Advancing Induced Models of Management Accounting Change: A Dynamic Perspective

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Abstract

This research represents a progressive evolution of the induced model for management accounting change (MAC), originally proposed by Innes and Mitchell (1990), later enriched by Cobb et al. (1995) and Kasurinen (2002). To this end, using a longitudinal case study, this research employs Lewin's (1943) force field theory to present and interpret the dynamics of contextual factors underlying the change scenario. The study makes two main contributions to the literature. First, it advances Kasurinen's (2002) MAC framework by adding three elements that incorporate a longitudinal perspective. The study acknowledges that the forces driving change differ across organizations and evolve within individual organizations over time, both in terms of nature and intensity. This underscores the need for a flexible MAC model capable of tracking these forces at any given point in time. Moreover, the findings indicate that MAC can generate new factors that further influence its progression, underscoring the importance of understanding the chain reactions triggered by change. This is crucial for effectively managing both driving and restraining forces throughout MAC's evolution. Finally, this study enhances Kasurinen's model by expanding its components. Acknowledging that human agents are the primary drivers of MAC, the refined model emphasizes the roles of organizational actors in adopting new practices, assessing information, and determining whether to continue, modify, or discontinue changes. These factors are essential for illustrating the dynamic evolution and interactions that drive organizational development and transformation. The second contribution lies in validating Kurt Lewin's force field theory within the domain of MAC. Although Lewin's framework is widely used in organizational change and management studies, its application in management accounting has been largely overlooked. This study addresses that gap by demonstrating how Lewin's framework effectively reveals how changes are initiated and managed, thereby extending the applicability of his approach to the new context.

Keywords: Management Accounting Change (MAC), Induced model, Force field theory, Budgeting system, Costing systems, Aviation industry

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Introduction

Since Hopwood's (1987, p. 207) call for further scholarly inquiry, management accounting change (MAC) has attracted a considerable amount of research interest. This extensive body of research has examined various aspects of MAC, including preconditions, change processes, and organizational consequences (Andon et al., 2007). Ittner and Larcker (2001) criticized management accounting research for leading to "*an underdeveloped body of research that fails to build on prior studies*" (p. 356). While this criticism holds merit in business disciplines (Hubbard & Vetter, 1996; Hubbard et al., 1998), significant exceptions exist in research developing explanatory frameworks enhancing the understanding of MAC (e.g., Bell et al., 2009; Greenwood, 1996; Innes & Mitchell, 1990; Waggoner et al., 1999). A notable example of these frameworks is the one proposed by Innes and Mitchell (1990), later extended by Cobb et al. (1995) and further augmented by Kasurinen (2002). Recent studies have applied this framework, emphasizing its usefulness in providing a comprehensive understanding of MAC (Bassani et al., 2021; Munir et al., 2013; Valuckas, 2019).

This study makes two key contributions. First, it advances Kasurinen's (2002) MAC framework by incorporating three elements that reflect a longitudinal perspective. Specifically, the study confirms that the forces influencing the model not only differ across organizations (Kasurinen, 2002) but also evolve over time within the same organization. These forces may vary in both nature and intensity, underscoring the need for a dynamic MAC model capable of tracking these forces at any given point in time. Additionally, the longitudinal perspective demonstrates that change can generate new factors that influence MAC, highlighting the importance of understanding chain reactions in order to effectively manage both driving and restraining forces during the process of change. Furthermore, this study addresses existing gaps by expanding the model's components, particularly focusing on the roles of organizational actors, their experiences with change (e.g., exposure to new information), and practical evaluations of information suitability, which inform decisions to continue, modify, or discontinue changes. The second contribution of this study is the validation of Kurt Lewin's (1943) force field theory within the context of MAC. Although widely applied in studies of organizational change, Lewin's framework has been largely overlooked in management accounting research. This study addresses that gap by demonstrating how Lewin's framework effectively reveals the processes through which changes are initiated and managed within MAC.

The paper is organized as follows: Section 2 reviews prior MAC research; Section 3 outlines methodology; Section 4 presents findings; Section 5 discusses results; the paper concludes by summarizing key insights.

2. Prior literature[1]

2.1 The relevance of management accounting change frameworks

An extensive body of management accounting research has investigated multiple aspects of MAC – preconditions, change processes, and organizational consequences (Andon et al., 2007). Studies on *preconditions* highlight contextual factors enabling or constraining MAC, such as competition (Hoque, 2011), organizational design (Anderson, 1995; Baines & Langfield-Smith, 2003), business strategy (Gosselin, 2011; Shields, 1995), change facilitators (Innes & Mitchell, 1990), individual traits (Anderson, 1995), technology qualities (Baines & Langfield-Smith, 2003), catalysts (Laitinen, 2001), capacity for change (Libby & Waterhouse, 1996), top management support (Shields, 1995), consultant-researchers' presence (Cooper & Crowther, 2008), and managers' prior experience (Cooper & Crowther, 2008). Moreover, institutional influences legitimize actions and define new practices (Abernethy & Chua, 1996; Covaleski et al., 1993), while both power dynamics (Amat et al., 1994) and socio-historical factors like global efficiency discourses may enhance MAC (Miller, 1991).

Research on *change* processes mainly focuses on the politics of change, factors shaping trajectory, resistance, and influential agents (Andon et al., 2007). Politics of change mainly involves power dynamics (e.g., Briers & Chua, 2001; Chua, 1995). Factors influencing trajectory generally include national culture (Chanegrih, 2008), family influence (Hiebl et al., 2013),

[1] To address the issue at hand, we initiated a comprehensive investigation using Scopus databases to identify scientific journal "articles" in "English" in the field of "Business, Management, and Accounting" published in English between 1990 and 2024. The search focused on the subject of "Management Accounting Change", encompassing the title, abstract, and/or keywords. The initial broad search yielded 119 relevant scientific articles. Subsequently, in the second phase, the preliminary selection, articles not listed in the Academic Journal Guide (2018) by Chartered ABS were excluded. The researchers then examined the titles and abstracts of the remaining articles, selecting those deemed relevant to the research questions (RQs). In the third and final step, known as the "final selection", the articles from the previous step underwent a thorough reading by the researchers. This careful evaluation led to the identification and selection of 70 articles.

learning style (Giannetti et al., 2021), leadership style (Jansen, 2011), information ambiguity (Englund et al., 2013), practice interactions (Bouten & Hoozée, 2013), institutional contradictions (Thrane & Balslev, 2017), and sustainability concerns (Arroyo, 2012). Research has also explored resistance and strategies to manage it (e.g., Granlund, 2001; Broadbent & Laughlin, 1998; Scapens & Roberts, 1993; Kasurinen, 2002), as well as the role of influential agents (e.g., Bassani et al., 2021; Bell et al., 2009).

Studies on MAC *consequences* examine its impact on organizational functioning. New accounting practices have the potential to influence performance (Hoque, 2011), cultures (Dent, 1991), identity (Abrahamsson et al., 2011), greening (Bouten & Hoozée, 2013), subgroups' identity (Taylor & Scapens, 2016), and employee satisfaction (Jansen, 2011). Accounting changes also drive strategic change by enabling new visions and setting accountability expectations (Ogden & Anderson, 1999), promoting commercially oriented accountability (Ogden, 1997), or mobilizing new practices (Revellino & Mouritsen, 2009).

One of the major criticisms of management accounting research by Ittner and Larcker (2001), endorsed by Zimmerman (2001), is that it has resulted in "*an underdeveloped body of research that fails to build on prior studies to increase our understanding of the topic*" (Ittner and Larcker, 2001: 356). While this criticism holds considerable merit in the business disciplines (Hubbard, 1996; Hubbard et al., 1998), there are significant exceptions. An exception to this is the body of research that has contributed to the development of explanatory frameworks (e.g., Innes and Mitchell, 1990; Greenwood and Hinings, 1996; Waggoner et al., 1999; Bell et al., 2009). These frameworks collectively contribute to a more comprehensive and systematic understanding of MAC, illustrating how it functions as an integrated system and demonstrating that, despite criticisms, valuable and progressive research exists in the field. One example of these frameworks is the one proposed by Innes and Mitchell (1990), later extended by Cobb et al. (1995) and further augmented by Kasurinen (2002). Recent studies have employed the framework, emphasizing its usefulness in situating their work within a more comprehensive and holistic understanding of MAC. For example, Munir et al. (2013) use Kasurinen's framework to explain performance measurement system change in a bank shifting to market competition, emphasizing investing in competent leaders. Bassani et al. (2021) integrate Kasurinen's framework with leader–follower relations theory, finding leadership disputes can intensify during MAC. Valuckas (2019) integrates Kasurinen's framework with institutional theory to investigate beyond budgeting implementation,

highlighting forces impacting change and individuals' roles in overcoming barriers.

This review, in its entirety, elucidates a critical point for reflection. The endeavor to understand change in accounting discipline has given rise to various theoretical approaches and frameworks that vary in their level of analysis and angle (Modell, 2007). Some authors have focused on developing theories and models limited to one or more of various facets of MAC (i.e., precondition, change process and organizational consequence), while others have aimed to integrate all these aspects. Kasurinen's (2002) framework falls into the latter category, synthesizing multiple elements of change to offer a broad and integrated perspective on MAC (Andon et al., 2007; Soin et al., 2002). These holistic models serve as "foundational material" for more focused research efforts (Munir et al., 2013; Valuskas et al., 2013). Therefore, it is essential to develop not only narrowly focused frameworks that address one or more of these stages but also comprehensive models that encompass preconditions, processes, and consequences (Ittner and Larker, 2001). In this regard, Kasurinen's framework merits further exploration due to its integrated approach to understanding MAC.

2.2 Advancing Kasurinen's Framework

Kasurinen's (2002) model builds upon the work of Cobb et al. (1995) and Innes and Mitchell (1990) (see Figure 1). Innes and Mitchell (1990), through field studies in high-tech firms, proposed that MAC involves the interaction of three factors: motivators, catalysts, and facilitators. Motivators are ongoing positive influences that encourage change (e.g., market competition, product cost structures). Catalysts provide immediate triggers initiating change at a specific time (e.g., performance decline, loss of market share). Facilitators are enabling conditions that make change possible and practical (e.g., resource availability, staff autonomy). MAC occurs when all three factors operate concurrently. Cobb et al. (1995) expanded this model by adding three additional factors. In their study of MAC in a multinational bank, they observed barriers to change that could hinder or prevent progress (e.g., poor staff attitudes, staff turnover, shifting priorities). While motivators, catalysts, and facilitators created the potential for change, overcoming barriers was essential to realize it. Leadership emerged as critical in breaching these barriers; key individuals needed to endorse and actively implement the change. Without strong leadership, barriers could impede progress. Additionally, the bank exhibited a momentum for change embedded in its organizational culture, making barriers less likely to obstruct MAC. Kasurinen (2002) further

extended the model after studying balanced scorecard implementation in a Finnish metals group. The study introduces a tripartite classification of barriers to change: confusers, which create confusion and ambiguity in understanding the change (e.g., uncertainty about the change project's organizational role and the existence of different views on the change); frustrators, which hinder progress by reinforcing resistance to change (e.g., existing organizational culture); and delayers, which slow down the change process (e.g., lack of clear-cut strategy and the inadequacy of existing information systems).

As indicated by the author, the revised MAC model provides a potential way to analyze the change context at the early stages of a project (Kasurinen, 2002). However, the model in the present form focuses on individual and discrete changes, which limits its ability to capture the continuous nature of MAC as it unfolds. To overcome this limitation, it is crucial to adopt a longitudinal approach that comprehensively tracks the evolution of MAC. This methodological shift would offer several opportunities for further, closely interconnected improvements to the existing model. Firstly, investigating shifts in influencing factors and understanding how they facilitate or hinder progress would deepen our comprehension of how the forces driving MAC change over time – a gap not yet explored (Kasurinen, 2002) – and help identify strategies to manage transitions more effectively. Secondly, recent literature emphasizes the importance of exploring how the process of change generates new factors that further shape and influence MAC (e.g., Giannetti et al., 2021; Pigatto et al., 2023; Revellino & Mouritsen, 2015). This dynamic introduces additional complexity beyond the initial factors, creating ripple effects that can accelerate or hinder change. Understanding this chain of reactions is crucial, as it offers deeper insights into the evolving forces and emerging resistance. Examining these interactions allows for more effective anticipation of challenges and management of MAC transformations. Finally, recent studies show that MAC mobilizes new knowledge, which in turn further shape and influence MAC (e.g., Giannetti et al., 2021; Pigatto et al., 2023; Revellino & Mouritsen, 2015). However, it remains unclear what new forces this mobilization generates, how they integrate with existing ones, and their effects. To address this, the model should be refined by introducing components that create circularity, allowing it to more accurately capture this ongoing process of change (Sulaiman & Mitchell, 2005).

To this end, this article aims to propose an enhanced version of Kasurinen's framework that incorporates these improvements, ultimately providing a more comprehensive and dynamic tool for analyzing and managing MAC. To conceptualize and analyze MAC, this study employs Kurt Lewin's (1943) force field theory. Lewin (1890-1947) was one of the most

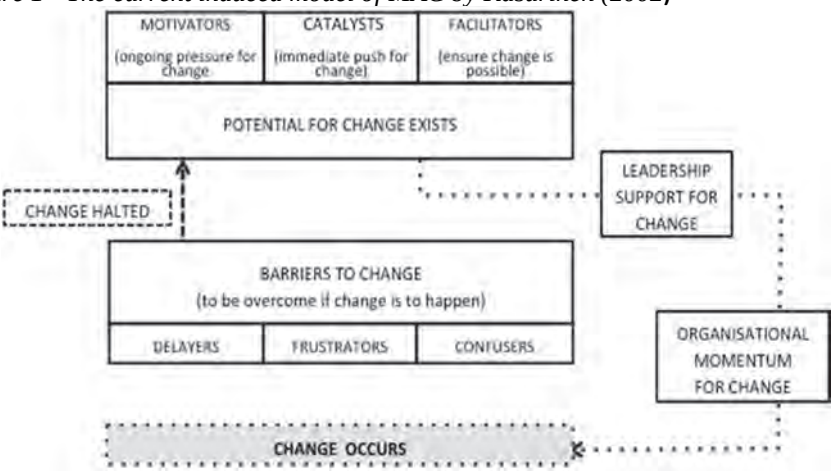
influential psychologists of his generation (Burnes and Cooke, 2013), whose work laid the foundation for organizational change and remains central to the field today (e.g., Boje et al. 2011; Burnes 2004, 2007; Cooke 2007; Cummings and Worley 2005; French and Bell 1990). Lewin's field theory states that it is possible to understand, predict and provide the basis for changing the behavior of individuals and groups by constructing their "life space" (or situational context) comprising the (psychological) forces influencing their behavior at a given point in time (Lewin, 1943). Four main characteristics underpin Lewin's (1942, pp. 60-64) field theory. First, it is a *constructive approach* that focuses on the direct construction of concepts, theories, or solutions, rather than deriving them from pre-existing categories through abstraction. The constructive method integrates theory and practice, ensuring that concepts are immediately applicable and relevant to the specific context being studied. Secondly, it is a *psychological approach* as the identification of elements of an individual or group's situational context must be based on their perception of reality at that moment, rather than being constructed from the "*objective*" viewpoint of an observer (Lewin, 1943a). Thirdly, the situation should be analyzed *holistically*, aiming to understand it by considering all elements together rather than isolating individual aspects. Finally, this approach is *dynamic* as people and groups are viewed as behavioral systems that tend to maintain a "quasi-stationary equilibrium" (Lewin, 1947a). A shift from one quasi-stationary equilibrium to another is triggered by a change in the forces (Lewin, 1943c). Closely connected to force field theory is its three-step model of change, used to modify individual and group behaviors (Burnes, 2004; Lewin, 1947a, 1947b). This process involves three phases: unfreezing, change, and refreezing. Unfreezing prepares individuals or groups for change by rearranging forces to highlight its necessity. The change phase introduces new behaviors, which individuals or groups then experiment with and integrate. Finally, refreezing solidifies these behaviors into regular patterns, establishing a new norm. In this context, force field theory aids in mapping the complexity of the situational context, showing forces should be altered to facilitate change (Lewin, 1942).

Lewin's work has garnered substantial attention from management scholars, who have extensively utilized force field analysis to explore organizational change because it helps managers understand and manage the forces affecting change (e.g., Hughes, 2007; Gable et al., 2010; Boohene and Williams, 2012; Shrivastava et al., 2017; Swanson and Creed, 2014). In this vein, the theory has been applied across various organizational contexts, providing valuable insights into areas such as leadership dynamics (Schwering, 2003; Gable et al., 2010), organizational culture (Elsass and Veiga, 1994), Total

Quality Management (Thakkar et al., 2006), and IT implementation challenges (Bozan, 2003). However, although some researchers have touched upon its general relevance to management accounting domain (e.g., Anderson, 1995; Bruggeman & Slagmulder, 1995), its direct application remains neglected in the field. Therefore, the second aim of this study is to validate Lewin's theoretical framework within the management accounting field, shedding new light on MAC and offering a more comprehensive understanding of how such changes are implemented and managed in organizations.

Kurt Lewin's field theory, rooted in Gestalt psychology, is generally considered within the functionalist paradigm as it emphasizes individual-environment interactions and focuses on optimization and systemic equilibrium (Burnes & Cooke, 2013). However, Lewin's field theory identifies forces by analyzing the social context in which individuals or groups operate, with the mapping process shaped by their situations and perceptions. This introduces a constructivist perspective, as forces are interpreted through subjective experiences. In this vein, many management studies utilize constructivist theories, such as institutional theory (e.g., Yang et al., 2021), to identify forces. In our study, which primarily aims to identify these forces, we adopt this constructivist perspective.

Figure 1 - The current induced model of MAC by Kasurinen (2002)



3. Methodology and data gathering

3.1 Research method

The research employs the longitudinal case study methodology (Otley &

Berry, 1994; Scapens, 1990). This strategy was chosen based on several compelling factors. Firstly, one of the primary objectives of this paper is to refine existing theories by validating the effectiveness of a particular theoretical framework, specifically Lewin's (1943) force field approach (Keating, 1995). Secondly, the case study method is particularly suitable for addressing both "*how*" and "*why*" questions, which aligns with the study's focus on comprehending the mechanisms behind MAC. Thirdly, the longitudinal aspect was essential to accommodate the dynamic nature of alterations in management accounting. The chosen case company facilitated the required prolonged observation necessary for this research. Fourth, the context of the selected case study offered substantial opportunities to examine MAC, primarily because the company was initiating the development of a new management accounting system at the beginning of the study.

3.2 Situational analysis and force field analysis

This research represents a progressive evolution of the induced MAC model proposed by Kasurinen (2002). Induction involves the translation of observed data into a model or theory. The approach adopted to achieve this can range from the highly structured e.g., grounded theory with its detailed coding analyses (Corbin & Strauss, 2008) to the more subjective and interpretive (Lukka & Modell, 2010). In this study the approach adopted fell between these two extremes. As said, this study employs the force field analysis developed by Lewin (1943) as a means of representing the situational context in which MAC occurs. The forces, which are the main substance of the force field, comprise all the factors (e.g., events, circumstances and mechanisms) that influenced the change being studied. The representation of these forces involves identifying the following elements: the *name* of the force that describes the event, the circumstance, and/or the mechanism; an indication of their *direction*, being either a driving or restraining force; the *strength*, represented by arrows of differing sizes, ranked the forces as strong, medium or weak in effect on MAC; and the *type of force*, indicating whether it is a motivator, a catalyst, a facilitator, a delayer, a frustrator, or a confuser (Kasurinen, 2002). An example of this representation is shown in Appendix – Table 1 – www.sidrea.it/induced-models-accounting. Employing the force field approach as a foundation for induction ensured that there were no limitations on incorporating forces, which could have arisen from the prior adoption of a specific theoretical approach. The best application of force field analysis occurs when as many members of the organization as possible are involved in identifying the forces.

The research used a "*temporal bracketing strategy*" (Langley, 1999) to develop time-specific force fields based on major MAC. Drawing on Lewin's concept that shifts between "quasi-stationary equilibrium" occur when driving forces outweigh resisting ones (Lewin, 1943c), we interpret change stages as unfreezing, changing, and refreezing. Constructing force fields over time revealed the complexity of change, with forces significantly shifting—some emerging, others disappearing, and some varying in strength.

3.3 Data collection and analysis

The analysis of the case spanned a period of 14 years (1994-2007). The study includes both participant observation (DeWalt & DeWalt, 2002; Jorgensen, 1989) and action research (Jönsson & Lukka, 2006; Somekh, 2006; Whitehead & McNiff, 2006), with the former necessitating the researcher's close involvement with the subject, and the latter involving an active role in driving change. In particular, one researcher was actively engaged as a board member (non-executive director) within the case study organization for a period of nine years (1996-2005), while another researcher provided advisory insights during the period, assuming a more interventionist function. This approach yielded significant advantages, ensuring continuous and unfettered access to personnel and records throughout the extensive timeframe. Furthermore, it facilitated the insightful observation of numerous meetings, enabling the understanding of the underlying rationale behind high-level decisions concerning management accounting practices.

Data was primarily collected through semi-structured interviews. The research team first analyzed the enterprise's staff structures and roles, then conducted thematic interviews on specific issues. Diversified data sources complemented and cross-validated findings, minimizing common method biases and enhancing the case study's validity (Yin, 2018). Details on data collection are provided in Appendix – Table 4 - www.sidrea.it/induced-models-accounting. Concepts were thoroughly discussed and refined during research meetings, supported by corroborative data. Initial drafts by one team member were critiqued by all collaborators. This iterative process cross-referenced diverse data sources, often culminating in evidence triangulation to reinforce conclusions.

3.4 Overview of the Company's Background

The case study examines Società Aeroporto Toscano S.p.A (SAT), which manages Pisa airport's civil operations. The airport operates in essential services (e.g., air traffic control), handling, and commercial activities, each with

varying regulation levels (Doganis, 1992; Graham, 2003). Incorporated in 1978 as a joint stock company with majority ownership by the local authority, SAT faced poor financial performance up to 1994, recording a loss that year.

In 1994, local authorities, regional public bodies, and private local investors injected substantial new capital, appointing a new Board of Directors and a new CEO. This marked the beginning of our case study research, which concluded in 2007. Profitability was achieved after 1995, with profits beginning that year following the previous loss. By 1996, SAT had established partnerships with low-cost airlines, leading to more structured operations and continued growth. Between 1994 and 2007, passenger volumes surged by approximately 400%, while total assets, revenues, and profits grew by 430%, 300%, and 1,600%, respectively. This expansion was driven by creating a network of European connections and launching intercontinental routes by 2007. In 2007, SAT was listed on the Milan Stock Exchange. That year, the airport handled over 3.7 million passengers, making it the sixth-largest Italian regional airport.

4. Findings

The 1994/95 period marked the emergence of a new organization with fresh ownership and management, prioritizing financial control information. From 1996 to 2007, high growth and competition shifted the focus to output cost information. Two key MAC systems were implemented: a budgeting system and an output costing system. This study examines the processes of adopting, adapting, and discarding management accounting practices, with distinct forces shaping each period and system.

4.1 Establishing the budgeting system.

This paragraph describes the process of the initial adoption and subsequent adaptation of the budgeting system, along with the driving and restraining forces that influenced both (see Appendix – Table 2 – www.sidrea.it/induced-models-accounting).

Budgeting system "adoption" (period 1994-1995). In 1993, the SAT airport faced severe financial difficulties, being on the verge of bankruptcy due to continuous losses over the preceding years (driving force 1, hereafter DF1). The significance of the airport for the local region led the local authorities and businesses to step in, infusing funds to rescue the airport from its dire state. A new Board of Directors (hereafter Board) and top management team (hereafter TMT) were appointed in 1994 to lead the turnaround effort

(DF27). Central to this change was the urgent need to enhance the airport's financial performance, which was identified as an explicit priority by the new Board and TMT. To ensure progress and financial success, the airport's ownership, through Board membership, exerted ongoing pressure on the management, demanding consistent updates on performance and recovery efforts (DF2, DF8, DF14). Consequently, there arose a distinct managerial requirement for monitoring financial information (DF3). In response, the new CEO initiated the hiring of financial experts to establish a robust budgeting system (DF4). However, due to financial constraints, the full complement of staffing envisioned could not be immediately realized (restraining force 6 and 7, hereafter RF6, RF7). New control-oriented information was considered, by the new management team, to be essential both to meet the requirements of the Board and their own managerial actions. The senior management reached consensus that prioritizing business control was the chief concern, and the means to achieve this goal was enforcing budgetary management (DF10). The new CEO had placed significant reliance on budgetary mechanisms that supported accountability-based bookkeeping in former employments. Thus, the implementation of a financial oversight system stemmed from the CEO's familiarity with this type of information (DF9). The organization was restructured to clarify individual managerial responsibilities across various areas, including line operations, commercial and marketing management, administration and financial planning, purchasing and procurement management, human resources, security, technical operations, quality management, information technology, and safety. This restructuring provided the basis for creating cost centers for each of these new areas of management responsibility. Where appropriate, these were promptly converted into profit centers (DF12). Each area manager was tasked with delivering on the ambitious company strategy (DF10). Budget-to-actual comparisons assumed central importance for management decisions and Board assessments of progress, and by 1996, monthly reports were instituted to meet this need (DF10).

Budgeting system "adaptation" (period 1996-2007). Although the aviation market experienced rapid growth in size (DF8) and the company embarked on a strategic path of growth through a cost leadership approach, it became evident that there were significant informational limitations in the budgeting process (DF25). Initially, the highly competitive nature of the aviation market (DF13) and substantial environmental uncertainty (DF16) created considerable challenges for budgeting. These factors led to a loss of credibility in the budget targets, as they became increasingly difficult to achieve and less reliable for guiding strategic decisions (RF23). To address these challenges, management decided to make substantial modifications to

the budgeting process. Recognizing that the existing budgeting framework was insufficient for the rapidly changing market conditions, management introduced twice-yearly budget revisions in 1999. This adjustment aimed to improve the accuracy of financial projections and ensure that the budgeting process remained relevant and responsive to the evolving market dynamics. In addition to addressing these external pressures, the buoyant market conditions (DF8) and the ambitious growth targets set by the company (DF2) highlighted the need for effective staff incentives (DF18). The management team acknowledged that to fully capitalize on the market's growth potential, it was crucial to align employee performance with the company's strategic goals. As a result, bonuses and other financial incentives were linked to budgetary performance, incentivizing staff to achieve the financial targets and contribute to the company's growth strategy (DF11). This alignment of incentives with budgetary outcomes was intended to motivate employees and drive better performance across the organization. Moreover, management recognized that traditional accounting profit-based reports had notable shortcomings. These reports often encouraged a short-term focus and overlooked critical performance aspects (RF24). To address these issues, the company decided to incorporate new key performance indicators (KPIs) into the budgeting process. The introduction of these KPIs aimed to provide a more comprehensive and balanced view of performance, going beyond simple profit metrics. In particular, the emphasis on efficiency improvements – a key aspect of the company's strategy – led to the development of two specific KPIs with a cost base (DF14, DF20). These new KPIs were designed to measure and enhance operational efficiency, aligning with the company's focus on cost management and strategic growth objectives.

4.2 Establishing the output costing system

In 1996, another significant MAC occurred, which was prolonged and challenging unlike the previous one. Specifically, it involved the adoption, abandonment and replacement of the output costing system (see Appendix - Table 3 - www.sidrea.it/induced-models-accounting).

Output costing system "adoption" (period 1994-1996). In 1994, SAT lacked any internal knowledge or capability in output costing systems (RF5, RF6). Hiring personnel to address this deficiency proved to be a challenging task. The budgeting system was given priority, and due to limited financial resources, the finance department had to compete with HR, marketing, and technical services to secure funds for urgent hires (RF7). Nonetheless, the ongoing pressures on managers to achieve high performance levels amidst

growth conditions (DF27, DF2, DF8) and to meet ambitious strategic objectives (DF11) in a competitive landscape necessitated comprehensive information on output costs. This requirement became evident through the initiatives of the established Marketing Committee. Comprising the top management team, the committee focused on achieving favorable outcomes in a rapidly expanding yet highly competitive market (DF13, DF15, DF16). One specific task assigned to this committee was to clearly define the managerial information needs (DF3, DF15), and they were also responsible for engaging external advisors (DF19). Additionally, by actively participating in pricing, customer negotiations, and efficiency optimization tasks, the committee heightened its awareness of the need for output cost information (DF8, DF11, DF13, DF14). In this vein, they established an official request for this data, outlined the management's information needs, and played a crucial role in initiating the hiring of a consulting firm in 1995. This firm was tasked with creating an Activity-Based Costing (ABC) system capable of analyzing the costs associated with each individual flight and service (DF19). The operational system that came into effect in 1996 was highly elaborate and produced actual output cost data.

Output costing system "abandonment" (period 1996-1999). Although the new costing system was operational and provided information on output costs, experience with the system revealed some limitations. Firstly, the output was complex and very detailed, leading to managerial information overload and a lack of user-friendliness, which restricted its use (RF22). Additionally, the computation of actual costs on a monthly basis involved cost driver rates that resulted from actual activity pool costs and actual cost driver volumes. Due to the significant variability of cost driver volumes from month to month and the predominantly fixed nature of airport costs, cost driver rates and cost object costs exhibited great volatility. This volatility caused managerial confusion and dissatisfaction, leading to the ABC system losing credibility among managers (RF23, RF24, RF26). Managerial dissatisfaction led to the attempt to change the ABC system (DF25). Thus, the costing system was simplified, and a few prominent flight characteristics, such as tonnage and number of seats, were used as cost drivers. While this resulted in more stable cost information, the outputs still lacked credibility for managers. For example, they knew that many flight-related costs (e.g., the substantial cost of handling services) did not depend on aircraft weight (RF23, RF24). Therefore, a further modification was attempted using capacities as a basis for cost driver rates. However, identifying and collecting capacities proved problematic (RF24), and this change, along with ABC, was finally abandoned.

Output costing system "replacement" (period 1999-2007). Despite a temporary halt due to the previous abandonment, a new impetus for developing an output costing system (focused on handling services), alongside the existing forces (DF2, DF8, DF11, DF13, DF14, DF16), came from the introduction of a new regulation (DF21). This occurred in two ways. First, the new regulation obliged the company to produce full cost information to justify the prices charged. Second, when SAT reached a particular size, it was required to open the airport to other companies offering competing handling services (DF13). Thus, computing and regularly monitoring its own handling costs became necessary to judge the competitiveness of its handling services (DF13, DF14). The initial approach was to provide incremental costs for each new flight, but it failed for technical reasons. Contracts with airlines typically last several years. However, incremental flight costs varied substantially over time, being near zero during low air traffic periods and extremely high during peak times (DF20). This extreme cost variability rendered the cost information unsuitable for managerial use (RF24). Consequently, estimates of the average actual direct costs of flights were developed and utilized. This approach had a technical deficiency as it excluded the significant overhead costs of airports (RF24). Therefore, overhead cost allocation estimates were incorporated, and the use of actual costs was eventually replaced by standard or normal costs (DF9). This provided forward-oriented cost data and the information stability that managers required.

5. Discussion of results

This is the first study that adopts Kurt Lewin's (1943) force field theory within the domain of MAC using a longitudinal case study to advance Kasurinen's (2002) induced MAC framework. In particular, the study contributes to the existing discourse on MAC in several ways. The force field analysis shows how various forces fit within the existing MAC framework. Key motivators for adopting the costing system include growth opportunities (DF8) and market competition (DF13), driving the need for better cost information to improve pricing and efficiency. Catalysts, including the owners' demands for monitoring information (DF3) and the Marketing Committee's operations (DF15), further drove performance improvements. Facilitators like hiring finance staff (DF4) and consultants (DF19) enabled budgeting and costing innovations. On the other hand, delayers (e.g., constraints on acquiring accounting staff – RF7), frustrators (e.g., presence of only financial ac-

counting information – RF5), and confusers (e.g., lack of information credibility to management – RF23) acted as barriers to change. The new management and high stakeholder expectations (DF2, DF11) created momentum for change, sustained by ongoing growth and competition. However, comparing the force fields in different stages of MAC, it is evident that some forces disappear (e.g., the significance of a poor historical performance – DF1), while new ones emerge (e.g., regulatory requirements – DF21). Some factors grow in strength (e.g., market growth and opportunity – DF8) while others decline (e.g., owners' demands for monitoring information – DF3). Thus, while the basic structure of the model retains its validity, the composition of its constituent forces can change from one stage to another, making the model's composition time dependent. In this vein, force field theory helps the organization continuously map and understand the complexity of its situational context, adding a dynamic nature to Kasurinen's model by highlighting which forces are at play and how they drive or hinder the evolution of MAC. Furthermore, this mapping process, by classifying the forces based on their intensity, nature (e.g., social, technical, etc.), and controllability, allows for a comprehensive prioritization of interventions. These characteristics, considered collectively, enable organizations to strategically focus on managing the most relevant forces, thereby optimizing resource allocation. This approach supports a more targeted and efficient management of the forces driving or hindering MAC, fostering a more adaptive and dynamic organizational response to evolving situational contexts.

The findings also highlight another crucial aspect related to the model's dynamism. Specifically, change itself gives rise to other forces that, in turn, can stimulate or hinder further changes. This "*chain of reactions*" manifests within and across different time intervals, as well as among various MAC events. Within the same time interval, in the context of the budgeting system, the establishment of the Marketing Committee was pivotal. This committee was designed to focus on market-related forces for change, raising awareness among participants and formalizing the need for new management accounting information. Initially, it ensured that motivators and catalysts effectively triggered MAC, while the necessary facilitators were put in place to support the change. The committee later spearheaded efforts to obtain output cost information, commissioning consultants for this task. By involving top management from key functional areas, it addressed the organization-wide information needs, thereby securing consensus and authority for the proposed changes. Their seniority granted legitimacy to their decisions, positioning the committee as a formal driver of change. In summary, the committee provided essential leadership, playing a central role in initiating, implementing, and

evaluating successive MACs, and thereby fostering sustained change momentum.

Across different intervals, the initial MAC had a significant impact, creating new forces that could either stimulate or limit future changes. A key example is the adoption and eventual abandonment of the output costing system. Pressures for high performance amid growth (DF2, DF8) and strategic objectives (DF11) demanded detailed output cost information. Despite lacking internal expertise (RF5, RF6, RF7), the Marketing Committee formally requested this data, defining information needs and hiring consultants to develop an ABC system for flight and service cost analysis. However, management found the system too complex, overly detailed, and subject to volatile cost rates. This led to new forces, such as inadequate information (DF25), prompting further changes. Additionally, issues like information credibility (RF3), difficulties in specifying needs (RF26), information overload (RF22), and technical limitations (RF24) acted as confusers and frustrators, hindering progress. Ultimately, the combination of these forces drove efforts to simplify the ABC system, which led to its complete abandonment.

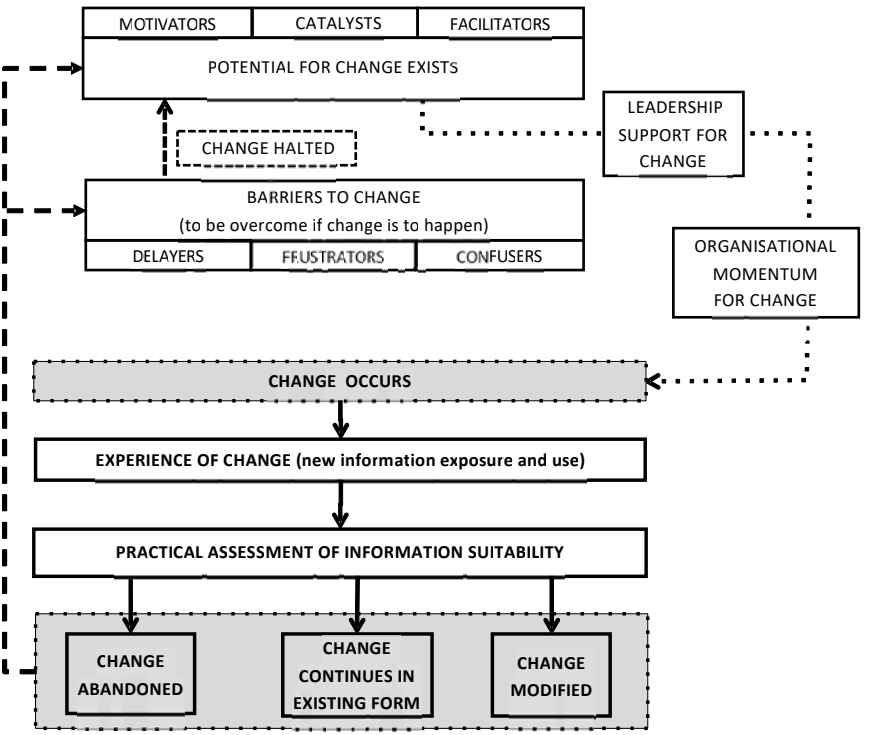
Lastly, it is important to note the impact of the budgeting system on the output costing system. During the initial stage, the new CEO initiated the hiring of financial experts (facilitator) to establish a robust budgeting system (DF4). The new management team considered the control-oriented information essential to meet the requirements of the Board and support their own managerial actions. Senior management reached a unanimous consensus that prioritizing business control was the chief concern, and the way to attain this goal was through enforcing budgetary management (DF10). However, financial constraints prevented the immediate realization of the full complement of staffing envisioned. The priority given to staffing the budgeting system created financial constraints that hindered the hiring of new staff for the implementation of the output cost system, introducing a delay factor that could potentially hinder the implementation of the latter (RF7).

Finally, the employment of Kurt Lewin's (1943) field theory and three-step model played a central role in identifying another fundamentally important aspect that allows addressing the gaps identified in existing models. The case study analysis highlights how the unfreezing phase prepares the organization for change by rearranging the forces to underscore the need for change. An emblematic example of this is the establishment of the Marketing Committee, which directs managerial attention to SAT's market interface and the associated forces for change. Initially, the committee ensured that motivators and catalysts effectively initiated MAC and that the necessary facilitators were in place to implement practice changes and overcome barriers.

Following this phase, the *change* phase is where new behaviors are introduced and adopted. During this stage, individuals or groups experiment with and integrate new ways of acting and thinking. In this vein, we introduce the *experience of change*. This component focuses on how organizational actors are exposed to and use new information. This phase is crucial for several reasons. New information often challenges existing paradigms and compels organizational actors to rethink their strategies and actions (Abrahamsson et al., 2011; Ogden & Anderson, 1999). Once exposed to new information, organizational actors must interpret and utilize this data effectively. This process involves learning how to integrate new insights into existing workflows and decision-making processes. It may require developing new skills, adopting new technologies, or adjusting existing procedures to make the most out of the new information. In this process of experiencing change, the Marketing Committee has played a significant role in generating a common field, necessary for interpreting the outcomes of the change experience. The experience of change is not a passive process; organizational actors actively engage with new information and learn from the outcomes (Giannetti et al., 2021; Pigatto et al., 2023). As new information is used, feedback mechanisms come into play. Feedback helps in identifying what works well and what needs adjustment, fostering a continuous improvement process. In summary, the "*experience of change*" phase is about how new information is introduced, assimilated, and utilized within the organization. This phase is essential for understanding how change processes unfold in real-world settings and how they can be managed effectively. Finally, following the change phase, the *refreezing* phase is where the new behaviors by embedding them into regular patterns of behavior, thereby establishing the changes as the new norm. In this vein, we introduce the *practical assessment of information suitability*, and the related decision of whether the change continues in its existing form, is modified, or is abandoned. During this phase, organizational actors scrutinize the new information to determine its relevance, accuracy, and usefulness in the context of their operations and strategic goals. Based on this practical assessment, a decision is made about the future of the change process. If new information is suitable and beneficial, the new practices are maintained, as with the ABC system in 1996, which improved the airport's financial management through precise cost tracking and informed decision-making. However, if the new information is unsuitable or fails to meet expectations, the practice may be abandoned, as happened when unreliable cost data led to the abandonment of the ABC system. Alternatively, if adjustments are needed for the new information to be effective, the practice is modified,

such as the costing system that was adapted several times after new regulations (Figure 2).

Figure 2 - The integration of the current induced model of MAC (source: Own work)



The relevance of these two components (i.e., experience of change and practical assessment of information suitability) is crucial, as they provide the necessary dynamism. By integrating these two elements, the model acquires a circular structure that enhances its suitability for guiding continuous change, underscoring the ongoing interaction of factors that drive organizational transformation.

6. Conclusions

This study offers two main contributions to the existing literature. The first is the revision of the existing induced model of MAC proposed by

Kasurinen (2002) (Figure 1). The results show that, in a longitudinal consideration of change, the basic structure of the model retains a good explanatory power. However, some additions are proposed that address the limitations by incorporating a dynamic perspective of MAC. By applying force field analysis (Lewin, 1943a) within a longitudinal case study, this study explores and interprets the dynamics of contextual factors in the change scenario, extending the original framework in three substantial ways. Firstly, while prior studies emphasize that the forces that populate the model differ across organizations (Cobb et al., 1995; Innes and Mitchell, 1990; Kasurinen, 2002), this study not only confirms this finding but also reveals that they change through time within the same organization, both in their nature and intensity. Thus, the existing model therefore provides a starting point and framework for deriving detailed explanations, involving organization-specific forces, of any given MAC at any given point in time. Secondly, the study also explores how change itself can lead to the emergence of new factors that further influence MAC. This underscores the need for a comprehensive, longitudinal study to capture the evolving dynamics and their impact on MAC. Understanding the chain reactions that change can trigger is crucial for monitoring both the factors driving change and the resistance throughout its evolution. Finally, this study enhances the understanding of MAC through the application of Kurt Lewin's force field theory, addressing gaps in Kasurinen's model by broadening the range of elements considered (see figure 2).

The second contribution of this article is the validation of Kurt Lewin's force field approach (1943) within the context of management accounting. Although Lewin's framework has been widely applied in organizational change studies, its specific application to management accounting has been largely overlooked. This study is the first to demonstrate how this theoretical framework can effectively illuminate key aspects of change in management accounting practices. By categorizing forces according to their intensity, nature, and controllability, Lewin's force field analysis enables a holistic prioritization of interventions. This approach enhances an organization's capacity to manage the forces influencing MAC, promoting more effective and adaptive responses to evolving conditions. Thus, this contribution not only validates Lewin's theoretical approach in a new context but also addresses a gap in the literature, enriching the discourse on organizational change by extending the applicability of the force field approach to management accounting.

This paper is the first to apply force field theory to MAC, identifying new research opportunities. Future studies could explore Lewin's approach to contemporary MAC challenges, the role of external consultants in shaping

perceptions during change, and how their management accounting experiences help identify and manage change forces.

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