

DYNAMIC CAPABILITIES AS PATTERNS OF ORGANIZATIONAL CHANGE: AN EMPIRICAL STUDY ON TRANSFORMING A FIRM'S RESOURCE BASE

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Structured Abstract:

Purpose

In this paper we explore the managerial processes involved in deep, purposeful organizational change. We investigate change towards a goal directed end state and the managerial actions involved in reaching it. Our purpose is to identify patterns of organizational change by analysing how variations occurred in a firm's resources and capabilities at a time of high internal and external uncertainty.

Design and methodology

We use a longitudinal in-depth case study on the airline Spanair. We analyse the change process this airline engaged in between 2007 and 2012, which was considered the most turbulent period in aviation history. We followed the grounded theory approach to induce a strategic capability pattern model from secondary data.

Findings

We identify a capability pattern with four dynamic capabilities: adding, transferring, integrating and shedding; and two higher-order capabilities: goal development and change orchestration. We show how the higher-order capability processes are performed by two levels of decision makers, where one creates a goal directed path, and the other performs a central role in orchestrating change.

Value

Using the teleological approach we identify how top management orchestrate change arising from the dynamic capability process outcomes in a top-down and bottom-up manner. As such we show how the role of management becomes fundamental in adjusting the capabilities required to meet the goals set, particularly in times of heightened internal and external environmental turbulence. We also emphasize the importance of providing bottom-up advice to goal directors.

Keywords:

Dynamic capabilities hierarchy, Teleological change, Goal development, Change orchestration, Grounded theory, Change patterns

Article Classification:

Research paper

INTRODUCTION

Firms competing across numerous industries are regularly required to respond to significant internal, as well as external challenges, which can occur simultaneously. In the airline industry firms are continually fraught with significant challenges including how to compete for reduced passenger numbers post the 2008 global recession, tight flight schedules, and rigid airport requirements (Franke and John, 2011); as well as internal challenges, such as changing management structures (Dobruszkes and Van Hamme, 2011). As such, it is important key firm decision makers understand how to engage in significant change, in order to remain competitive (Rumelt, Schendel and Teece, 1991).

Organizational change involves differences in how organizations function, who the members and leaders are, what roles they take, and how resources are allocated (Huber, Sutcliffe, Miller and Glick, 1993:216). Various types of organizational change have been identified, including local, continuous, evolutionary or routine driven, radical, episodic, revolutionary and goal driven (Porras and Silvers, 1991; Romanelli and Tushman, 1994; Van de Ven and Poole, 1995; Weick and Quinn, 1999). In this paper we explore the managerial processes involved in deep, purposeful organizational change and the dynamic capabilities required to pursue this change (Helfat et al., 2007). That is, those capabilities involved in the transformation of a firm through the modification of its resource base.

Hence, our research question is: How can a firm leverage its dynamic capabilities to bring about deep, purposeful change? We examine this question using an in-depth case study (2007 to 2012) on the airline Spanair S.A., Spain's second largest airline and a member of the Star Alliance Group. This period began in what was considered by the ICAO (International Civil Aviation Organization) as the most challenging and turbulent period in aviation industry history (Benjamin, 2009) where Spanair faced major external and internal turmoil. We analyse the processes this airline engaged in as it significantly changed its resources and capabilities.

This paper contributes to the literature in the following ways. We identify patterns of organizational change based on the variations that occurred in a firm's resources and capabilities at a time of high internal and external uncertainty. The model we develop based on longitudinal case data describes a pattern of change that occurred across two capability levels. The first level includes four dynamic capabilities: adding, transferring, integrating and shedding. The second level identifies two higher-order capabilities: goal directing and change orchestrating. We show how the repeated use of four dynamic capabilities changed the firm's resources base. We also show how the higher-order capabilities create and orchestrate change towards a strategic goal directed path that senior directors and management use, respectively, to guide performance. Furthermore, we identify how the firm uses the relationship between dynamic capabilities and higher-order capabilities in a way to engage in the process of goal adjustment. In doing so we uncover the processes a firm uses to transform its resource base in times of heightened internal, as well as external, uncertainty.

In the following section we identify a deeper understanding is required on how a firm might leverage its dynamic capabilities to bring about significant change in a goal directed manner when external and internal uncertainties prevail. We explain our rationale for using a

longitudinal case study in the methods section which is followed by our findings and the development of a theoretical model, discussion and theoretical implications.

THEORETICAL BACKGROUND: PATTERNS OF CHANGE AND DYNAMIC CAPABILITIES

The nature of deep, purposeful change

In the organizational change literature the study of deep and purposeful change has included rapid and sudden change that occurs in the wake of breakthroughs regarded as ‘revolutions’ (Gersick, 1991; Romanelli and Tushman, 1994; Macri, Tagliaventi and Bertolotti, 2002); as well as adaptive change that happens in a continuous manner (Cyert and March, 1963; Kraatz and Zajac, 1996). Revolutionary change has been associated with the entry of new actors, especially top managers, in times of crisis (Gersick, 1991; Romanelli and Tushman, 1994; Hendry, 1996); misalignment between the perceptions of a firm’s management and the firm’s environment (Romanelli and Tushman, 1994; Oliver, 1991); and in times of significantly reduced performance (Greve, 1998). Adaptive change, in contrast, is typically linked to incidents of a lesser magnitude that lead to small continuous steps that can ultimately lead the organization to significant change (Feldman, 2000; Tsoukas and Chia, 2002).

Given our interest in examining deep, purposeful change towards a goal directed end state, we assume the actions an organization takes can be both significant and adaptive. Making this assumption requires the organization to envision an end state, take action towards reaching it, and then monitor its progress. This type of change is closely related to teleological change described by Van de Ven and Poole (1995:520). Teleology does not prescribe a necessary sequence of events; rather it focuses on the action involved in the change process that implies development towards an outcome, in an envisioned state, assuming equifinality to achieve a goal.

Dynamic capabilities as patterns of change

Dynamic capabilities are responses to the need for change. “The concept of dynamic capabilities includes the capacity with which to identify the need or opportunity for change, formulate a response to such a need or opportunity, and implement a course of action” (Helfat et al., 2007: 2).

Zollo and Winter (2002: 340) defined a dynamic capability as “a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness”. Others, such as Zahra et al., (2006: 918) have defined dynamic capabilities as the ability “to reconfigure a firm’s resources and routines in the manner envisioned and deemed appropriate by its principal decision-maker”. Helfat et al., (2007:1) sharpen the focus to “the capacity of an organization to purposefully create, extend or modify its resource base”. These definitions identify dynamic capabilities as patterned and intentionally applied activities that bring about change to a firm’s resource base.

It has been suggested that if dynamic capabilities are to relate to purposeful change they must satisfy three characteristics. First, to qualify as a capability rather than simply as ad hoc problem solving, they must contain some patterned element (Winter, 2003). It is, therefore, important to distinguish dynamic capabilities from a one-time idiosyncratic change to the resource base of an organization. Secondly, dynamic capabilities also need some degree of

intent, even if not fully explicit. Dynamic capabilities differ from organizational routines, which consist of rote organizational activities that lack intent (Dosi, Nelson and Winter, 2000). The attribute of intentionality differentiates the patterned aspect of dynamic capabilities from rote organizational activity. Zahra et al's., (2006) and Helfat et al's., (2007) definitions also clearly show that luck does not constitute a dynamic capability. The intentionality element also distinguishes dynamic capabilities from accident or luck. And finally, while dynamic capabilities are concerned with strategic change, they are not a synonym for it. They are about one type of change, the intentional change of the resource base (Ambrosini, Bowman and Collier, 2009).

While the routine, path-dependent approach is undeniably important in explaining dynamic capabilities, it also brings with it the challenge of explaining how these capabilities relate to firm's agents of change. Sirmon, Hitt, Ireland and Gilbert (2011) and Helfat and Peteraf (2009) go some way to open this issue, where they refer to the orchestration required by firms to purposefully adapt their resource base, in order to create value, moving attention toward the important role of key decision makers in guiding this action. Other authors such as Zahra et al. (2006) adopt a more strategic approach to suggest dynamic capabilities should be more tactically focused if they are to achieve a firm's goals. Despite these conceptual developments on dynamic capabilities, there does not appear to be any empirical investigation to examine how dynamic capabilities as patterns of action are involved in goal identification, implementation and monitoring to bring about significant change in organizations in times of internal and external turbulence.

Types of dynamic capabilities involved in organizational change

The implementing of different levels of change by conceptually defining a hierarchy of capabilities has been discussed by several authors. A capability hierarchy is used to distinguish between lower adjustments required to the resource base and deeper changes that are made to the firm's set of dynamic capabilities, which in turn serve to alter the resource base (Collis, 1994; Danneels, 2002; Winter, 2003; Helfat and Winter, 2011). The hierarchical levels include: first-order, second-order and higher-order capabilities. First-order capabilities (Collis, 1994; Danneels, 2002), also referred to as zero-level capabilities (Winter, 2003) or substantive capabilities (Zahra et al., 2006) are described as resources and operating routines. Second-order capabilities (Collis, 1994; Danneels, 2002), also referred to as first-order capabilities (Winter, 2003), or dynamic capabilities (Zahra et al., 2006) are those capabilities that change the product, production process scale or the markets served. Third-order capabilities also referred to as meta (Collis, 1994) or higher-order capabilities (Winter, 2003) facilitate the creation and modification of lower-order dynamic capabilities. It should be noted the notion of hierarchies of change has been examined in organizational change. Watzlawick, Weakland and Fisch (1974) identify two types: first-order change happens in a system where the problem is explained and the system itself is unchanged; and second-order change reframes the problem to develop a solution, where the system itself changes. It would appear that first- and second-order change can broadly be associated with the dynamic capabilities present in the second and third hierarchical levels, respectively (Winter, 2003).

In addition to hierarchies, dynamic capabilities have also been variously categorized, often implicitly with regard to the extent they are involved in organizational change. Helfat et al., (2007) suggest some dynamic capabilities enable firms to enter new business and extend old ones through internal growth, acquisitions, and strategic alliances. Other capabilities help to create new products and production processes. Yet others involve managerial capabilities

required to bring profitable firm change and growth. Teece (2007:1319) suggests three even more fundamental capability types: the capacity to sense and shape opportunities and threats; capacity to seize opportunities; and capacity to maintain competitiveness through enhancing, combining, protecting, and, when necessary, reconfiguring the business enterprise's intangible and tangible assets. Bowman and Ambrosini (2003) suggest four dynamic capability processes: reconfiguration, leveraging, learning and creative integration. While these processes help us understand how dynamic capabilities operate, we still need to develop a better understanding of both the content and processes involved in the strategic use of dynamic capabilities (Moliterno and Wiersema, 2007).

Despite the fact that dynamic capabilities have already been defined and categorized in several ways, often they are challenging to identify. Pablo et al., (2007) and Easterby-Smith, Lyles and Peteraf (2009) call for more empirical examination, across industry areas that extend from semiconductors and biotechnology. To address these concerns and to increase understanding on the dynamic capabilities involved in organizational change, we use a longitudinal in-depth case study; that enables fine-grained investigation to identify the subtleties involved in resource change. We used rich contextualized data on Spanair airline since the firm had attempted deep and purposeful change.

RESEARCH CONTEXT

Our data are based on the longitudinal case study of the firm Spanair, during the period 2007-2012.

Spanair, founded in 1986 by Scandinavian Airlines System (SAS) and Teinver, became the second largest in Spain in 1994 (El Pais, 31/1/1994), joining the Star Alliance Group in 2003 (SAS, 2007). In June 2007, SAS senior directors (100% shares SAS owned) announced their intention to sell the airline, to focus on their northern European operations (Cinco dias, 13/6/2007). Negotiations for the sale of 100% of shares in Spanair attracted offers ranging from 300 and 450 million euros (Cinco dias, 28/3/2008). SAS failed to attract satisfactory bids after one year, leading to a cancellation of the sale process and an announcement to restructure (Cinco dias, 20/6/2008). In June 2008 a restructuring plan, also known as "Plan B" was implemented, which included reducing staff by 1,100 employees (29% of the workforce), reducing the fleet from 63 to 48 aircraft and cancelling some routes, to recover profitability (El Periodico, 17/7/2008). Then, on August 20th, 2008, an MD-82 plane owned by Spanair crashed at the Madrid-Barajas airport, leading to 154 deaths (El Mundo, 26/8/2008). Society was shocked at the largest Spanish aviation disaster in over 25 years (El Periodico, 21/8/2008). The impact of the accident was assessed by management to a 455 million euro loss at year close (El Mundo, 3/2/2009).

On January 30th, 2009, 80.1% of Spanair's shares were acquired with a symbolic bid of 1 euro by the firm IEASA. SAS remained as an industrial partner with 19.9% of the shares, and agreed to absorb prior debt (500 million euros) and any possible compensation for the 2008 accident (El periodico, 18/8/2009). The acquisition led to the appointment of new top management and chairperson, and the injection of 100 million euros (Cinco dias, 30/1/2009; 31/3/2009). The key objectives of their new business plan were to develop a hub for international flights at the airport of Barcelona and to return the airline to profitability (Cinco dias, 6/5/2009). The greatest changes included: the launch of a new commercial image (El Periodico, 13/5/2009); the opening of the new T1 terminal at Barcelona airport along with the

relocation of its operations to this new terminal (Cinco dias, 16/6/2009; 17/6/2009); the appointment of a new executive team (Cinco dias, 26/8/2009); the relocation of its headquarters (Cinco dias, 14/9/2009); and a significant downsizing in staff (Cinco dias, 23/11/2009).

Spanair had succeeded in reducing its debt and in creating the Mediterranean Star Alliance hub in Barcelona. However, it had not reached a point of generating a profit in 2010. During the third quarter of 2010 the Regional Government (majority shareholder of IEASA at that time) injected public capital in order to avoid Spanair's bankruptcy (Cinco dias, 22/9/2010; Cinco dias, 6/11/2010; El Periodico, 25/1/2011). Spanair's competitors responded to this by submitting a complaint to the European Commissioner for Competition (Cinco dias, 2/2/2011). Despite the fact that the airline had in part achieved its goal of reducing its debt, and its top management wanted to continue, Spanair's senior directors decided to close the airline on January 27th, 2012 (El Periodico, 28/1/2012). Figure 1 shows the chronological sequence of the main events.

Insert figure 1 about here

In the following sections, we describe our method and then we discuss our findings of Spanair's actions. We examine in detail the managerial goals, intentions and outcomes in order to develop a fine-grained understanding of the processes and capabilities that were applied in attempting to change this firm.

METHOD

Case Selection

We selected an in-depth single case study for several reasons. First, was due to the nature of our research question that required detailed investigation into how a firm leverages its resource base to bring about change in the face of a dynamic external and internal environment. The asking of 'how' questions are ideally suited to using a grounded, interpretive approach with a longitudinal case study that covered the period 2007-2012. Using this method enabled us to provide detailed descriptions of firm processes, including the role of management in the reconfiguration of the firm's resource base (Easterby-Smith et al., 2009). The case study approach also facilitated the use of rich observational material (Locke, 2001) to extract granular data (Yin, 2003) from which the processes under investigation, including the key variables and the relationships between them, could be explored (Eisenhardt, 1989). Second, we wanted to develop a thorough understanding of the processes underlying deep, purposeful change. This observation was made possible by examining numerous data sources. Selecting a firm in the airline industry meant rich sources of information were readily available on a sector with well-defined markets that has intense competition among players (Gimeno, 1999). This industry has been used in the past to make in-depth observations in order to understand evolving processes such as learning, change and competitive dynamics (Haunschild and Ni Sullivan, 2002; Benkard, 2000; Chen, Su and Tsai, 2007). Third, our review of the literature showed there had been no prior in-depth empirical investigation into the role of management in bringing about purposeful change using dynamic capabilities. Instead of aiming for general representativeness, the design of this research called for an inductive, qualitative, single case study.

Data Collection

Using the case study approach, we closely followed Spanair, particularly on the significant changes this airline underwent from 2007 to 2012 (Eisenhardt, 1989; Miles and Huberman, 1994; Eisenhardt and Graebner, 2007; Gibbert and Ruigrok, 2010). The Spanish mass media had covered Spanair's evolution extensively, particularly after the 2008 air disaster. In addition, the firm had a policy of open communication, enabling society to observe its managerial decisions. As a result, we were able to obtain rich published data on, for example, management team meeting recordings and presentations, interviews, and thousands of articles in the press. We reviewed more than 2,000 articles published in economic journals (Expansion, Financial Times and Cinco días); over 3,000 articles in Spanish general newspapers (El País, El Mundo, ABC and El Periodico); and 400 multimedia files from TV channels and radio stations (Televisión Española, Antena 3, Televisió de Catalunya, BBC and Catalunya Radio). This wide source of documentation enabled us to triangulate our findings. We selected data within this range that was most directly relevant to the phenomenon of change for the firm, reviewing material until a point of saturation was reached. Our final database contained 495 media documents: 436 newspapers full text articles, 12 corporate reports, 13 audio files and 34 video files. This data included internal (e.g. annual firm's reports and interviews with management) as well as external data sources (e.g. newspaper articles). We use selected examples from the data in our findings.

Coding and analysis

All documents were entered into Atlas.ti7 qualitative research software. Our analysis then took place over four key stages. First, one of the authors wrote a rich contextual case study. Second, this data was discussed with the second author, who had independently read 70% of the original material from the various data sources, in order to increase the validity of its content (Lincoln and Guba, 1985). Third, we developed a coding system that identifies the grounded categories of the main events of interest from the case study. Fourth, we clustered categories into induced themes that we conceptualized as patterns of change. We used Atlas.ti7 to code and analyse the different document types (text, images, audio and video) and to integrate these documents into a single hermeneutic unit. This included coding 1435 quotes.

Upon observing Spanair's evolution we added a longitudinal dimension to our analysis. We strictly tracked the date of publishing all data, where we analysed the stream of events chronologically. Taking a longitudinal perspective helped us to analyse case events from a process perspective, using the software query tool, to track the evolution of multiple events over time.

We developed a specific coding schema to analyse processes of change in Spanair's resources base (see figure 2). We followed the data reductionist method by comparing and contrasting the longitudinal case data (Collis and Hussey, 2009; O'Reilly, Paper and Marx, 2012). Keeping in mind the research question, we identified the changes in Spanair's resources as grounded categories. Studying the evolution of each resource enabled us to identify an underpinning resource change process. Next, we clustered these changed resources categories into theoretically induced themes according to the pattern applied to each resource. The themes we induced as patterns of change at a more abstract level include: adding, transferring, integrating and shedding. We conceptualized these change patterns as dynamic capabilities according to Helfat et al., (2007:1).

Insert figure 2 about here

The development of these dynamic capabilities did not, however, explain the events that took place in Spanair in its entirety, since they were only part of the firm's overall change process towards explicitly stated goal outcomes. The firm attempted three different strategies in the studied period: SAS's divesting and restructuring strategies, and IEASA's Mediterranean hub development strategy (see figure 1). Comparing SAS's and IEASA's strategies enabled us to analyse the goal development pattern and the resource orchestration pattern, which guided the firm's dynamic capabilities adjustment (see figure 3). We conceptualize these patterns as higher-order capability processes that renew a firm's dynamic capabilities, according to Winter (2003) and Ambrosini and Bowman (2009). The findings section develops figures 2 and 3 in more detail.

Insert figure 3 about here

FINDINGS

We present findings on how Spanair's senior directors (shareholders) and its top management engaged in the respective capabilities identified earlier, in Figures 2 and 3, to collectively transform this firm at a time of high internal and external environmental turbulence.

Goal Development and Change Orchestration

Spanair changed ownership on 31/1/2009, when the firm IEASA acquired 80.1% of Spanair shares from SAS. IEASA was created by a group of private companies and government institutions. The new senior directors charged Spanair's top management with implementing two key financial goals. First, was to reduce debt and turn the airline into a profitable business in two years. Second, was to increase the value of the firm by 500 million euros in three years (El Mundo, 19/5/2009). From the beginning, the partners of IEASA and the managers of Spanair readily acknowledged that returning the airline to profitability would be a high risk project (Cinco dias, 17/4/2009).

Achieving these goals centred on two key strategies. First, was to develop a centralized intercontinental hub where flights of Star Alliance partners, including Spanair's new intercontinental routes could connect at Barcelona airport. Second, was to downsize Spanair, thereby reducing the national and continental routes. Several months after the acquisition, Spanair's new Chairman, Mr Soriano presented a strategy, with the main goal in his words: "The goal of the airline is to turn Barcelona into an international hub and connect the city with the world" (El Mundo, 19/5/2009). The intention was supported by the president of the Star Alliance Group, Mr Albercht who responded "The [Star] Alliance will work with its partner, Spanair, to continuously improve the hub of Barcelona, providing connectivity and taking advantage of the new facilities" (El Periodico, 31/1/2009).

Managing an airline and relocating its operations to create an intercontinental hub was perceived by some private companies and by government institutions as a strategic decision (El Periodico, 8/1/2009; 27/1/2009). From our database we identified two levels of decision making in Spanair's management. Its senior directors developed the airline's goals, while its top management attempted to orchestrate the firm's capabilities to implement these goals. The orchestration of change involved the development of a business model, the definition of

strategies for resources' restructuring with intermediate targets and deadlines and the coordination of activities over the implementation period (TVC, 7/1/2010); top management also identified unexpected opportunities to enter alliances (Cinco dias, 6/6/2011).

Adding Resources

Implementing the new goals involved a process of adding new resources to the firm's physical and intangible resources as well as its managerial capabilities (see Figure 2). The first addition took place at the executive level. We found several examples of top management members being added after IEASA acquired Spanair, such as the appointment of the new CEO Mike Szucs, the new CFO Jorge Chumillas, and the new COO Luke Farajallah (Cinco dias, 21/5/2009). This new expertise led to higher targets for aircraft utilization and changes to the firm's operating procedures (Cinco dias, 29/10/2009). This pattern of adding capabilities at management level was aligned with new appointments to the top management team and to middle managers. (El Periodico, 6/5/2009; Cinco dias, 26/8/2009).

Adding physical resources was evident with the exclusive use of the T1 terminal at Barcelona airport upon its opening. The T1 terminal provided the latest in airport technological infrastructure. Spanair and Star Alliance had an initial advantage over all their competitors (One World, Sky Team and low budget airlines), securing exclusive use of these facilities. This enabled Spanair and Star Alliance to offer improved customer service (e.g. reduced connection times and distances, more comfortable spaces and brand new facilities) (TVC, 7/1/2010; El periodico, 15/9/2009). The opening of the new terminal was used to promote to media the image that Spanair was a networked airline committed to connecting Barcelona with the rest of the world through its new hub at T1 (Catradio, 7/6/2009). Spanair also added new physical resources that included aircraft and physical headquarters, as well as intangible resources, such as the development of a new brand.

Resource Transfer

In January 2009, Spanair had three operating bases in Madrid, Palma de Mallorca and Barcelona, with Madrid as its central operating base (Cinco dias, 29/10/2009). The firm's top management decided to transfer its main operating base from Madrid to Barcelona's hub (see Figure 2). Spanair moved 16 aircraft and 500 vehicles to its new hub on 17/6/2009, with the participation of 1200 people (Catradio, 14/5/2009). Spanair's top management decided to transfer its operational base to where demand was greatest (El Periodico, 14/6/2009). While this move involved risk, Spanair wanted to show it was committed to achieving its goal of developing an international hub at Barcelona, where it would be the first airline to take off from T1 terminal.

While simultaneously transferring its main operating base, Spanair's top management, in consultation with the senior directors, decided to relocate its administrative headquarters from Palma de Mallorca to a new corporate building in Barcelona (El Mundo, 12/6/2009). The transferring process included a plan with significant measures for retaining and transferring the firm's key knowledge, with the assumption that most employees would resign instead of moving to Barcelona (El Mundo, 12/6/2009).

Other transfer processes included the shift of Spanair's maintenance service to the new hub, which included transferring all maintenance staff and related equipment to the new hangar at T1 terminal (Cinco Dias, 2/9/2009).

Resource Integration

The goal of Spanair's top management, to significantly transform the airline, led to numerous examples of resource integration (see Figure 2), including the challenge involved in building a new resource base while managing existing resources. Employees noted this as "a transition mentality". The appointment of new managers to the existing staff revealed the integrating process. The integration of two different ways to manage the firm was reflected in the recordings of management meetings. This example shows the discrepancies in the airplane utilization rates between the new CEO (Mike Szucks) and the existing Chief Operating Officer (Javier Mendoza) before the new COO (Luke Farajallah) entered the firm (TVC 7/1/2010).

The firm also needed to integrate its resources with AENA's (Airports' Spanish authority) resources and procedures to be ready for the opening of the T1 facilities. In addition, Spanair integrated its operational capabilities with its Star Alliance partners. The integrating process with Star Alliance partners occurred in order to create the Mediterranean hub (e.g. increasing connectivity and codeshare agreements). Developing this hub required Spanair to integrate its operational and infrastructural resources with those of its Star Alliance partners: "On 16th June [2009], the airline group Star Alliance opened the T1. This alliance is formed by 14 airlines and connects 42 cities with Barcelona. They operate more than 740 flights each week and they are the main clients of the [Barcelona] airport" (TVC 7/1/2010). The integrated resources of Star Alliance became evident through the flight interconnections among group members and by the opening of new routes with a shared code, "Spanair has managed to weave strong relationships among Star Alliance airlines, which fly from its new hub in Barcelona" (Cinco dias, 4/6/2010).

Resource Shedding

Resource shedding was brought about as Spanair's top management decided that not all of the firm's resources could be integrated with its new ones; since some of its resources had now ceased to provide value (see Figure 2). A key step in the shedding process occurred when a number of senior managers left the firm in 2009 taking with them years of accumulated experience. Most of the firm's top management had left one year after IEASA acquired Spanair. At the administrative level, 63% of non-operating staff left the firm when its headquarters relocated from Palma de Mallorca and a subsequent downsizing occurred (Cinco dias, 14/9/2009).

A change of corporate image also involved abandoning some historical symbols that were once considered important. This resulted in a progressive replacement of symbols associated with their prior image, for example, repainting their aircraft, redesigning their web pages, changing personnel uniforms and redesigning their airport check-in desks (TVC, 7/1/2010).

Other tangible assets to be removed from Spanair included some of its fleet and equipment. The most obvious example was terminating the McDonnell Douglas (MD) old aircraft contracts. Spanair's top management had decided these should be replaced with Airbus (El Periodico, 20/7/2009). Airbus planes reduced operating costs by saving fuel and reducing maintenance costs as well as taking away the negativity associated with MD aircrafts, since the accident occurred in an MD-82 airplane in 2008. This decision also involved making redundant some operational and maintenance staff, pilots and ground crew (Cinco dias, 9/11/2009).

DISCUSSION

This study has investigated how a firm leverages its resource base to bring about deep, purposeful change in times of heightened turbulence in both its internal and external environments. We identified how Spanair developed a hierarchical capability pattern to bring about this change with four dynamic capability processes: adding, transferring, integrating and shredding; and two higher-order capabilities: goal development and change orchestration (See Figure 4). We now discuss these change processes and how the outcomes involved in these processes work towards developing a goal directed outcome. In doing so, we attempt to inform and extend existing organizational change and capability literatures.

We drew on the teleological change concept (Van de Ven and Poole, 1995) to explain the development of the change pattern we observed in Spanair. This enabled us to develop a finer-grained understanding of the processes involved within each capability, and how the outcomes of these processes impact on other capability processes. In doing so, we attempt to extend existing conceptual work on dynamic capability processes by, for example, Ambrosini et al., (2009). Our identification of the two higher-order capabilities, goal development and change orchestration that we explain further below, enables a closer examination of those capabilities required to facilitate the creation and modification of dynamic capabilities (Winter, 2003; Kraaijenbrink, Spender and Groen, 2010) where some authors (e.g. Sirmon et al., 2011) have included goal setting within the orchestrating capability.

We define the higher-order goal development capability as an organization's ability to establish and set strategic goals that require skills in "reading" the external situation, as well as understanding how the internal resources and capabilities may impact on achieving the goal levels that are set. This capability spans developing and setting various interrelated strategic goals required for organizational competitiveness, including performance, acquisitions and downsizing. The magnitude of the goal levels were found to set the bar for the various skill types required to achieve them. In our study the goal development capability process was performed by Spanair's senior directors. It was through this capability that the senior directors from SAS developed a goal, in 2008, to significantly increase profit by engaging in a downsizing strategy aimed at consolidating the airline's operations. Then, senior directors from SAS charged their top management with orchestrating the implementation of this goal in 2008. However, when this target was not reached, and the airline crash significantly impacted on the airline's image, the airline was sold to IEASA in 2009. Both senior directors and top managers were replaced by new senior directors and top management who embarked on the new goal development of creating an intercontinental hub. Hence internal, as well as external, change can significantly impact a firm's goal setting.

The change orchestration capability, we define as a managerial ability to identify, build and arrange a firm's resources and capabilities, builds on the concept of asset orchestration (Helfat et al., 2007) and resource orchestration (Sirmon et al., 2011). This capability required management to structure, bundle and leverage the firm's dynamic capabilities, a task Spanair's top managers engaged in, when taking a top-down directive to purposefully implement the goals set by the senior directors. The change orchestration process was triggered when the senior directors developed strategic goals and appointed a new top management team to manage the firm's capabilities towards these goals. These initial steps were followed by adding new resources including managers, employees, image symbols and physical assets; while shedding, transferring and integrating others (see Figure 4).

Management also used this capability in a bottom-up manner to advise directors of the outcomes of the dynamic capability processes engaged in.

We identify adding and shredding as two important dynamic capability processes, used to bring about significant change outcomes in a relatively short time frame. Spainair's adding capability enabled it to secure new resources from external sources, bringing new knowledge and expertise. By repeatedly adding resources, Spainair changed at a faster pace than would have been possible if the resources were developed internally. The process introduced new knowledge and mindsets such as grafting at the managerial level. This reduced engagement in repetitive path-dependent routines that freed the firm to implement dramatic change over a few months. Chua and Pan (2008) identify knowledge grafting as a strategy for quickly building a firm's knowledge base. Adding resources from outside the firm has been found to be an important dynamic capability in the pharmaceuticals, optical disks, and oil production industries, where cutting-edge knowledge is essential for effective strategy and performance (Eisenhardt and Martin, 2000). The shedding capability, in contrast, involves removing resources, routines, skills and experience. These actions were found to be integral in renewing the firm's resource base. The removal of firm surplus resources, also referred to as exit routines are argued to be critical, particularly in times of external market change (Sull, 1999; Eisenhardt and Martin, 2000).

In contrast to adding and shedding, the change outcomes arising from the capabilities, transferring and integrating are more likely to become evident over a longer period of time. Transferring refers to where the firm moves its resources from one location to another. On several occasions Spainair moved the physical location of its resources, while ensuring these resources stayed in the firm. This action includes the transfer of existing routines (Hansen, 1999; Hargadon and Sutton, 1997; Szulanski, 1996). While the integrating capability involves combining existing organizational resources with newly secured external ones. In Spainair this involved integrating image, staff, operational and infrastructural resources. The integrating capability refers to the firm's ability to coordinate and recombine new and existing resources, in new ways. This capability is akin to Bowman and Ambrosini's (2003) integration capability, as it involves combining resources in new ways to alter the firm's resource base. It involves the "ways in which the components are integrated and linked together into a coherent whole" (Henderson and Clark, 1990). The integrating process also requires effective coordination of these new and existing routines and resources, similar to the coordination capability described by Pavlou and El Sawy (2011).

In our framework, the change orchestration capability becomes a critical capability in managing the change processes in both an upward and a downward manner, when the firm is confronted with internal as well as external challenges. When focusing downward, management needs to be aware that each capability process we identified can have positive and negative effects. For example, internal challenges can arise where at one time the shedding capability saw Spainair incur higher costs (e.g. economic incentives to relocate or internal training for newcomers), as some staff left the firm taking with them valuable skills and knowledge that were not able to be immediately replaced (Easterby-Smith and Lyles, 2011; Lopez and Sune, 2013). Hence, management need to develop a balance in this capability process, as any unintentional loss of valuable resources can have detrimental consequences. One external challenge that arose from the airline disaster saw management needing to develop a new public image as quickly as possible. While the adding capability process can be undertaken relatively quickly the outcomes from it, such as changing a brand

reputation, don't happen as quickly. Hence, the development of these capabilities and the interaction between them requires management to not only take a top-down directive from the directors, but also to provide upward advice arising from the process outcomes. Furthermore, this role of management in the change orchestration capability becomes an important one in goal setting as attempts are made to adjust the capabilities required to meet the goal levels that are set or alternatively to advise directors to refine their goal setting (Valand and Georg, 2014).

Insert figure 4 about here

CONCLUSIONS

Using an in-depth single case we engaged in a fine-grained examination of the processes involved in bringing about deep purposeful change in a firm. The conceptualization of the empirical data from Spanair airline suggested that four dynamic capabilities were directly involved in the transformation of the firm's resource base, while two higher-order capabilities were required to direct and adjust the transformation of the firm.

We attempt to extend existing literature in four key ways. First, our study addresses a notable gap in bridging the dynamic capabilities and the organizational change management literatures (Easterby-Smith et al., 2009); moreover, our empirical investigation deepens understanding on capability levels that goes beyond prior conceptual accounts (e.g. Ambrosini et al., 2009). Second, our examination identifies the capabilities involved when a firm changes its resources at a time of simultaneous major internal and external turbulence. Prior research has often focused only on situations of external market turbulence. Third, we identify a theoretical model with four dynamic capabilities and two higher-order capabilities. We show how the four dynamic capabilities (adding, transferring, integrating and shedding) bring about significant change to a firm's resource base. However, these dynamic capabilities require higher-order capabilities to manage the outcomes of these change processes as reflected by taking a teleological approach towards change. We present the goal development capability and the change orchestration capability as higher-order capabilities that adjust and renew dynamic capabilities of the firm to achieve a desired end state. We shed light on the value of synchronizing the goal development role of senior directors, with top management responsible for implementing these goals. And fourth, we explain the importance of understanding that goals set by the senior directors in times of heightening internal and external turbulence require choice, focus and adjustment.

We acknowledge our study has several limitations. First, we have only examined how one firm in a single industry went about transforming its resource base to bring about significant change. Although we had access to rich data for this firm and its industry, further studies could investigate our research question across other industries and firms. Further studies might also examine how firms undergo change in other service industries, for example in telecommunications or banking. Second, it would be interesting to investigate in more depth the change process outcome relationship decision made between the higher-order capabilities of goal development and change orchestration, as well as the links between the change orchestration and dynamic capabilities. Using the teleological change process opens very exciting avenues to investigate the relationship between organizational change and the use of a firm's capabilities involved in this process. We suggest our framework provides a base for further investigation into the nature of patterns of organizational change.

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Figure 1. Spanair timeline and main events of interest

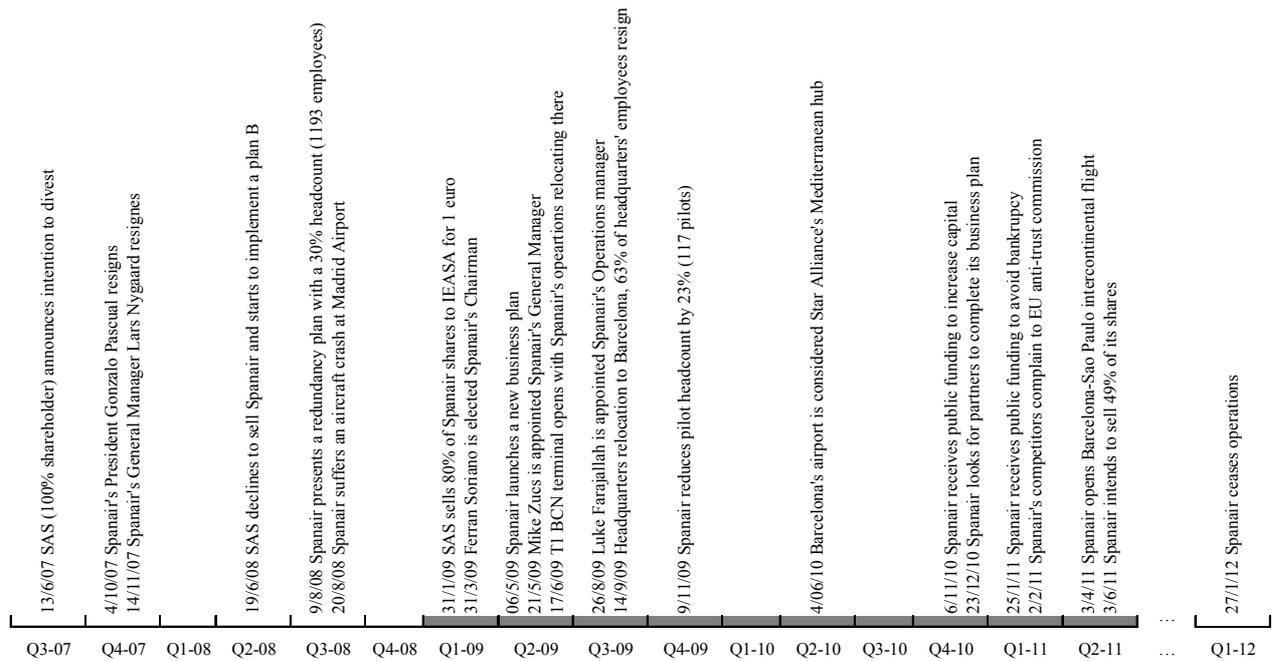


Figure 2. Coding system schema, from grounded categories to dynamic capabilities.

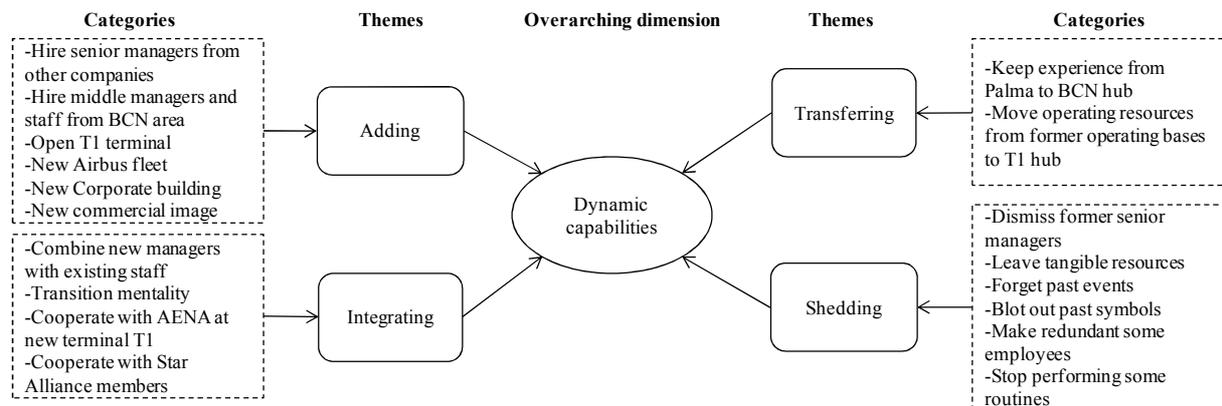


Figure 3. Coding system schema, from grounded categories to higher order capabilities.

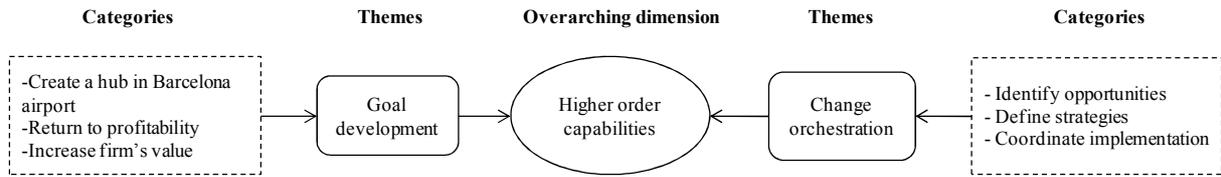


Figure 4. Theoretical model of capabilities interaction on organizational change

