit. The lack of coordination was due to the reciprocal

negative perception of the two units, which made impossible to develop joint projects. The two units had never developed collaborative projects, so Fast Chef lacked of a coordination routine. Figure 7.2 reports a schema about Fast Chef's core rigidities. The schema is structured on the basis of the model reported in Figure 7.1, but it does not report a description of current firm's capabilities (right box in Figure 7.1) because it is not functional to this discussion, since this analysis highlights the capabilities required by the environment which are not present in firms.

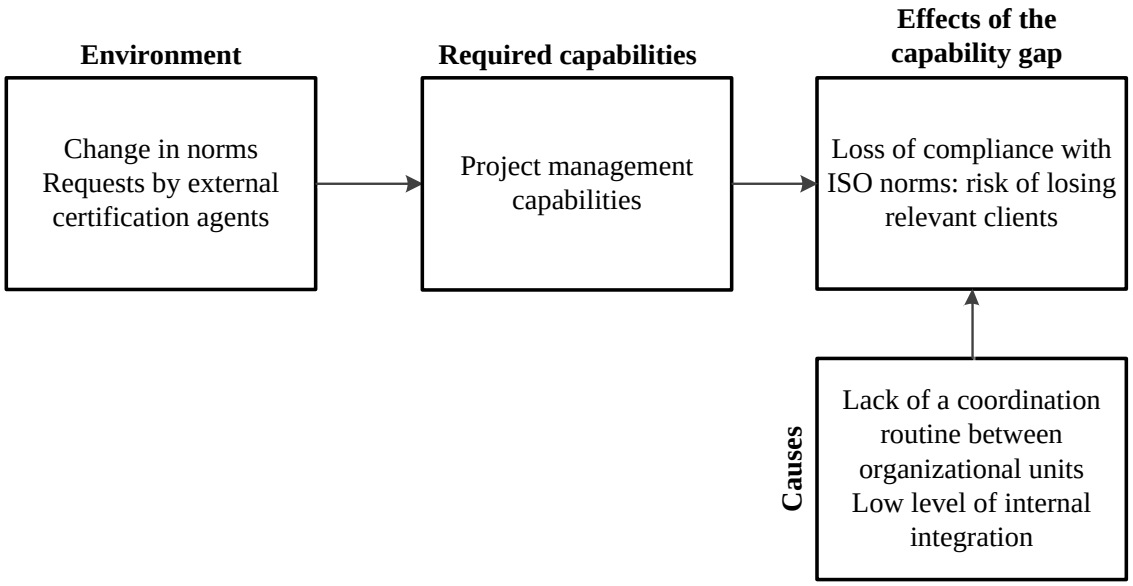


Figure 7.2 Fast Chef's core rigidities analysis

The economic crisis of 2008 reduced revenues of retailers and required an overall cut of Italian Mart's operative costs. This environmental demand highlighted a capability gap and the company was unable, first, to design and, second, to implement an effective organizational solution that would provide satisfactory performances. The capability gap showed its effects turning out that internal management was unable to identify initial internal problems of the stores and autonomously define a new organizational model. Internal management required the intervention of a strategic consulting company to create a new organizational model for its stores, but this intervention highlighted the second problem. After the first consulting project, a second gap revealed itself: the company was unable to import external knowledge and integrate

it into the existing organizational structures and routines. Internal management did not understand the new organizational model and had difficulties in implement it in the stores. This gap caused a further reduction of performances in the stores that changed their organizational model without the support of the second consulting company (S-Consulting). The causes of this failure can be attributed to poor communication between headquarters and superstores. In addition, the headquarters had no routines to internalize knowledge from outside and replicate it in similar contexts. Figure 7.3 reports a schema about Italian Mart's core rigidities.

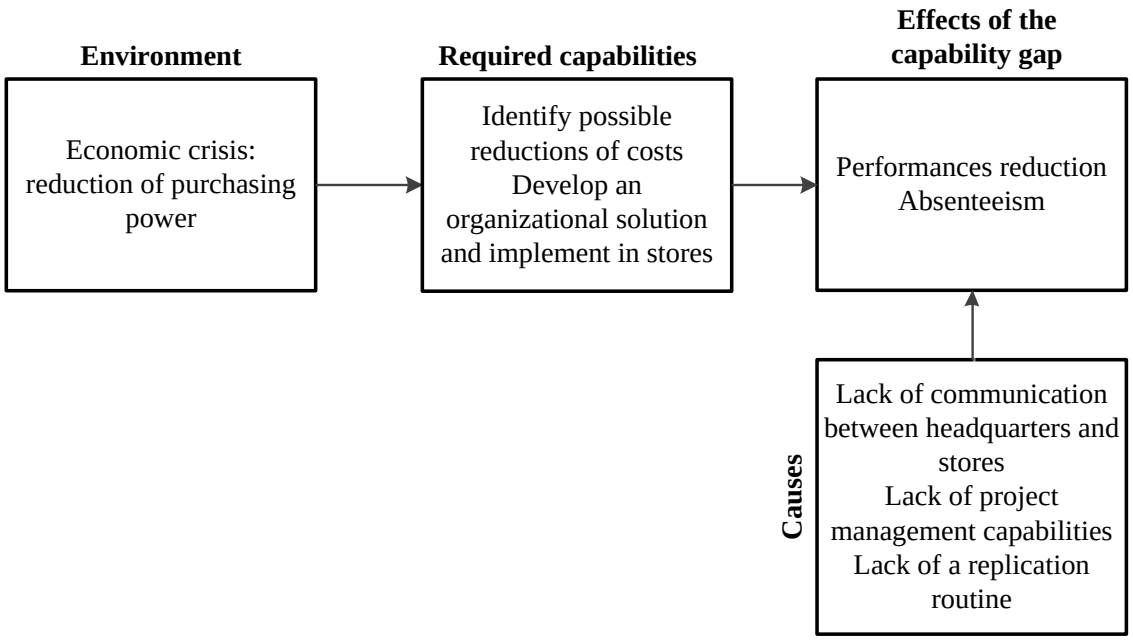


Figure 7.3 Italian Mart's core rigidities analysis

Coast Bank was not exposed to a strong initial environmental change. The bank faced to the effects of the crisis of 2008 that caused a reduction in performances, common to other banks. During the last years, Italian banking industry was subject to an evolution, with the diffusion of online services, a change in customer demands and the need to offer new services. For example, the development of online banking changed the activity of the branches from classical services at the counter to advisory services. This evolution seemed not to have effects on Coast Bank's organizational structure. The internal situation was static and the bank was scarcely able to grasp any opportunity in

the competitive environment. The capability gap resulted in a decline of motivation of human resources and a loss of a clear organizational identity. The causes of this situation lied in Coast Bank's fragmented organizational structure: the functional structure of the headquarters was unable to support collaboration, because it relied on a single information broker and not on coordination routines. Therefore, the bank was not able to sense changes in environmental demands and to develop organizational processes that involve various internal units. Figure 7.4 reports a schema about Coast Bank's core rigidities.

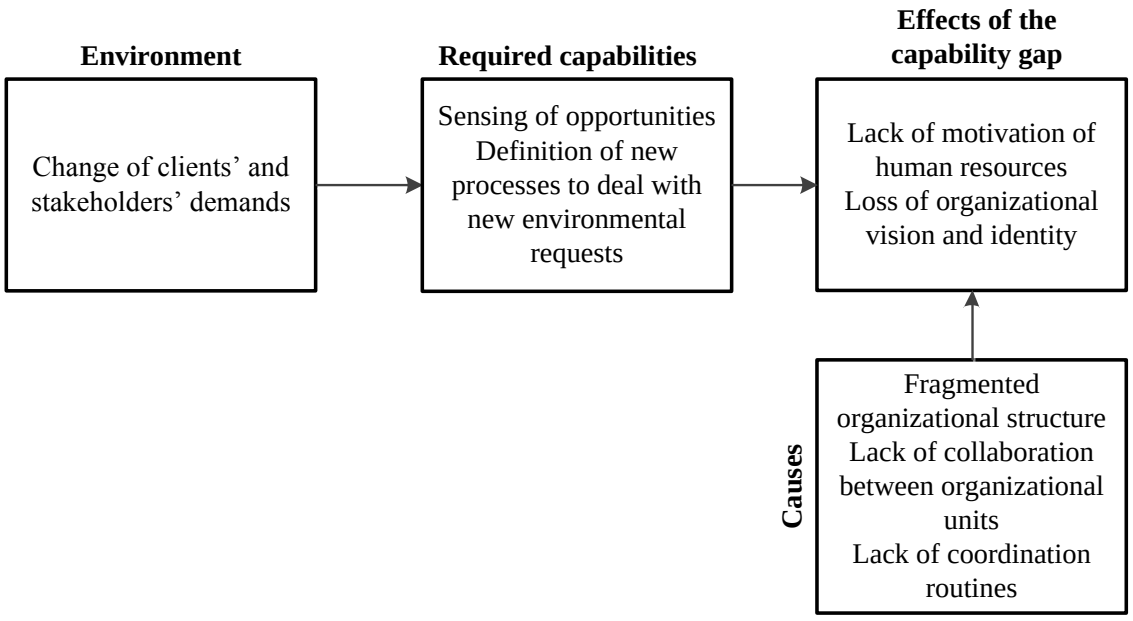


Figure 7.4 Coast Bank's core rigidities analysis

Financial Secrets is a company that increased its size and the Service Delivery Unit had been exposed to two external contingencies: the first was an increase in the number of customers and the second was an increase in the complexity of the products on which it provided assistance. In that context, the ability to standardize the processes, and to define standard interfaces between organizational units was relevant. Financial Secrets did not hold this capability and the gap led to a series of increasingly serious problems related to the reduced exchange of information: the waiting time increased and consequently reduced the level of service provided to clients. The first cause of the

capability gap was a reduced ability to design solutions: in particular a routine to support collaboration. The second cause of the gap was a low involvement of human resources in managerial activities. Resources, including those of the highest level, were involved for most of their time in operative activities that were mostly repetitive and did not facilitate the discussion on possible improvements of processes. Figure 7.5 reports a schema about Financial Secret's core rigidities.

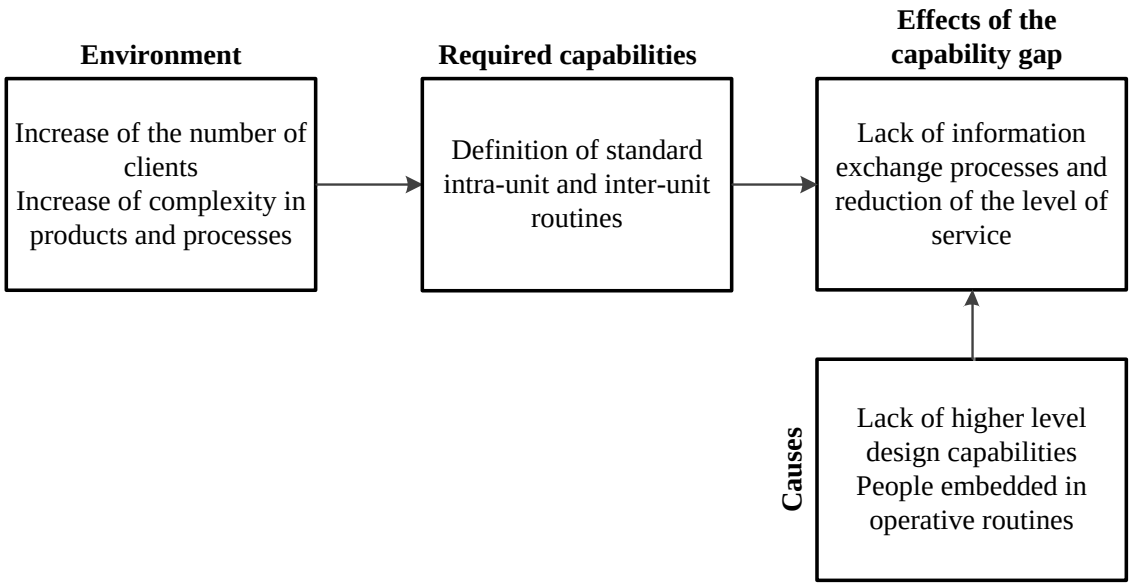


Figure 7.5 Financial Secret's core rigidities analysis

7.4 Overcoming of core rigidities

The analysis presented in the previous paragraph allows to understand the gaps in capabilities of the studied firms. Consultants involved in change projects have enacted a series of interventions aimed at solving current problems related mainly to the immediate effects of these gaps, depicted in the previous figures. The interviews show that their actions had also an impact on the causes of the gaps, but this will be detailed in the next paragraphs. This paragraph presents a synthesis of the activities of consultants and the effects they had in terms of project results and in terms of variation of firms' resources and competences. Table 7.1 summarizes the consulting project activities, their results and the changes that the interventions produced on resources and ordinary competences.

Table 7.1 Comparison of case studies

Case studies	Fast Chef	Italian Mart	Coast Bank	Financial Secrets
Consulting activities	Software selection Identification of best practices Rationalization of operative procedures Roll out of the new model in two branches Project management activities	New organizational structure: from functional to process oriented model (first project) Support in the roll out of the model in stores (second project) Coaching support to groups and single employees (second project)	Project management activities Individual and group coaching Definition of a new evaluation process for human resources Support in the introduction of organizational changes	Design of new processes compliant with ITIL standards and support in the information systems design and roll-out
Results of the consulting projects	Satisfactory results: traceability certification granted by inspectors	Unsatisfactory performances and loss of profitability after the first consulting project Satisfactory results after the second consulting project	Satisfactory results but low impact on the operative activities	Satisfactory performance: increase of the level of service of the unit
Variations in resources and competences	New information systems Traceability management	New information systems New procedures for orders planning and replenishment	New competences of the Organization Office New collaboration procedures in the headquarters	New information systems to coordinate with other organizational units

Table 7.1 shows the changes in resources and competences of the companies. According to an acknowledged and comprehensive definition, a dynamic capability is the ability of a firm to change its resources and competences in order to achieve a better dynamic fit (Helfat et al., 2007). This definition allows to consider the capabilities applied by consultants as dynamic capabilities for the companies in which they operated. In other words, consultants apply their competences, which become dynamic capabilities for the companies that were unable to resolve their gaps and were blocked by core rigidities. This result allows to answer the first research question showing how firms overcome conditions of rigidity due to the intervention of external actors. A possible explanation is that the knowledge of external actors, acting as an external dynamic capability, intervenes balancing the capabilities gaps and positioning again the company in a condition fit with the environment.

> ***Proposition 1.*** *Firms can overcome their core rigidities, involving external actors to shape a change process that modifies their resources and competences and provides a solution to their capabilities gaps.*

> ***Proposition 2.*** *Competences applied by external actors in solving capability gaps act as dynamic capabilities for firms that need them to align their capabilities to environmental demands.*

The theory of capabilities lifecycles shows that, at the end of a lifecycle, there may be discontinuities which lead to the development of a subsequent lifecycle (Helfat & Peteraf, 2003). Theoretical research sustains that dynamic capabilities can act from outside firm boundaries (Ambrosini & Bowman, 2009), but there is no empirical support for this idea. The results of this study show that external actors can apply their competences in change processes. It is important to distinguish between capabilities and dynamic capabilities and their relationship with the involved players: consultants offer a form of knowledge to companies which is certainly not a dynamic capability for their consulting companies, but becomes a dynamic capability when it is applied by consultants in the projects in which they take part. Therefore, that knowledge can be defined as an external dynamic capability.

Consultants act directly on capability gaps, providing the organizational solutions that firms need to deal with an existing environmental contingency. Furthermore, consultants develop a knowledge transfer process, offering competences that companies do not hold, becoming providers of ordinary capabilities. If the environmental conditions remain stable after their intervention, the presence of new ordinary capabilities enables firms to continue autonomously in filling the capability gap with the provided ordinary capabilities. The diagram in Figure 7.6 completes the schema presented in Figure 7.1.

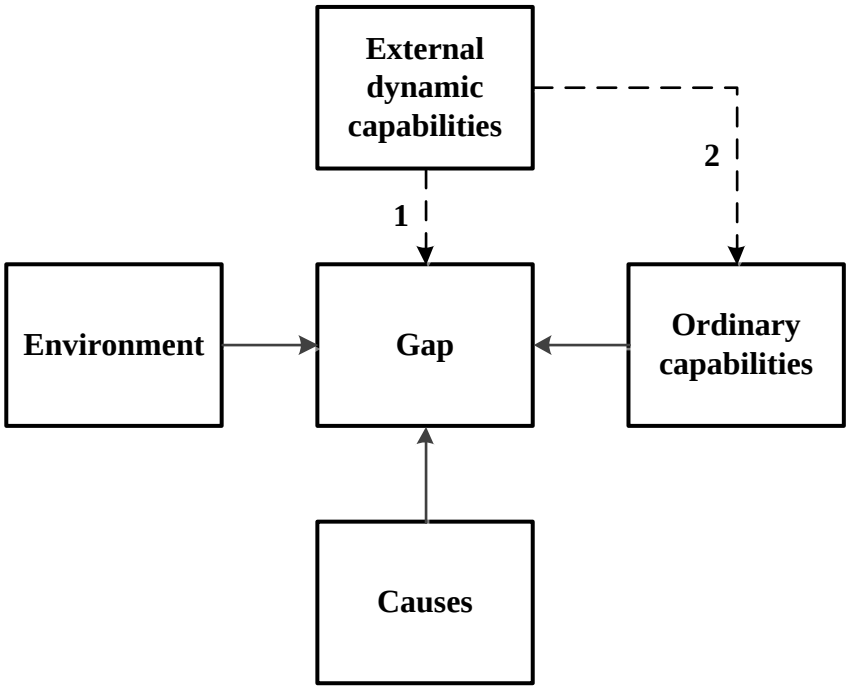


Figure 7.6 Model of the process of core rigidities overcoming

The model shows that external actors, such as consultants, can use their capabilities to compensate the capability gap of a company (arrow 1). This solution is developed during the consulting project and makes the company returning to a condition of fit with the environment. The position of equilibrium is obtained at the end of the consulting project: the firm finds a stable position and, thanks to a knowledge transfer process, acquires ordinary capabilities that allow to deal with environmental

demands without consultants' support. Therefore, consultants alter also the resource and competences base of the company to allow it to meet its own environmental demand (arrow 2).

Common results of consulting projects support this model: many consulting projects do not end in a satisfactory way for firms. After the consultants are gone, companies can continue to show a condition of rigidity and are not able to solve the same problems they faced during the consulting project. This occurs because consultants have provided only a temporary solution to the gap (arrow 1) and have not developed a new set of competences (arrow 2).

After the consulting project, there may be additional environmental changes that bring the company again into a capability gap condition, as discussed in the following paragraphs. The ordinary capabilities could not be sufficient, first, because the causes of organizational rigidity have not been solved, and second, because the company has not developed its own dynamic capabilities and is not able to face a change in the environment. The four case studies show that learning processes can enable firm dynamic capabilities under certain conditions.

7.5 The development of dynamic capabilities

In the four examined projects, consultants led to the development of new organizational solutions that allowed firms to overcome situations of rigidity thanks to their external knowledge. In those contexts, companies developed also new capabilities. Table 7.1 presented a distinction between two important levels: project results, and resources and competences. This paragraph explores the dynamic capabilities developed by firms after the consulting projects. The distinction of these two levels allows to analytically understand changes occurring in the observed firms. Many consulting projects lead only to changes in resources (e.g. the introduction of new information systems), or competences (e.g. the introduction of a new purchasing process). In the four examined projects, these events occur. However, these cases allow to study also a second type of variation, which occurred during and after the consulting project and is related to dynamic capability development. During the interviews, I asked a series of questions to determine what capabilities managers developed. However, this approach

cannot ensure that managers had actually developed the capabilities. Therefore, for each case study, I considered what actions management took after the end of the project to understand if they could be considered an evidence of application of dynamic capabilities. I analyzed further organizational changes at the end of the consulting projects to identify pre-post changes in resources and competences. A change in the level of resources and competences means that, in that particular context, a dynamic capability had been currently applied.

The previous paragraph examines various elements – actions undertaken by consultants, variation in resources and competences, project results. This paragraph presents the dynamic capabilities developed thanks to the interaction with consultants and indicates which proxies are used to infer the presence of a dynamic capability. Table 7.2 shows a comparison of the four case studies.

Table 7.2 Comparison of case studies

Case studies	Fast Chef	Italian Mart	Coast Bank	Financial Secrets
Proxies of dynamic capabilities	Extension of the new IT systems and procedures to all the branches Project management activities conducted by internal managers Further IT and organizational change projects	After the end of the project, managers have developed further changes to the new organizational model	Further changes in the organizational procedures for performance assessment. Identification of others organizational rigidities by internal managers	Acquisition of project management capabilities by two coordinators. Acquisition of methods to effectively carry-out meetings and group works
Classes (Teece, 2007)	Sense, seize	Sense, seize and maintain	Seize and maintain	Maintain
Classes (Ambrosini et al. 2009)	Incremental, renewing	Regenerative	Renewing	Incremental

The four cases show different levels and types of developed capabilities. In conducting their analysis, I refer to two major classifications presented in Paragraph 1.5: the classification by Teece (2007) and the classification by Ambrosini et al. (2009). Teece aims to identify different micro-foundations of dynamic capabilities providing a classification that distinguishes functions and related processes that support those functions and enable changes in resources and competences. The classes – sense, seize and maintain – differ for the functions of the processes of change. Teece's classification is particularly useful to differentiate the functions of the developed capabilities. The classification by Ambrosini et al. (2009) distinguishes three levels of intensity of change – incremental, renewing and regenerative – and outlines a different level of dynamic capabilities' effect on firm's resources of competences. The classification is therefore based on the effects of capabilities.

I chose not to rely on the classification proposed by Verona and Ravasi (2003) because it proposes classes based on knowledge transfer and manipulation. As the authors suggest, the presence of a capability in a class reinforces the generation of capabilities in the other classes, developing a virtuous cycle. Therefore, these classes present large overlaps and are less distinguishable from each other. Also during the initial interviews, several problems in distinguishing between these classes emerged (see Paragraph 2.4).

Table 7.2 and Figure 7.6 show the classes of dynamic capabilities developed by the companies. The axes in the figure report the two adopted analytical categories. Although all the case studies show processes started during organizational change projects led by consultants, the dynamic capabilities developed are different.

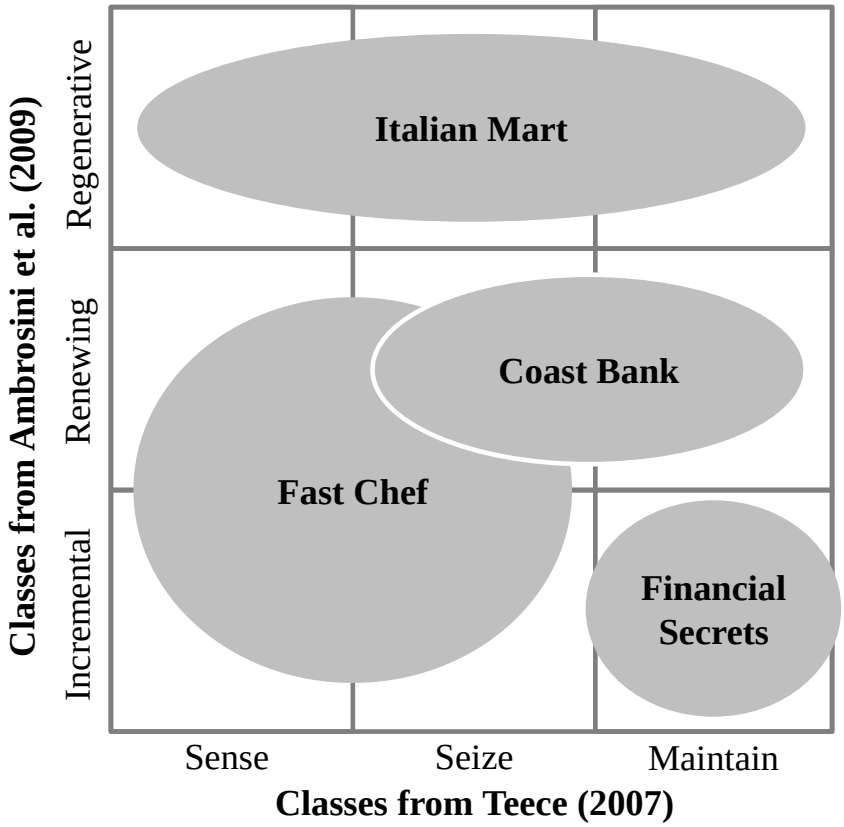


Figure 7.7 Representation of dynamic capabilities developed by the four companies

In the first case study, Fast Chef, the managerial team has been able to autonomously replicate the activities carried out by consultants and adapt them in the new situation created at the end of first consulting project. Furthermore, headquarters continued the implementation of the project in other kitchens, showing a good ability in integrating sets of different knowledge and in developing a replication capability (Winter & Szulanski, 2001). The sharing and re-use of the methodologies that consultants applied to identify organizational problems, design a proper solution, and conduct change projects enabled managerial groups to identify further organizational rigidities (*sense*) and address them with proper actions (*seize*). These activities conducted by the managerial group constitute a proxy of a new dynamic capability acquired by the organization. The dynamic capabilities showed by Fast Chef managerial group led to incremental changes in the traceability process (*incremental*) and to new projects related to commercial restaurants (*renewing*).

Attending to the project activities proposed by consultants, internal managers of Italian Mart acquired the capability of developing further organizational changes in the organizational model of the stores. The three types of dynamic capabilities identified by Teece (2007) are expressed in the second case study. After the end of the consulting project, the managerial group of the headquarters identified the need of a new organizational model for superstores (*sense*) and developed it (*seize*) with the purpose of defending a position of competitive advantage and the achieved level of performance (*maintain*). The level of dynamic capabilities expressed in this case can be considered the highest (*regenerative*), because managers autonomously changed organizational structures and operative routines, after the end of the consulting project.

Coast Bank has developed two distinct types of capabilities thanks to the consultants' intervention. The first is a coordination routine between the various units of the headquarters and the second is the ability to redesign internal organizational structures and procedures to deal with the requirements posed by Commissioners and to catch new opportunities in the market. These two routines allow to defend the competitive position of the bank (*maintain*), but also to design new internal organizational solutions to address environmental demands (*seize*). The organizational changes developed after the consulting project produce both marginal effects, as the introduction of a new procedure of human resources evaluation (*incremental*), and substantial changes in structures and processes, as the organizational restructuring of the headquarters (*renewing*).

After the consulting project, Financial Secrets Service Delivery Unit shows the capability to maintain its level of service although it is facing further increases of requests due to the company's growth (*maintain*). This capability is deployed to produce further incremental changes in routines, as the standardization of other internal processes (*incremental*).

The case studies demonstrate that the knowledge of consultants can trigger the generation of new internal dynamic capabilities. Thus, consultants' capabilities not only influence the level of resources and ordinary capabilities of the firms, but can also revitalize their dynamic capabilities, which are expressed in the processes of change that companies develop after the consulting projects and can be of different types. This result offers an answer to the second research question concerning the process of

development of new capabilities. External actors can trigger processes of change that impact resources and competences of firms and can also act as triggers for the development of new dynamic capabilities.

> ***Proposition 3.*** *After knowledge transfer processes, firms can show the presence of new dynamic capabilities that activate and support further organizational change processes.*

The model presented in the previous paragraph (Figure 7.6) can be enriched, including a new element: a different type of knowledge transfer from consultants to firm's managers. This process can activate the internal development of new dynamic capabilities.

This result could seem in contrast with the idea that dynamic capabilities follow a path of internal development (Teece et al., 1997). Nevertheless, it is important to clarify that this second knowledge transfer process presents a different nature in comparison with the transfer process that affects ordinary capabilities (arrow 2 in Figure 7.6), because that process conveys mainly explicit knowledge. Here, the knowledge transfer conveys mainly tacit knowledge. The presence of a relevant part of tacit knowledge in the knowledge transfer process that leads to the development of dynamic capabilities implies that a form of experiential learning is enacted (Nonaka, 1994). Therefore, the knowledge transfer process is associated with an organizational learning process that managers develop to internalize external tacit knowledge from consultants. Evidences from interviews reported in the previous chapters confirm the presence of this learning process. This result complements the existing theory, showing that the development of dynamic capabilities is an internal process, in which managers can benefit from the availability of tacit knowledge transferred from external members.

The presented case studies show that external actors can influence internal capabilities through the application of their competences (arrow 2), as shown in the previous paragraph, and managerial groups can develop dynamic capabilities through a process of knowledge transfer and organizational learning (arrow 3 in Figure 7.8).

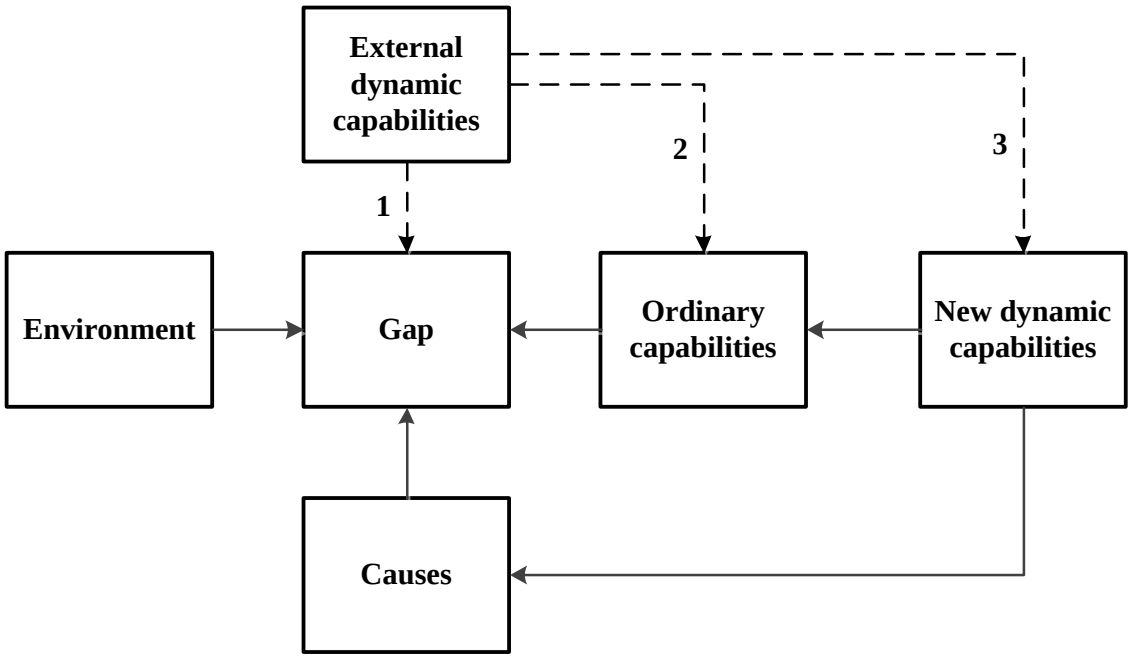


Figure 7.8 Model of new dynamic capabilities development process

7.6 Patterns of change

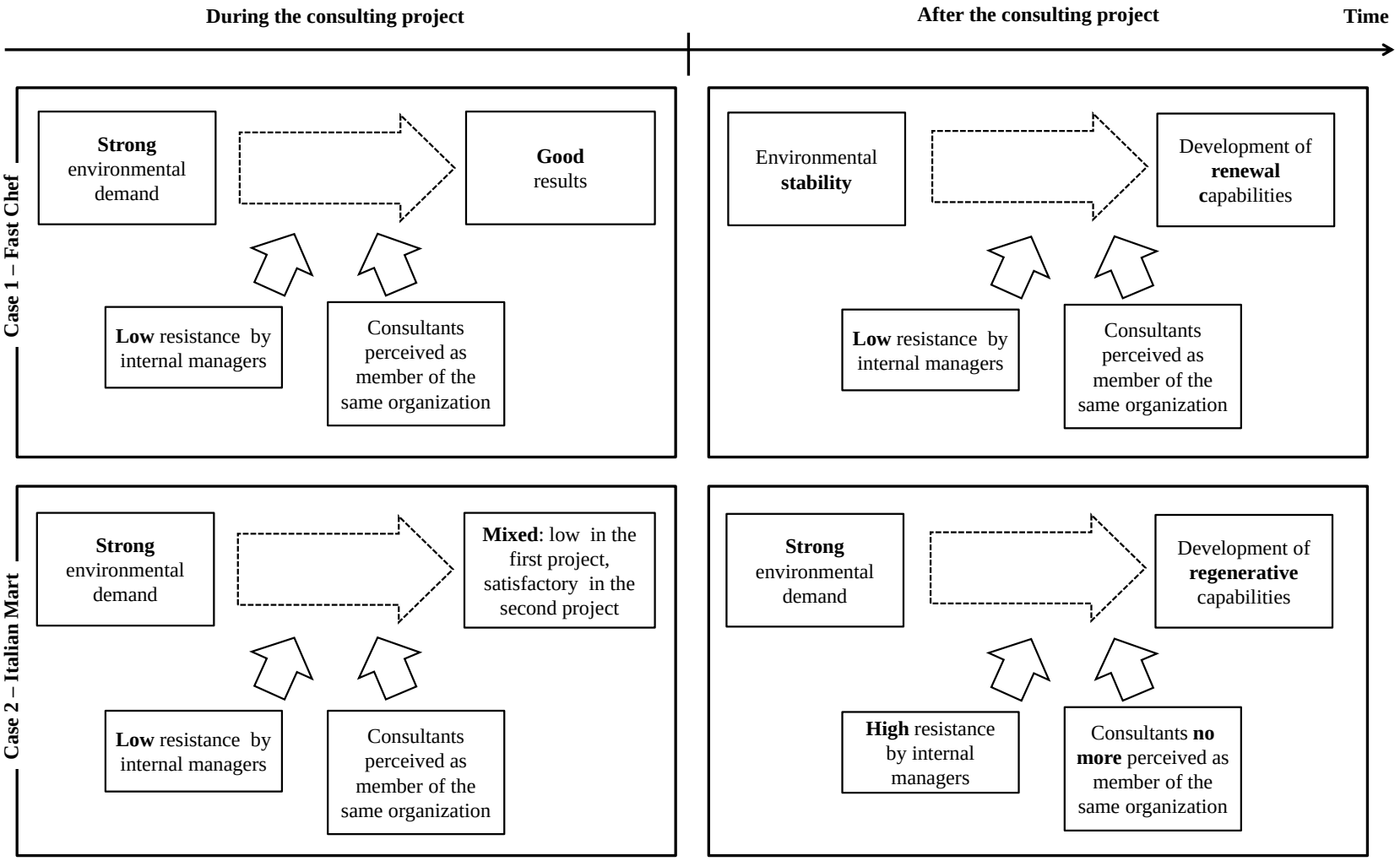
The four case studies show different patterns of change connected with different types of resulting dynamic capabilities. The scheme proposed in Figure 1.4 represents a general process of change in which external knowledge is internalized and fosters the development of new dynamic capabilities. In the four case studies, external contingencies require the activation of a process of change that is carried out with the intervention of consultants. After the end of the consulting project managers of the four firms developed some new forms of dynamic capabilities. Nevertheless, different patterns of processes of change can be identified along with their effects on dynamic capabilities development. I other words, I identify categories that influence the process of development of dynamic capabilities and differentiate the results across the four case studies. This paragraph compares case studies using some important dimensions: the environmental contingencies before the project, the results of the projects, the environmental contingencies that occur after the project and the classes of developed dynamic capabilities. Some of these elements are already present in the model in Figure 7.8. Further elements emerge from case studies and in particular from interviews. The

first is the resistance to change, which is an important element in organizational change projects and is common to many organizational theories, including organizational ecology (Hannan & Freeman, 1984; Kelly & Amburgey, 1991; Piderit, 2000). The second is the perception that managers have about consultants: they can see consultants as aliens or as side by side collaborators. The patterns of change presented in Table 7.3 and in Figure 7.9 clearly express this duality.

Table 7.3 Comparison of pattern of change

	Consulting project				**After the consulting project**			**Dynamic capabilities**
Case studies	**Environmental demand**	**Resistance by internal managers**	**Perception of consultants**	**Performances**	**Environmental demand**	**Resistance by internal managers**	**Perception of consultants**	
Fast Chef	++	-	+	+	o	-	+	Renew
Italian Mart	+	-	+	o	+	++	--	Regenera-tive
Coast Bank	o	-	-	+	++	-	+	Renewal
Financial Secrets	o	-	-	+	o	-	-	Incremental

Very high level (++); high level (+); stable level (o); low (-); very low level (--)
Perception about consultants: positive, as collaborators (+) and (++)
negative, as aliens (-) and (--)


During the consulting project
After the consulting project
Time
Case 1 – Fast Chef
Strong environmental demand
Good results
Low resistance by internal managers
Consultants perceived as member of the same organization
Environmental stability
Development of renewal capabilities
Low resistance by internal managers
Consultants perceived as member of the same organization
Case 2 – Italian Mart
Strong environmental demand
Mixed: low in the first project, satisfactory in the second project
Low resistance by internal managers
Consultants perceived as member of the same organization
Strong environmental demand
Development of regenerative capabilities
High resistance by internal managers
Consultants no more perceived as member of the same organization

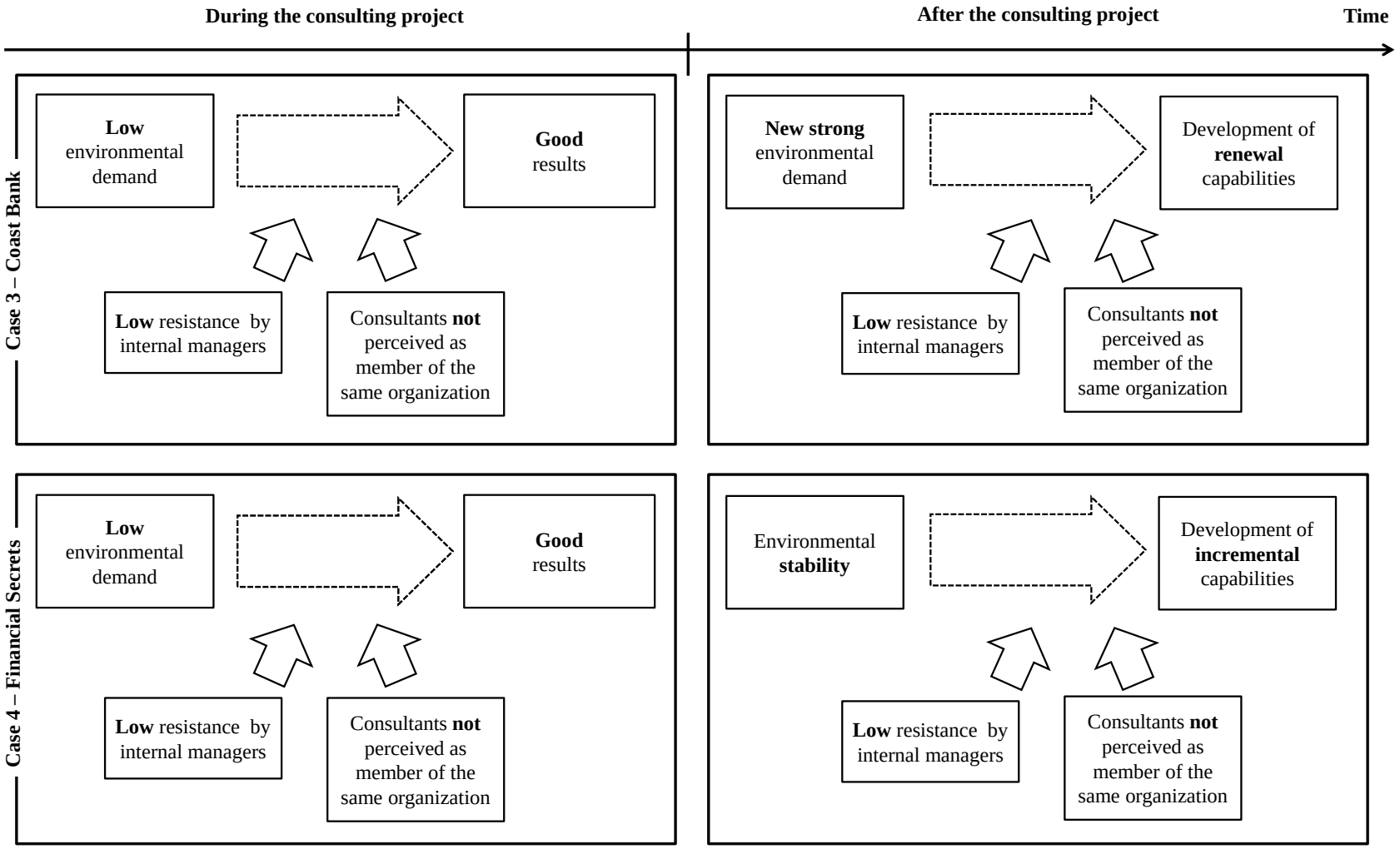


Figure 7.9 Comparison of patterns of change

In Fast Chef case study, the risk of losing the compliance to an ISO norm is a strong contingency from the environment. Consultants tried to reduce the distance between themselves and firm's members in order to be perceived as part of the same organization. A low level of resistance to change can be observed and the project is considered a great success for the company. These two elements are still present at the end of the consulting project: internal managers continue to consider the project useful and activate extensions of the project to other kitchens. The developed capability is mainly a renewal capability. Management is become able to renew existing routines maintaining their coherence with the general set of routines of the firm.

Italian Mart case study presents a different situation: during the consulting project internal managers show a general acceptance of the changes proposed by consultants, but at the end of they refused the proposed changes and created a new organizational design. This behavior is probably explained by the low performances the change produced. An internal manager associates the failure to consultants' inability to understand the peculiarity of their organization. From the data collected during interviews, a strong organizational identity of the company management emerges: managers interpret consultants as "aliens" and "exploiters", who are not involved in the everyday life of the organization and do not share the same values. Nevertheless, firm's managers have observed consultants' methodologies and also codified part of the knowledge into documents. Thanks to such form of deliberate learning process, they internalized a large amount of knowledge from consultants and developed a regenerative capability.

In Coast Bank case study, an initial low level of external contingencies is sufficient to highlight the presence of organizational rigidities. Consultants are not perceived as part of the same organization. The project ends with medium performances, but the receivership condition operates as a new strong contingency just after the end of the project. This contingency forces managers to use the knowledge they have passively acquired and to adapt it to face the new environmental demand. Management shows a renewing capability, but the perception of consultants remains positive unlike the previous case study.

In Financial Secrets case study, there are not strong environmental demands at the beginning of the project, or at the end. The role of consultants is bounded by the rigid

structure of the project and their activity is very close to an outsourcing service. The level of capabilities developed is incremental and consultants are interpreted a suppliers of specific organizational solutions to deal with environmental demands.

The four patterns of change present some interesting elements: external contingencies are particularly effective in activating a process of change that leads to the development of dynamic capabilities. When strong environmental demands are combined with a strong organizational culture, management is able to develop regenerative capabilities to adapt to the environment, as showed in Italian Mart case. After the end of the consulting project, if environmental demands are low, management is not stimulated to undertake a learning process that enables the development of the most effective dynamic capabilities, but just to adopt incremental changes.

The analysis of the patterns of change supports the discussion about the relation between managers and consultants and the study of the process of organizational learning presented in the next paragraphs.

7.7 Perception about consultants

The analysis of the patterns of change shows that the perception of the role of consultants can have a significant impact on the knowledge transfer process. This paragraph analyses in detail the perception that managers have about consultants. It presents dominant interpretations from management consulting literature to offer a consistent explanation of the phenomena.

Recent literature about management consulting is focusing on the impacts that consulting activity can have on organizational change (Buono & Jamieson, 2010). Consultants can assume different roles in projects (Sturdy, 2011). While they remain at the boundary of two different organizations – their consulting company and the client firm –, they can have strong impact on the top management of the client firm and influence the evolution of its actions in the competitive arena.

According to Sturdy et al. (2009), two dominant views of the role of consultants are present in literature. In the first view – the innovator view – consultants introduce new ideas and best practices into organizations. In the second view, less conventional, consultants point their role in legitimating managerial ideas and practices thanks to their

organizational outsider status and no new knowledge flows (Bouwmeester & Werven, 2011). In the case studies presented in this dissertation, consultants had a determinant role as providers of new organizational knowledge. Beside the innovator role, in some cases, consultants assumed also a role of legitimation of minor decisions during the projects.

Many critical studies subscribe to the conventional view of consultants as outsiders that bring new knowledge to their clients. In the "knowing capitalism", consultants are "responsible for producing the bulk of management knowledge" (Thrift, 2005). Clegg et al. (2004) interpret management consultants as especially innovative, introducing "new ways of thinking, seeing and being in the world". Despite these insights, there has been little research conducted to understand whether, when, or how knowledge flow occurs between consultants and clients (Sturdy et al., 2009).

The outsider status of consultants enables them to bring new and potentially valuable knowledge to clients. They are not immersed in the day-by-day operative world of organizations, but are relative "cosmopolitans" who can draw on a range of resources, including innovative clients, and their own specialist skills in knowledge development or translation (Sturdy, Clark, Handley, & Fincham, 2008). Their "marginality" is considered as the necessary contribution they offer in terms of new knowledge (Antal & Krebsbach-Gnath, 2001) and provides them with a privileged insight towards client knowledge "which may not be readily perceptible to the client organization" (Semadeni, 2001: 55). However, consultants' outsider status is in some cases problematic for knowledge flow (Ginsberg & Abrahamson, 1991; Kipping & Engwall, 2002). Cases that document client resistance towards outsiders are reported and describe the "burden of otherness" problem faced by consultants (Kipping & Armbrüster, 2002). The causes are in the novelty of their knowledge compared to the organizational knowledge (Kipping & Armbrüster, 2002; Schön, 1983), in the lack of a shared frame of reference, a common language, in the form of redundant knowledge (Nonaka, 1994) or in the lack of a certain degree of cross understanding (Huber & Lewis, 2010).

The perceptions that managers have about consultants are different in the four case studies, as reported in the previous paragraph. In particular, Italian Mart managerial group shows a critical perspective towards consultants:

They have not brought anything. They get know-how from our operations" (Chief of the Organization Office)

You exorbitantly pay someone to do presentations for you. Even the beautiful presentations and put in them also numbers. They spin the numbers, false, because – I remember it, when I worked with the strategic consulting company – if the numbers did not add up, they had to add up per force, because you had to come to a conclusion (Chief of the Organization Office)

In my opinion, the consultant who brings something from outside becomes something like a foreign body, as when there are transplants: if we do not put the drugs, it is discarded by the body. It is so if the consultant does not enter into a mechanism that start from the bottom, with a total involvement. Otherwise he is rejected. (Employee of the Organization Office)

In Italian Mart, the desire to take the distance from consultants is clearly associated with the not satisfactory results of the consulting project and with the strong organizational identity of the managerial group. They justify their choices referring to the cooperative nature of their company:

When I came here, they told me: "Here you will call by name also the president". We are talking about 1986. Something has changed over time, but I'm old school, a cooperator, in quotation marks. (Store Director)

Our company is very cooperative, not a company like any other. (Employee of the Organization Office)

Making an organizational change brings deaths and injuries, by force. Because it changes the habits. A team of colleagues cannot do it. (Employee of the Organization Office)

In addition, Italian Mart managers and employees agree that consultants have mainly a function of legitimization:

The consultant serves to legitimize the layoffs. (Chief of the Organization Office)

Consultants translated our ideas into tables, slides, and, when there were difficulties, they were there with the mandate of the presidency to break the constraints that could be found within our organization. (Chief of the Organization Office)

In Fast Chef, consultants are perceived differently, as an integral part of the project. Consultants are interpreted as sources of knowledge and the relationship is a

kind of outsourcing, but with a direct involvement and collaboration of the company members in project activities. The internal management remained in control of the project, to acquire the operative modes of consultants:

> *The figure of the external consultant brings knowledge inside and the ability to have knowledge that has been acquired in other companies is very important, the second benefit of consultants is placed in their neutral position in comparison with all the components involved in the project, and this is not irrelevant. (Fast Chef's COO)*

> *The ownership of the project must stand on his head, clearly, the man who wants the company to reach that goal. Then, the consultant is an appropriate instrument to achieve the goal.* (Fast Chef's COO)

At the end of the project, Fast Chef's managers agree in recognizing the benefits of the broader insight offered by consultants:

> *The consulting part served to have a visual outside of Fast Chef, that there could be things done in different ways, not influenced by our needs of production* (Operations Expert)

This approach allowed Chef Fast to develop significant capabilities, primarily based on a replication routine. At the end of the consulting project, management replicated the same procedure to introduce the traceability system in the remaining restaurants. Furthermore, management replicated also the structure of the consulting project and techniques learned from consultants into new projects aimed at changing other business areas, such as commercial catering.

Coast Bank managers and employees argue that consultants should involve participants as much as possible in the project, to provide them not only technical knowledge, but also their methodology. Even in this case, consultants are perceived as new knowledge providers without a role in legitimizing decisions already taken by managers.

> *I think it is important that a top down approach defines the engagement of people, but it is also important that, given the defined goals and guidelines, the base or who deals with every day things propose solutions. The most positive experience we have seen was that people from below felt involved and were able to complete an ambitious project. The training courses served at the beginning to learn the theory, the project experience served to put these things into practice.* (headquarters employee)

The interviewed consultants confirm that they adopted this approach and have transferred "methodologies":

> *If a consultant comes, makes the check-ups and leaves you the booklet, then you should implement what is written there, but, if you had managerial problems before, you will have them even after you have the booklet, because you do not you know how to apply it and nothing will change. The real added value you got is when you impact on people, transfer methodology, involve them really, but not with the interviews: you involve them in activities to transfer them methodologies, which they then bring back, in all what they do.* (Consultant)

As reported in paragraph 5.10, the involvement of participants during the decision-making phase of the project triggered a learning process. After the end of the project, in Coast Bank there was a positive idea of consultants and of the results of the project.

In the Financial Secrets case, consultants are perceived exclusively as suppliers of external competences and they do not play a legitimation role. Consultants, as outsourcers, assumed a time-saving role:

> *The added value was also to save us time because otherwise I would have had it done independently. I would had tried to do it in a certain way, then I would have realized that things were not going so well, and then I would had changed. I would have taken much longer and with higher costs than with consultants business costs.* (Unit Coordinator)

> *This is also the value of consulting: as a result, it allows me to reduce time and then leave me with a solution which is already the target solution, and then I just have to spend some time trying to acquire it.* (Call Center Coordinator)

The top manager required that they showed relational attributes, but their intervention was defined in every aspect: meetings, deliverables and deadlines.

> *One of the requirements is that people that come here must also have relational attributes with whom they have to work, in addition to technical skills.* (Top Manager)

Consultants are perceived as subordinates, who cannot transfer high-level skills. This may explain why the developed skills are only incremental. Internal management is affected only by a knowledge transfer related to the specific topic of standardization and certification.

The perception about consultants has direct effects on the knowledge transfer process. When managers do not consider consultants as providers of new knowledge and new insights, the process of knowledge transfer is likely to be blocked and managers reject the elements of knowledge proposed by consultants. Italian Mart case shows that managers, after the end of the project, associate only a legitimation role to consultants, and tend to refuse their operative knowledge. Nevertheless, they internalize their methodological knowledge.

The other cases show different types of perception about consultants that come up to the role of outsourcer. In this case, consultants can transfer mainly operative knowledge.

7.8 Deliberate learning

The four cases described in the previous chapters show that managers engage in a learning process that leads them to develop new capabilities. The results also show that managers can develop dynamic capabilities. However, it is not completely clear how this process works and what managers transfer. The interviews show that a learning process develops and Table 7.4 reports relevant quotes. This paragraph discusses the subject of the transfer in each case.

Table 7.4 Relevant quotes about the learning process

Case studies	Quotes
Italian Mart	*We arrived there and we threw up all our ideas. Consultants said, "Okay, I got it" and began to make slides. They made their flows, etc.. that is the job of consulting with retailers* (Employee of the Organization Office)
Fast Chef	*The need to contact a consultant from outside was absolutely shared. For some main reasons: first from a methodological point of view. Every company can have many skills within itself, but a few times has methodological expertise, and this is the case of Fast Chef, thus having consultants ensures this crucial aspect* (COO)
Coast Bank	*They gave us those methodologies other than our typical* (Headquarters Employee)

	Thanks to the dynamics we have inherited – that we are able to frame the problem, to drive the reasoning, to succeed in being efficient, reducing the number of the people present in meetings, but having people who really need and have a goal and reach it with the meeting - is something that has remained (Headquarters Employee)
Financial Secrets	*They helped us to maintain the correct step towards the goal. However, the knowledge and the introduction of people already specialized in this type of process helps to streamline this type of activity.* (Unit Coordinator)

Interviews show that, enacting a learning process, management internalizes new routines that can be applied to develop new change processes. These routines can have different characteristics, but have the common feature of altering firms' resources and competences. Literature confirms that dynamic capabilities present a routinized form (Eisenhardt & Martin, 2000; Felin & Foss, 2011; Parmigiani & Howard-Grenville, 2011). Literature about organizational routines defines them as repetitive patterns of behavior (Becker, 2004; Feldman & Pentland, 2003). The routinized form of capabilities does not imply that routines are codified in documents, but can be sets of procedures that are considered common practice in firms (Rerup & Feldman, 2011). The routines at the basis of dynamic capabilities are processes shared by managerial teams when they enact change interventions: routines for environmental analysis, routines for the definition of new organizational solutions, routines for coordination and negotiation between different organizational units.

This study shows that, within the various case studies, deliberate learning processes can develop and lead managers to gain experience from the contact with external knowledge providers. Managers articulate and codify part of this new knowledge. The interviewed managers show different degrees of awareness of the actions of consultants, because they made different experiences during the consulting projects and had been exposed to different situations after the consulting projects. Some factors may accelerate the articulation and codification phases of the deliberate learning process. This study highlights two elements: the perception that managers have towards knowledge providers, in this case, consultants, and the contingencies that develop after

the interaction.

> ***Proposition 4.*** *A deliberate learning process that leads to the development of dynamic capabilities can be triggered by new environmental contingencies that develop after the knowledge transfer process, and is influenced by the perception about external knowledge providers.*

This result offer an answer to the third research question: a deliberate learning process can develop after a knowledge transfer process (a consulting project). A new environmental contingency can act as a trigger. It is a stimulus that focuses dispersed managerial attention on a relevant topic (Ocasio, 1997).

> ***Proposition 5.*** *After a knowledge transfer process, managers are more likely to develop a deliberate learning process if the organization is exposed to new environmental contingencies, which pose again the firm in a condition of capability gap.*

A shift (from positive to negative) in the perception about external knowledge providers can reinforce a deliberate learning process, because it stimulates internal managers to reduce the dependence on the external providers. For example, in Italian Mart case, a rapid and substantial development of new dynamic capabilities is fostered by a change of the perception about consultants.

> ***Proposition 6.*** *After a knowledge transfer process, managers are more likely to develop a deliberate learning process if they change their perception about external knowledge providers from positive to negative.*

The model presented in Figure 7.8 can be updated by specifying how the process that leads to the development of new dynamic capabilities develops (arrow 3). A deliberate learning process can enable capability development (Zollo & Winter, 2002), and two elements influence the process – the perception about external knowledge providers and new environmental contingencies – as reported in Figure 7.10.

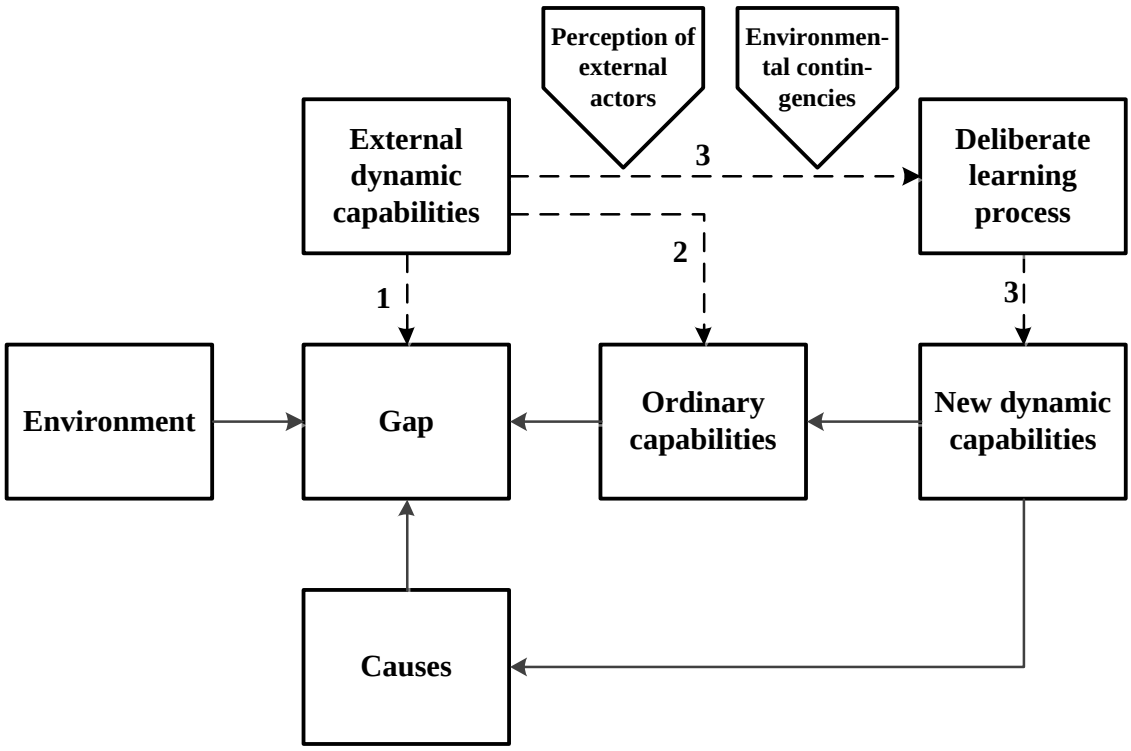


Figure 7.10 Model of dynamic capabilities development

7.9 Conclusions

This study focuses on firms that are in situations of organizational rigidity and aims to understand (1) how they overcome their initial conditions, and (2) how they develop new dynamic capabilities, through a process of deliberate learning.

Dynamic capabilities studies rely on the solid roots of resource-based view and aim to explain the dynamism that involves resources and competences (Helfat et al., 2007; Helfat & Peteraf, 2009). Nevertheless, the generation of dynamic capabilities is a widely debated topic among scholars, and there are many doubts about their dynamic capabilities nature (Arend & Bromiley, 2009; Barney, 2003).

The scheme represented in Figure 1.4 is a result of the theoretical analysis conducted in this dissertation and shows the steps that lead firms to overcome conditions of inertia and develop new dynamic capabilities. It is based on the capabilities lifecycle model (Helfat & Peteraf, 2003) and on the deliberate learning

model (Zollo & Winter, 2002). The theoretical model cannot specify the details about change processes and can only hypothesize certain types of evolution. Because of the limited empirical evidence, an in depth study of the aspects of birth and development of dynamic capabilities is required. Thus, this study provides an analysis of the process of development of dynamic capabilities.

The four case studies show that, in situations of core rigidity, the contribution of external consultants enables the development of new organizational solutions and the change of organizational structures and routines, to meet environmental demands. External actors can provide new dynamic capabilities to firms that are in conditions of rigidity, but the process is more articulated than in the model presented in Figure 1.4. Firms in a condition of organizational rigidity show a capability gap. This does not mean they do not have capabilities, but that their capabilities are not of the type required by the environment or do not have the necessary level of development. For this reason, companies in that condition are unable to react to environmental changes. External actors can intervene in this situation at three different levels (presented in Figure 7.10): they can (1) solve immediately the problem re-aligning the company to environmental requirements, (2) lead managers to develop new ordinary capabilities that allow the company to be independent at the end of their intervention, (3) foster the development of dynamic capabilities within the company stimulating managers to conduct a deliberate learning process. The first two actions are common to many knowledge transfer processes and external actors typically implement them in a conscious way. The third action can be non-intentional and it is not present in many cases. For example, after many consulting projects, internal managers do not develop dynamic capabilities. The development of dynamic capabilities depends on a process of deliberate learning conducted by managers. In this process, there can be an active role of external actors, if they intentionally influence managers (e.g.: Coast Bank case study), but the process can also arise after the end of the knowledge transfer process (e.g.: Italian Mart case study).

The results of this study offer empirical evidence to support the model presented in Figure 7.10. The presented case studies show four situations in which firms are initially characterized by organizational inertia and core rigidities. The consulting projects considered in this study present different patterns of change processes in which organizations pursue an overcoming of conditions of organizational rigidity. A large

amount of qualitative data has been collected during interviews with consultants and managers, to analyze core rigidities, organizational learning, and dynamic capabilities categories. To reach a better interpretation of the empirical results, this study combines theoretical elements from dynamic capabilities theory with elements from organizational learning and knowledge transfer literatures.

This study contributes to dynamic capabilities literature, showing that the interaction with external knowledge providers can activate a learning process that develops new capabilities within companies. External actors can enable the development of different classes of dynamic capabilities from outside firms' boundaries supporting the idea of Ambrosini & Bowman (2009), that argue for possible external influences on firms' dynamic capabilities. A deliberate learning process allows managers to internalize the knowledge that external actors provide during knowledge transfer processes. Variations in external contingencies after a knowledge transfer process and a shift in the perception about knowledge providers affect the deliberate learning process and may impact the type of dynamic capabilities developed after the project.

This study proposes a more complete view of the processes of organizational change and development of dynamic capabilities. It adds to existing literature a new model that distinguishes different stages in capabilities evolution. The model is different from the capabilities lifecycle model (Helfat & Peteraf, 2003), because it focuses on the generation of new capabilities lifecycles thanks to the intervention of external knowledge.

Finally, literature about management consulting can benefit from this study. According to Buono and Kerber (2010) competitive contexts require continuous adaptations of resources and competences and managers need a *change capacity* defined as "*the ability of an organization not to change just once, but as a normal course of events in response to and in anticipation of internal and external shifts, constantly adapting to and anticipating changes in its environment*". This definition is particularly coherent with dynamic capability framework and with the general definition of dynamic capability. Therefore, the findings of this study can impact directly management consulting literature.

7.10 Managerial implications

The understanding of the process of change that lead to the overcoming of conditions of rigidity has strong managerial implications. The case studies presented in this dissertation show different patterns of change in which a manager can identify the situation of his company. The model of the capabilities development process informs managers about relevant elements that directly impact consulting projects outcomes, not in terms of performances, but in terms of developed capabilities.

Because of its qualitative and exploratory nature, this study cannot lead to normative implications, but it offers a strong analytical tool to managers to address the capability gap of their firms. It supports the decomposition in relevant elements and the shaping of decisions: managers can understand the situation of their companies and compare it with the presented patterns of change. In this sense, this study can inform organization design activities.

The choice of management consulting projects as settings for the empirical analyses enables to gain a particular managerial relevance. Management consulting market is increasingly growing in recent years, but, although its importance, it has not been subject of a large academic interest (Sturdy, 2011; Sturdy et al., 2008). The study of the boundary role of consultants as knowledge providers enables to understand their impacts on firms' activities and support managerial decisions about projects. Managers can foster a process of deliberate learning and try to maximize its results, modulating their relation with consultants. In addition, consultants can assume similar behaviors, trying to influence the process of capability development of their clients.

7.11 Limitations and future research directions

This study has an explorative nature and is based on qualitative data, so it presents the typical limitations of qualitative research. It does not provide results that can be directly generalized.

The number of case studies is limited, because this research is designed to reach a in depth knowledge of processes of capabilities evolution. It privileges an in-depth analysis of a reduced number of case studies selected to be comparable along different dimensions. Further studies can provide more defined interpretations of the patterns of

change presenting larger groups of case studies for each pattern.

Further research can direct its efforts in different directions.

A first direction can be the study of the relations between organizational and individual levels of analysis in capabilities development processes. This possible area of investigation can lead to explain how managers develop dynamic capabilities combining individual skills. The role of consultants as boundary spanners could be part of this investigation (Gibson & Birkinshaw, 2004; Leifer & Huber, 1977; Teigland & Wasko, 2003). The combination of different levels of analysis – individual skills, team attributes, and organizational dimensions – could lead to a better understanding of the knowledge transfer process between managers and consultants.

The second direction is oriented towards organization design. This study has combined theoretical elements from dynamic capabilities framework with elements from organization design literature. The study of the gaps between environmental demands and firm's capabilities is a clear example of this combination. The concept of evolutionary fit (Helfat et al., 2007) can be combined with the concept of dynamic fit (Burton et al., 2011) offering an evolutionary perspective of the relation between environmental demands and organizational dimensions. Dynamic capabilities are an important component of this relation.

Furthermore, a contingent model could link environmental contingencies with the required capabilities to deal with them. This research direction could acquire a strong relevance in organization design literature. New models could be developed starting from the extensive research about dynamic capabilities and could lead to the creation of what-might-be approaches combining empirical evidences with simulation studies (Burton & Obel, 2011).

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