



Integrating the balanced scorecard and enterprise risk management: Exploring the dynamics between management control anchor practices and subsidiary practices

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ABSTRACT

This paper analyses the interplay between the balanced scorecard (BSC) and enterprise risk management (ERM) by employing a longitudinal case study of a large energy corporation (Global Energy). In contrast to prior research largely focusing on the ‘why’ question – unpacking processes underlying BSC-ERM integration over time, and the potential difficulties experienced by organisational actors during such processes. At the heart of our empirical findings was a hierarchically arranged management control infrastructure. The BSC served as the management control anchor practice (Ahrens, 2018), which was highly visible, including at the local business unit level. ERM, in comparison, assumed the role of a subsidiary practice struggling to gain visibility and traction, especially at the local level. BSC-ERM integration efforts spurred antagonistic social relationships among different actors, with our case highlighting two key additional factors – organisational structure and common mindset – that were of importance in analysing how BSC-ERM integration played out. Whilst prior work cautions that integration between ERM and other control practices may suppress alternative and potentially useful perspectives on risk, we found no such ill effects. Instead, ERM as a subsidiary control practice significantly increased its impact in Global Energy when integrated with the more established and impactful BSC anchor practice. We also extend prior literature on management control anchor practices by showing how ERM, as the subsidiary practice, did not simply execute predefined scripts determined by the anchor practice, but substantially influenced and changed the BSC anchor practice. The literature generally assumes that the anchor practice remains stable. However, in our case, input from ERM managers and the ERM practice led to significant changes in BSC performance evaluation.

1. Introduction

This paper analyses the interplay between the balanced scorecard (BSC) and enterprise risk management (ERM), employing a case study of a large energy corporation. Since the 1990s, the BSC and ERM have emerged as two of the most used management control practices in private and public sector organisations (Ax and Greve, 2017; Hayne and Free, 2014; Kraus and Lind, 2010; Soin and Collier, 2013; Tekathen and Dechow, 2013). Both the BSC and ERM share common ground, seeking

alignment with strategy and a holistic view of an organisation (Cheng et al., 2018; Posch, 2020; Van der Stede, 2011). However, we know surprisingly little about their interplay (with the rare exception of the experimental study by Cheng et al. (2018)). To the best of our knowledge, our study is the first to provide in-depth, longitudinal case study evidence concerning BSC-ERM integration.¹

Prior research has largely focused on the ‘why’ question of BSC-ERM integration, that is, the benefits and potential pitfalls of such integration. The integration of these two control practices is advocated by

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¹ Following Braumann et al. (2024), the term interplay is used to describe the relation between ERM and the BSC. The term integration refers an organisation including ERM in BSC reporting and measurements.

practitioners and academics because of potential organisational benefits. Integrating ERM into BSC measurement and reporting is believed to enrich managerial understanding of an organisation's overall risk exposure and performance, resulting in more informed and effective managerial decision making (Beasley et al., 2006; Boicova and Slagmulder, 2012; Cheng et al., 2018; Kaplan and Mikes, 2012). Cheng et al. (2018), for instance, found that the causal structure of a BSC leads managers to look beyond the basic probabilistic nature of strategic risks (or their likelihood of occurrence), becoming aware of what strategic risks mean in terms of how they are causally related to an organisation's strategic performance. However, BSC-ERM integration is not without problems. Managers and employees can find it difficult to understand how risk and performance are linked (Palermo, 2011; Posch, 2020; Power, 2009). Also, there might be professional disputes between risk managers and management accountants vying for increasing organisational influence (Hall et al., 2015; Mikes, 2011; Tillema et al., 2022).

We engage with, and contribute to, this prior literature by shifting attention to the 'how' question of BSC-ERM integration, that is, by unpacking processes underlying BSC-ERM integration over time, and the potential difficulties experienced by organisational actors during such processes.² To do so, we draw on recent work outlining *management control anchor practices* (Ahrens, 2018; Carlsson-Wall et al., 2021a; Swidler, 2001), which helps frame attempts at BSC-ERM integration in terms of a hierarchy of two control practices – a more central management control anchor practice and a subsidiary management control practice.

Our study offers two main contributions to the accounting literature. First, given that prior work on BSC-ERM integration (Cheng et al., 2018), as well as more general work on ERM's integration with other control practices (Arena et al., 2017; Braumann et al., 2024; Carlsson-Wall et al., 2021b; Giovannoni et al., 2016; Jordan et al., 2013; Posch, 2020), avoids the question of hierarchies of practices, we problematise such 'analytical equality' (Carlsson-Wall et al., 2021a, p. 252). At the heart of our empirical findings is a hierarchically arranged management control infrastructure with the BSC being 'more central, more controlling, more determinative' (Swidler, 2001, p. 81), serving as a management control anchor practice (Ahrens, 2018; Carlsson-Wall et al., 2021a). This enacted our case organisation's constitutive rule as to what characterises its nature, identity, and 'great and enduring' concerns (Ahrens, 2018; Swidler, 2001, p. 79). The BSC was highly visible (c.f., Ahrens, 2018; Swidler, 2001), including at the local business unit level. ERM, in comparison, assumed the role of a subsidiary practice struggling to gain visibility and traction, especially at the local business unit level.

BSC-ERM integration efforts spurred antagonistic social relationships (c.f., Ahrens, 2018; Swidler, 2001) among different actors. Two key factors – organisational structures and common mindset – helped explain changes in the antagonistic social relationships and the visibility of the two control practices. Top management-led changes regarding organisational structure (i.e., when the BSC and ERM units became one

² We acknowledge that such a focus on 'how' integration unfolds over time means that our research can be characterised as interparadigmatic (see, Gendron et al., 2023). Prior work on the 'why' question of ERM-BSC integration (e.g., Beasley et al., 2006; Boicova and Slagmulder, 2012; Cheng et al., 2018; Kaplan and Mikes, 2012) is from the positivistic paradigm, whereas the literature on anchor practices (e.g., Ahrens, 2018; Carlsson-Wall et al., 2021a; Swidler, 2001) is situated in the interpretive paradigm. We follow Gendron et al. (2023), Csere and Maksymov (2024), and Lukka (2010) and argue that interparadigmatic research enriches contemporary accounting research, stimulating interparadigmatic dialogue 'assuming the existence of a common ground or space where the two paradigms can productively meet and engage' (Gendron et al., 2023, p. 7). And even if our main focus is on 'how' integration unfolds, when our empirics allow, we also provide details relating to 'why' integration efforts were initiated and how the managers perceived the impact of integration on decision making.

unit) brought BSC and ERM actors together, which, at times, fuelled antagonism but, over time, laid the groundwork for shared formal and informal discussions. This enabled the emergence of a common mindset among BSC and ERM managers and employees, reducing the antagonism between these groups. These actors united around the importance of 'a holistic and forward-looking view of performance', which enabled the integration of anchor and subsidiary practices in common software, a mode of integration that became widely accepted both centrally and locally within our case organisation. Whilst Arena et al. (2017) and Palermo (2011) caution that integrating ERM and other control practices, such as the BSC, may suppress alternative and potentially useful perspectives on risk, we found no such ill effects in our study. Instead, through the common software, ERM as a subsidiary control practice leveraged the more established, visible, and impactful BSC anchor practice, significantly increasing its visibility and impact in our case organisation. The perceived 'successful' integration of the BSC and ERM enabled a clearer appreciation by central and local managers of the importance of ERM for business decisions.

Second, we extend prior literature on management control anchor practices (Ahrens, 2018; Carlsson-Wall et al., 2021a; Swidler, 2001) by detailing how ERM, as the subsidiary practice, did not simply execute predefined scripts determined by the anchor practice. In comparison to prior work, ERM substantially influenced and changed the BSC anchor practice. The literature generally assumes that the anchor practice remains stable, while subsidiary practices change through the influence of the anchor practice (Ahrens, 2018; Carlsson-Wall et al., 2021a). While ERM changed substantially during the integration process, the BSC was not immune to change. BSC managers started embracing part of the mindset of ERM around ideas of 'holistic' and 'forward-looking' practices, and, eventually, the BSC changed to explicitly include a perspective called 'safety, sustainability, and security'. The BSC also presented risks in relation to strategic objectives, which were clearly visible in the software. Importantly, input from ERM managers and the ERM practice led to changes in the BSC evaluation approach, moving from performance evaluations based on 'actual outcome to target' to 'forecast to target'. Overall, our case demonstrates how BSC-ERM integration efforts changed both anchor and subsidiary practices, enabling the enactment of our case organisation's constitutive rule.

2. Theoretical development

2.1. The interplay between the BSC and ERM – previous literature

The BSC emerged as a popular management control practice after Kaplan and Norton's (1992) initial publication. The BSC is a performance measurement system, balancing financial and non-financial performance in the short and long terms. Kaplan and Norton emphasised the importance of linking performance measurements to strategy, with only measures connected to strategy being included in the BSC. The BSC should align all business units, processes, and systems with corporate strategy. Surveys and case studies indicate the BSC has been widely and globally adopted (Andon et al., 2007; Hoque and James, 2000; Kasurinen, 2002; Kraus and Lind, 2010; Malina and Selto, 2001; Speckbacher et al. 2003; Tuomela, 2005).

Further, in the late 1990s, an enterprise-wide approach to risk management emerged. This involves strategically considering the interactive effects of various risk events with the goal of balancing an organisation's portfolio of risks within the limits of its risk appetite (Beasley et al., 2006; Hayne and Free, 2014). In documents produced by the Committee of Sponsoring Organisations of the Treadway Commission (COSO), ERM is defined as:

...a process, effected by an entity's board of directors, management, and other personnel, applied in a strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide

reasonable assurance regarding the achievement of entity objectives (COSO, Committee of Sponsoring Organizations of the Treadway Commission, 2004, p. 2).

Pertinently, ERM is now a widely used management control practice in both private and public sector organisations (Carlsson-Wall et al., 2019; Hayne and Free, 2014; Jemaa, 2022; Meidell and Kaarbøe, 2017).

The BSC and ERM share common ground (Beasley et al., 2006; Braumann et al., 2024; Cheng et al., 2018; Van der Stede, 2011). Both management control practices are widely used and considered highly strategic with organisations focusing their attention on simultaneously improving their measurement, management, and reporting of risks and performance (Braumann et al., 2024). Both the BSC and ERM adopt a holistic approach, seeking to make an important contribution to strategising (Boicova and Slagmulder, 2012). Practitioners and academics, therefore, envision benefits from integrating ERM into BSC reporting and measurements (Beasley et al., 2006; Boicova and Slagmulder, 2012; Cheng et al., 2018; Kaplan and Mikes, 2012). Cheng et al. (2018) argued that as a BSC is designed to provide performance information to help managers monitor and evaluate business strategies, it is a logical conduit to incorporate information about strategic risks to aid managerial decision making. As strategy implementation involves managing risks, each strategic objective in the BSC is likely to have one or more associated strategic risks with the potential to prevent managers from successfully executing strategy (c.f., Kaplan and Mikes, 2012). One benefit from integrating risk information into the BSC in general and BSC software specifically is that the causal structure of a BSC will lead managers to look at what these strategic risks entail, as well as how they are causally related to an organisation's strategic performance. In their experimental research, Cheng et al. (2018) found support for the espoused benefits of BSC-ERM integration; it enabled managers to better consider the qualitative nature of strategic risks when making decisions. They further argued that the presentation structure of the BSC alters managers' causal reasoning as they relate performance information to strategic risks.

Yet, despite the proposed advantages of BSC-ERM integration (i.e., the 'why' question), we have limited knowledge of 'how' the interplay between the BSC and ERM unfolds over time.³ Providing field study evidence of such interplay and tracing the outcomes of what actors do and how they do it (i.e., the 'how' question), can offer significant insight relevant to the achievement of the 'ultimate aim' of BSC-ERM integration of better decision making (i.e., the 'why' question). This is primarily because managers and employees may gain a more comprehensive understanding of the overall risk exposure and performance challenges associated with specific operational and strategic decisions. To theorise BSC-ERM integration, we draw on recent work outlining management control anchor practices (Ahrens, 2018; Carlsson-Wall et al., 2021a; Swidler, 2001).

2.2. BSC-ERM integration and the notion of management control anchor practices

When studying the interplay between the BSC and ERM, we encounter a situation where these two control practices provide managers with potentially different organisational priorities. This begs the question as to whether BSC and ERM control practices are equally important or if there is some kind of structure underpinning the

³ There is an emerging body of field studies examining the interplay between risk management and other control practices, such as budgeting (Arenas et al., 2017; Giovannoni et al., 2016), planning and economic capital allocation (Giovannoni et al., 2016; Mikes, 2009), scenario analyses (Hall et al., 2015; Mikes, 2009; Tekathen and Dechow, 2013), project management (Jordan et al., 2013), and more general performance measurement initiatives (Carlsson-Wall et al., 2021b; Hall and Fernando, 2016). For a review of this literature, see Braumann et al. (2024).

formation of priorities. Drawing on Ahrens (2018), we argue that the BSC-ERM interplay can be underpinned by a hierarchically arranged management control infrastructure – one of the control practices can be more central than the other in shaping how decisions and priorities are made. This 'more central, more controlling, more determinative' (Swidler, 2001, p. 81) *management control anchor practice* (Ahrens, 2018) enacts more stable and long term organisational concerns, providing direction for how to prioritise both strategic decisions and day-to-day operations. Carlsson-Wall et al. (2021a), for instance, analysed the new product development of industrial robot systems. They found that a management control anchor practice framed certain concerns as being more important than others, enabling anchored prioritisations in multi-product settings.

To explain why a management control anchor practice is more central and determinative, Ahrens (2018) argued that anchor practices enact the *constitutive rule* of an organisation. The constitutive rule 'define [s] an entity's nature as well as the identities of its members by constituting key social relationships' (Ahrens, 2018, p. 64). Thus, an organisation's constitutive rule is an expression of an enduring and relatively stable social structure characterising an organisation and underpinning its activities (Carlsson-Wall et al., 2021a). Kraus et al. (2017), investigating a religiously affiliated health centre operating as an NGO in rural India, found how continual reference was made to the organisation's duty of helping the impoverished by performing God's work (i.e., the constitutive rule of the organisation). Ideological control (operating as an anchor practice) significantly influenced how employees perceived the implementation of action controls (the subsidiary practice) in the form of various behavioural rules and guidelines. Accordingly, when analysing the interplay between the BSC and ERM, researchers need to identify an organisation's constitutive rule and study how it affects the formation of priorities. This approach has enabled us to extend prior work on BSC-ERM integration, which has avoided the question of management control practice hierarchies, focusing instead on whether integration should be manifest in standalone or integrated reporting formats (Cheng et al., 2018).

When Ahrens (2018) introduced the concept of management control anchor practices, he took inspiration from Ann Swidler's studies of cultural practices within San Francisco's lesbian and gay community, British and German labour relations in the textile industry, and American social life in general. Swidler argued that culture could be analysed as a matter of practices, rather than something hidden away in individual consciousness. She noted (Swidler, 2001, p. 76):

...practices are concretely observable in a way that meanings, ideas, and values never really were...culture cannot be treated as some abstract stuff in people's heads which might or might not cause their action. Rather cultural practices are action, action organized according to some more or less visible logic, which the analysts need only describe...discerning the structure of a set of practices becomes a primary challenge for cultural analysis.

Building on her work, Ahrens proposed, when 'discerning the structure' of different management control practices (i.e., when analysing the interplay between a management control anchor practice and a subsidiary control practice), that it is important to consider anchor practices as highly *visible*, helping build priorities, and managing *antagonistic social relationships*. Antagonistic social relationships are defined in terms of accountability-induced conflicts and negotiations between groups with different interests (see, Swidler, 2001, p. 85). Ahrens (2018) argues that control practices may be more firmly anchored when they are at the centre of such antagonistic relationships. As Swidler (2001, p. 85) found in her analysis of cultural practices, when people engaged with one another during antagonistic interchanges, anchor practices helped them return to 'common structures'.

Extant research has highlighted the creation of formal BSC and ERM structures by performance measurement experts (such as management

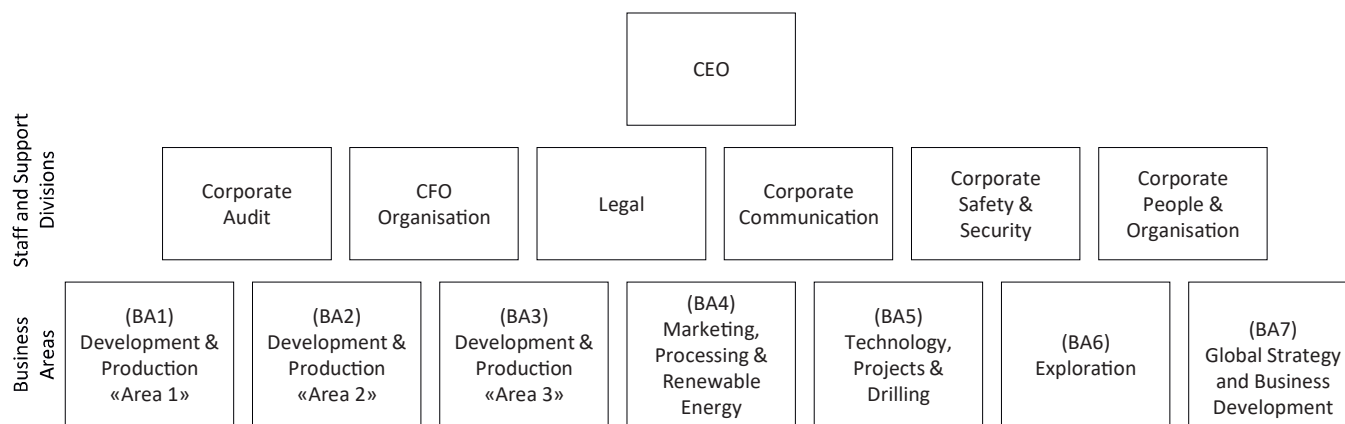


Fig. 1. Illustration of the company’s organisational chart (as of 2013).

accountants) and dedicated risk experts (such as risk officers) (Arena et al., 2010, 2017; Giovannoni et al., 2016; Hall et al., 2015; Mikes, 2009; Tekathen and Dechow, 2013). Other research has documented a rapid increase in dedicated risk experts, such as internal auditors, chief risk officers, and risk managers, who build networks and alliances (Power, 2016). Unsurprisingly, antagonistic social relationships have been documented between this ‘new’ professional group of risk experts and more established management accountants (Carlsson-Wall et al., 2021b; Hall et al., 2015; Meidell and Kaarbøe, 2017; Mikes, 2011). As noted by Palermo (2011), there is an inherent tension between risk managers’ and management accountants’ viewpoints: the same element can be interpreted in different ways, depending on whether a BSC or an ERM perspective is embraced. Consider a case where results exceed expectations. From a BSC perspective, this may be considered positively because an organisation is deemed to be outperforming its targets. However, an ERM perspective may suggest caution and concern; such results could hint at negative future consequences because of the risks taken to increase performance (Palermo, 2011). This suggests differences between how risk managers and management accountants perceive, discuss, and measure risk and performance. In mediating such differences, a management control anchor practice contributes to the formation of ‘common structures’, which may ultimately enable negotiating parties to (re)engage with one another (Swidler, 2001, p. 85). As such, anchor practices help build priorities and manage antagonistic social relationships.

With respect to visibility, Swidler (2001) emphasised that anchor practices are used in highly visible ways, which contributes to their organisation-wide acceptance. Ahrens (2018) and Carlsson-Wall et al.

(2021a) illustrated how visibility can be ensured in different ways, through events like annual congresses, cross-functional forums, or software. Visibility can support the acceptance of the anchor practice among both corporate and local managers. Indeed, Swidler (2001, p. 87) pointed out the role of visibility in strengthening the anchor practice – as “everyone can see” that everyone else has seen that things have changed.’ The previously discussed work of Cheng et al. (2018) and Kaplan and Mikes (2012), concerning the visualisation of the BSC and ERM through common software, is one way of increasing the visibility of control practices. This facilitates managers connecting BSC and ERM information, grouping information together in meaningful ways highlighting similarities and connections. However, common software could lead to potential problems for BSC-ERM integration, as it requires significant effort from managers to process different types of information. We know from prior work that the BSC’s benefits might not be realised due to managers’ cognitive limitations (Kraus and Lind, 2010; Lipe and Salterio, 2000; Wong-On-Wing et al., 2007). Lipe and Salterio’s (2000) experimental research demonstrated how managers’ cognitive limitations (i.e., ‘information overload’) may prevent an organisation from fully benefiting from BSC information. They found top managers emphasised common (financial) rather than unique (non-financial) BSC measures when evaluating subordinates because of cognitive limitations. These findings indicate a risk of information overload if BSC and ERM information are integrated in common software. Instead, isolating ERM information from performance information could beneficially reduce managers’ efforts to process these respective sets of information.

To summarise, the concept of management control anchor practices (Ahrens, 2018; Swidler, 2001) helps unpack the processes underlying BSC-ERM integration, as well as potential difficulties experienced by organisational actors during such integration efforts. It directs attention to: a) how the BSC or ERM as a management control anchor practice enacts an organisation’s constitutive rule, b) whether and how the BSC and ERM sit at the centre of antagonistic social relationships during integration efforts, and c) whether and how the BSC and ERM gain visibility throughout the organisation.

3. Research methods and the empirical setting

We conducted a longitudinal field study of Global Energy (a pseudonym). Global Energy is a large multinational energy company developing oil, gas, wind, and solar energy. The company operates in 30 countries with a workforce of approximately 22,000 employees. The structure of the company comprises Business Areas (BAs) and Staff and Support divisions. Despite some shifts in the organisational chart over time, the fundamental structure has remained stable. The organisational structure consists of more than 2100 organisational units with a designated manager. Fig. 1 (see below) provides a visual representation of the

Table 1

Interview outline.

Themes explored during interviews	Historical period explored
The interviewees’ views on changes in organisational structure, roles, responsibilities and network of actors.	
The interviewees’ views on changes in the BSC and ERM software and the use of BSC and ERM information.	R1 (April 2013-October 2015): Emphasis on historical developments and the present sequence of events.
The interviewees’ views on the changes in processes, policies and guidelines.	R2 (September 2017-January 2019): Emphasis on the present sequence of events.
The interviewees’ views on the role of the ERM unit and its people.	R3 (October/November 2022): Emphasis on ‘validating’ our interpretation of the comprehensive historical evolution and sequencing of the storyline.
The interviewees’ views on the role of the BSC unit and its people.	
The interviewees’ views on integration between the BSC and ERM, including a common software.	
The interviewees’ views on the use of the BSC and ERM at the local level.	

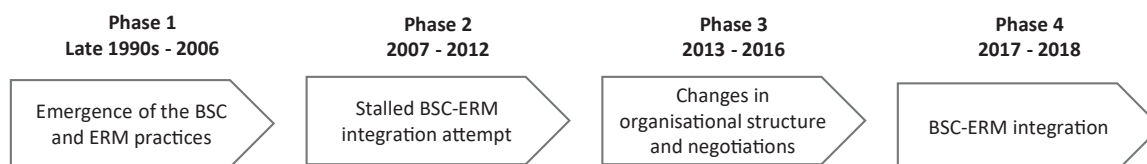


Fig. 2. Timeline of key events at Global Energy in four phases.

organisational chart as of 2013 (internal document).⁴ Our study focuses on the CFO (Chief Financial Officer) organisation, with particular reference to the BSC and ERM units within the CFO's organisation. These units coordinate and develop BSC and ERM practices respectively. Both units report to the CFO.

Data collection extended over a six-year period from April 2013 to January 2019, with two follow-up interviews in 2022, and comprised semi-structured interviews, direct observations, and a compilation of secondary archival data. Table 1 details the general interview outline. The first round of data collection (R1) commenced in April 2013, with the organisational integration of the BSC and the ERM units providing an opportunity to study the interplay between the BSC and ERM *in situ*. Data collection ended in October 2015, but regular exchanges with key informants were maintained. The second round of data collection (R2) commenced in September 2017, triggered by a decision to integrate ERM into the new BSC software. Interviews were conducted before and after the implementation of the new software. This round of data collection ended in January 2019 when the authors felt that no additional insights were being obtained (i.e., 'data saturation' had been achieved, see Malsch and Salterio, 2016, p. 12), while acknowledging that these two practices may continue to develop after our retreat from the field. In October/November 2022, two additional interviews (R3) were conducted with two of the key informants from the BSC and ERM units respectively. This period also included an initial presentation of our key findings to date (i.e., 'member checking', see Malsch and Salterio, 2016, p. 13). These informants concurred with our interpretations of how BSC-ERM integration had unfolded.

In all, 56 semi-structured interviews with 41 different individuals were conducted. Respondents, with varying understandings and experiences of the development of the BSC and/or ERM, were drawn from different hierarchical levels and units (see Appendix Table A.1). Initially, informants were selected based on their seniority. It was then left to these informants to nominate further potential interviewees. Whilst being aware of the potential power dynamics between managers and employees, follow-up interviews with employees were, in most cases, conducted to capture the perspectives of different stakeholders based on their specific interactions with the BSC and ERM. Again, a snowball technique was applied in these employee interviews, asking for recommendations for further interviewees (Corley and Gioia, 2004). On average, each interview lasted for about an hour and twenty-five minutes. All interviews, bar one, were recorded and transcribed. For the interview that was not recorded, detailed notes were taken during the interview.

Evidence was also drawn from a field diary containing informal observations garnered whilst on the company's premises. This included non-participant observations comprising notes taken during several internal meetings (see Appendix Table A.2). Interviews and observational data were supplemented by, and compared to, archival data concerning BSC and ERM practices. This included official contextual materials such as the annual reports from 1996 to 2018, company governance documents, and audit reports from the Petroleum Safety Authorities. Also included were internal documents such as internal memos explaining

changes in the control practices and examples of presentations to the board of directors.

Our data analysis followed an abductive approach, going back and forth between empirical observations and possible theoretical explanations aimed at generating 'thick explanations' (Lukka, 2014; Lukka and Modell, 2010, p. 466). Our initial data analysis adopted an open-ended thematic approach. Consistent with prior studies, we found that technology changes significantly influenced the interplay between the BSC and ERM (Carlsson-Wall et al., 2021b; Hall and Fernando, 2016). However, we also inductively identified the influence of organisational structure and common mindset as pivotal factors explaining the interplay. In a second step, the concepts of anchor practice, subsidiary practice, constitutive rule, antagonistic social relationships, and visibility (Ahrens, 2018; Swidler, 2001) helped us to further unpack the processes underlying BSC-ERM integration, along with potential difficulties experienced during such integration. In an abductive spirit, the combination of inductive findings and deductively applying a conceptual vocabulary, allowed us to build insights into how the BSC and ERM were integrated over time – beyond discussions from prior literature.

Following a temporal phase approach (Reay et al., 2019), we identified a timeline of events outlining how the two control practices developed over a period of more than 20 years (end of late 1990s to 2018), clustered into four distinct temporal phases. This temporal bracketing enabled us to examine the emergence of key events over a longer period of time, however, at the expense of the more detailed minutiae within each of the analytical phases (Yang and Modell, 2015). To allay concerns about retrospective bias, we compared interview data from several informants who had experienced the same phenomena. When possible, interviews were compared to archival data where the two control practices were described in documents, written memos, or other internal presentations.

4. Findings

4.1. Global Energy and the constitutive rule of 'create value; avoid incidents'

A central part of Global Energy's identity involves the maxim, 'create value, avoid incidents'. The pursuit of financial value creation has been a core objective since the company's inception in the 1970s. The company's strategy from 2007 to 2018 expressed this principle strategic objective as 'a strategy for value creation and growth' (annual report 2008), 'long term value creation' (annual reports 2009, 2010), 'growing and enhancing value' (annual report 2011, 2012), and 'high value' (annual reports 2012–2018). There has also been a consistent focus on health, safety, and environmental (HSE) issues, evident in, for example, the 2007 annual report stressing the importance of strategic objectives with a 'continued focus on HSE'. This commitment endured, as highlighted in the 2018 annual report, where HSE is identified as one of the principal objectives under the banner of 'Always safe'.

Our respondents made it clear that 'create value, avoid incidents' was not simply a slogan within Global Energy. Throughout the observation period, it was an integral part of its organisational identity and, from a conceptual viewpoint, represented the constitutive rule (Ahrens, 2018; Swidler, 2001) characterising Global Energy. In multiple interviews spanning several years, the ERM manager consistently

⁴ The numbering of the BAs has been added for reference purposes. Geographical names of areas have been anonymised.

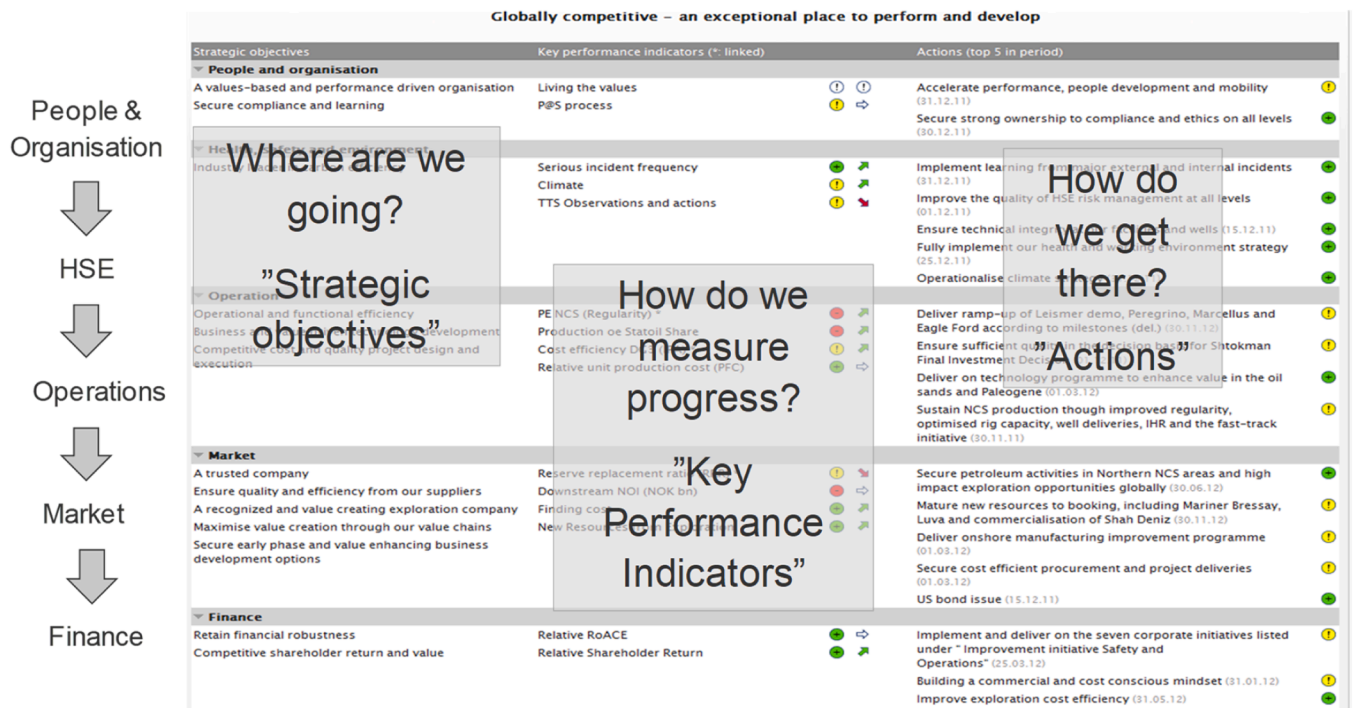


Fig. 3. Illustration of Global Energy’s balanced scorecard.

emphasised the company’s enduring commitment to ‘creating value’ and ‘avoiding incidents’. He affirmed, ‘You know I said, “create value, avoid incidents”—that is something that will last forever’ (R3).

Over time, as the company grew, the complexity of enacting the constitutive rule increased. This led to the emergence of two management control practices – the BSC and ERM – and a hierarchy between them. To detail the temporal interplay between the BSC and ERM, we structure our findings in four distinct phases as illustrated in Fig. 2.

4.2. Phase 1: the emergence of the BSC and ERM practices (late 1990s–2006)

As a result of continuous growth from the 1970s, Global Energy adopted a Management Information System (MIS) that was initially ‘heavily KPI oriented’ (R3: BSC senior advisor), ‘to provide front-line teams with better information, primarily on operational indicators’ (internal document). Later, in 2004, the MIS expanded into a BSC (Kaplan and Norton, 1996), aligning with strategy by ‘adding on strategic objectives and actions to play an equally important role as the KPIs’ (R3: BSC senior advisor). The BSC was structured around five perspectives: (1) people & organisation, (2) health, safety, and environment (HSE), (3) operations, (4) market, and (5) finance. Fig. 3 illustrates Global Energy’s BSC and how it was visualised. The company introduced a unique fifth perspective focused on HSE, citing ‘the extreme importance of this dimension in our industry’ (internal document). As such, Global Energy’s BSC included multiple connected perspectives to ‘create value’ (i.e., People & Organisation, Operations, Market, Finance), as well as an additional perspective to ‘avoid incidents’ (i.e., HSE).

Further, Global Energy’s BSC emerged as a management control anchor practice (Ahrens, 2018). The visibility of this anchor practice was strengthened by the incentive structure, whereby fifty percent of managers’ annual bonus was tied to the evaluation of KPI results as found in the BSC. The remaining fifty percent was linked to an assessment of behavioural goals set for each manager.

While the adoption of the BSC was voluntary, ‘most people, when presented with it, chose to use it’ (R2: Controller BA5). This was

reflected in the use of approximately 800 BSCs, mostly following the organisation chart’ (R2: External presentation). The BSC unit played a pivotal role in developing the BSC and this unit boasted an extensive history, with its basic ideas pre-dating the label BSC (R3: BSC senior advisor).

Parallel to BSC developments, a dedicated ERM unit was established in 1999. The ERM unit was also situated within the CFO organisation. Two risk experts started to quantify financial risks for hedging decisions at the corporate level, using the term ‘enterprise-wide risk management’ for financial risks issues – and this was when the concept ‘had barely been used [by other organisations]’ (R1: Former ERM manager). The two risk experts were sceptical toward international standards of risk management focusing only on the downside risks:

A lot of what the auditors come with (when it comes to risk management) is what can ‘ruin us as an organisation’, threaten the goal achievement. Everything is about downside (risks) ... “How can I optimise my distribution of outcomes so that I create value?” That is a much larger question, and much more demanding one to answer (R1: ERM manager).

In contrast, it was argued that ERM should ‘support the overall goals of the company’, ‘contribute to value creation’, ‘assess risks as both opportunities and threats’, and preferably ‘be quantified in monetary terms as far as possible’ (R1: Former ERM manager), linking ERM to Global Energy’s ‘value creation’ objective:

What distinguished our way of thinking about ERM... is that we have always thought of risk not only as a downside, but also as an upside. No company can survive today without taking risks. (R1: Former ERM manager).

Respondents explained that these early ERM practices only addressed financial risks and linked well to one dimension of the constitutive rule – ‘create value’. These early practices, however, did not enact the other constitutive dimension – ‘avoid incidents’. ‘They [the ERM unit] had already then turned ERM into almost 100 % financial risk management’ (R1: Former risk employee 2). Further, the scope of the

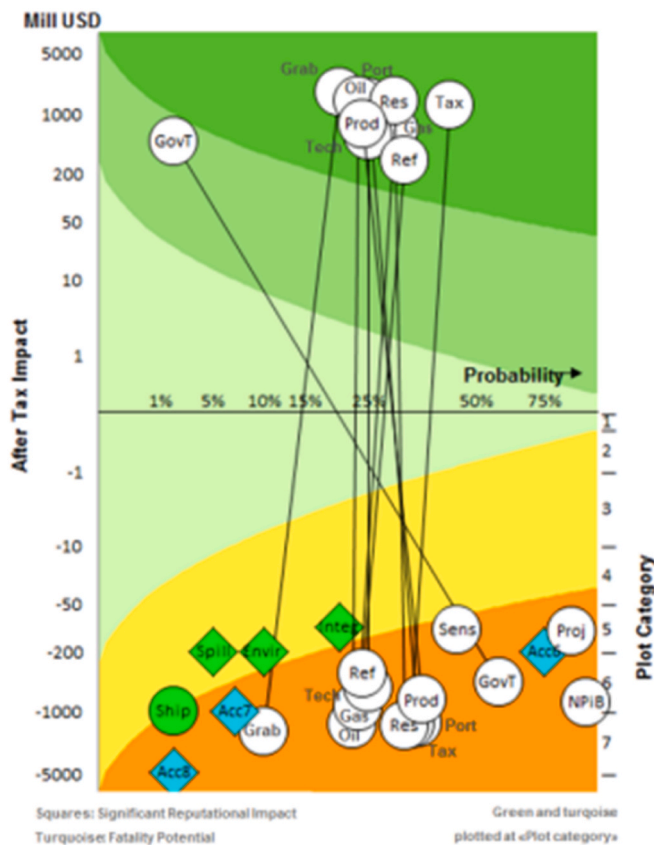


Fig. 4. Illustration of Global Energy's enterprise risk map (STIR).

BSC and ERM units' organisational engagement was also significantly different:

...because the BSC network was well established. You had controllers in every business unit. So, if you look at the ERM network it was much smaller, and they didn't have the same depth and reach as the BSC side (R3: BSC senior advisor).

Instead, HSE risks, and the enactment of the constitutive rule to 'avoid incidents', took centre stage in the Corporate Safety and Security organisation (CSS organisation) and local BAs. The CSS organisation was responsible for 'reporting [of HSE risks], but also enabled the organisation to uncover these risks [HSE risks] and work with them' (R1: Safety risk employee). HSE risks were not integrated in what was called ERM at that time. ERM had little visibility and traction at the local BA level because it focused primarily on corporate level financial risks.

With respect to this first phase and the initial emergence of the BSC and ERM, by drawing on recent work on management control anchor practices (Ahrens, 2018; Swidler, 2001), we find a hierarchy between these two control practices. The BSC acted as the management control anchor practice. It was more central than ERM. The BSC enacted Global Energy's constitutive rule to 'create value, avoid incidents', which characterised the identity of Global Energy and its 'great and enduring' concerns (Swidler, 2001, p. 79). The visibility of the BSC was further strengthened by its alignment with strategy, software underlying the use of the BSC, organisational networks at both corporate and local BA levels, and the incentive system. In contrast, ERM was perceived as less central, being primarily connected to the 'create value' dimension of the constitutive rule focusing on financial risks. HSE risks, and the 'avoid incident' dimension of the constitutive rule, were handled in other parts of the organisation and not yet part of ERM. ERM was less visible, lacked organisational support and traction at the BA level, and was without software supporting its practices. As such, BSC-ERM integration was

non-existent. At this point, the BSC and ERM were stand-alone control practices (c.f., Cheng et al., 2018) in units that were organised separately and focused on their respective areas of expertise.

4.3. Phase 2: stalled BSC-ERM integration attempt (2007–2012)

In 2007, the ERM unit doubled in size (equalling the BSC unit). This resulted from a merger between Global Energy and a competitor. Top management appointed the BSC and the ERM units as 'functional owners', sending a strong signal within the organisation about the importance of both control practices. According to the company's then governing documents, functional owners 'are responsible for defining corporate policies and requirements, and for driving improvements across the company. Corporate units are to govern by publishing high-level policies and requirements, primarily through FR [Functional Requirement] documents...'. The ERM unit developed the FR document for risk management stating that 'Enterprise Risk Management shall be an integrated part of the [BSC] process'.

Despite the overarching idea of BSC-ERM integration in the FR governing document, a heated debate emerged between two groups of risk experts within the ERM unit concerning what integration was and was not to signify in a practical context. One group of risk experts wanted to integrate risk into the BSC. This group perceived ERM to be about the risk of not reaching objectives:

There was much discussion... What was perhaps the most important thing there was that we worked with an assumption that all objectives were sensibly set... And when you do the ERM it is about the risk of not reaching that objective (R1: Former risk employee).

The other group of risk experts was concerned that ERM would be reduced to the risk of not achieving individual KPIs, without taking a holistic, portfolio view of what was good for the company overall. Additionally, there were concerns that ERM would only be 'an add on' to the BSC and not a robust practice on its own:

Risk was an add-on to performance measurement, and then I said this is not ERM. You need to have a holistic view and have it integrated. That is why I was very negative about it (R3: ERM manager).

As the ERM practice needed software to support its practices, the first group of risk experts collaborated with the BSC unit to integrate risk in the BSC software, which had a simple risk management functionality:

[The BSC software] could integrate risks in actions, KPIs, and strategic objectives and we could make an assessment about what influenced the probability of reaching the strategic objective...so for every action [in the BSC] you made a connection to risk, and you had to define [the risk] as high, medium or low...but the system could not plot the bubbles in a risk map...but we made a list of actions and could calculate the risks...(R1: BSC manager).

The second group of risk experts perceived the integration of ERM into the BSC software as being too simplistic. The BSC software could not plot risk maps and only assess risks as high, medium, or low. The ERM manager rhetorically argued, 'high risk, low risk, it cannot be used for anything...high risk, is it good or bad?' To address these concerns, the second group of risk experts searched for software allowing risks to be visualised in a risk map incorporating opportunities and threats measured in monetary terms. However, most risk management software on the market only included threats (and not opportunities) as high, medium or low risks. This approach was seen as being too inaccurate and simplistic for decision making purposes:

Then we searched for risk maps on the internet, and all we could find was downside risks. But our business is about taking risks, and that is how we have conceptualised risk management since we started...

When we looked at the risk maps, it was all about downside risk, what kind of nonsense is that. That is not possible! ... In addition, they did not even have numbers! ... Then, I thought, if you are going to do risk management and make decisions, then this is too simple. So, then we made our own Excel model (R1: ERM manager).

The ERM unit eventually developed their own solution in Excel, which was called STIR.⁵ STIR enabled risks to be visualised as both a threat and opportunity (see Fig. 4).

The enterprise risk map was presented to top management and the board of directors, and BAs were requested to provide risk information for the risk map. This resulted in the BSC and the ERM units asking for almost the same information for two different tools: 'it then became double up...it didn't work so we stopped the requirement (to use the risk functionality in the BSC software)' (R1: BSC manager). There was little support from the BAs to continue with the risk functionality in the BSC software:

We had an attempt at creating a risk module [in the BSC], which failed at the time, because I think not enough work was done from the beginning on how we should work with it in practice...it never worked (R1: Finance and Control manager, BA1).

The BSC manager opined that this was a pity because there was a lot of overlapping information between the BSC and ERM:

In my opinion, 90 % of the actions in [the BSC] were concerned with risks. For instance, an action could be 'to access new exploration acreage', and that was to avoid us running out of opportunities and having no future growth. I know this was formulated quite similarly in the risk map (R1: BSC manager).

In 2009, the CEO decided to include updates about the BSC and ERM in the quarterly business review meetings held in conjunction with the BAs. As there were a myriad of different risk map formats within Global Energy, the Corporate Executive Committee (CEC) decided that the risk map format in STIR would be used when presenting risk maps to the board, CEC, and BA management teams.

Risk experts in the ERM unit collaborated to enhance the enterprise risk map, incorporating HSE, integrity, and business corruption risks in STIR. These additional risk categories were represented by blue and green bubbles or diamonds on the map (see Fig. 4). This initiative amplified the 'avoid incidents' dimension of the constitutive rule (Swidler, 2001) and was the first step in increasing ERM's visibility at the central and local levels.

Initially, STIR did not incorporate specific actions: 'Previously, you just presented the map and were done with it' (R1: Risk employee 2). The absence of attention to actions became a point of contention. A former risk employee conveyed that many risk experts advocated for the inclusion of actions, enabling better alignment with the BSC (which included actions):

... because we had started to argue that when we have [the BSC] as such an important management control tool... And then we have our ERM process. The risks that are identified must be reflected in the management control tool, otherwise we have two processes that are completely separated, and that doesn't work. So that is why it [actions] was included in the risk matrix, in the Excel spreadsheet [i.e. STIR]. (R1: Risk employee 2).

The format of the enterprise risk map embedded in STIR became available to all via the intranet, thus increasing the visibility of ERM. However, at local levels, there was no requirement to use STIR, and

other risk map formats with the traditional 5 × 5 matrix continued to be used.

To summarise, the BSC remained stable as the management control anchor practice and was highly visible at both central and local levels. The subsidiary ERM control practice changed to incorporate HSE risks, increasing its visibility at the central and local levels by assuming a broader risk perspective. Antagonistic social relationships (Swidler, 2001) within the ERM unit crystallised that ERM was not an 'add on' to the BSC. Rather, it was a robust stand-alone control practice (Cheng et al., 2018). The attempt to integrate ERM into the BSC software stalled. Also, the BSC and ERM units were still organised separately. Top management initiatives increased the visibility of both BSC and ERM practices, appointing both the BSC and ERM units as 'functional owners' and including BSC and ERM updates in the CEO's quarterly business review meetings with the BAs. While the enterprise risk map format became a requirement at the top levels of the organisation, ERM struggled to gain visibility and traction at local levels. Inspired by the BSC, risk actions were eventually incorporated into STIR, illustrating that the BSC (as management control anchor practice) significantly influenced the development of subsidiary ERM practices.

4.4. Phase 3: changes in organisational structure and negotiations (2013–2016)

In 2013, top management decided to reorganise the BSC and ERM units to enhance efficiency. The two units merged into one unit named Performance Management and Risk (PMR). This unit was led by the BSC manager. Despite this merger, the BSC and ERM units were maintained as separate units within PMR. This change was perceived as a highly visible demonstration confirming the subsidiary role of ERM to the BSC anchor practice:

And with the last change in the ERM unit, [it] is embedded with the [BSC unit] and actually taken one level down. But it also makes sense. When you say that in the Business Review Meetings, we're only spending like 5 min where risk is a topic. But as part of the [BSC], you always have risk management as part of the conversation. When discussing the different topics, you also touch upon risk. So, I think it [risk] is now becoming more embedded in the operational agenda than it used to be (R1: Risk coordinator, BA3).

Over time, the formal management meetings of the new PMR unit (consisting of 6–8 people from both the BSC and ERM units) became an arena for antagonistic social relationships (Swidler, 2001). The ERM manager argued that the changed organisational structure should change how they worked:

...quite soon there, in these management meetings, I started to say, "why have we done this kind of merger [of the BSC and ERM unit] if it doesn't mean anything?". I used it against them..." So, if you think this is serious, we need to work more closely together then, not as we have done in the past". So, I think that paved the way for actually being able to change. But I had to spend a lot of time on it (R3: ERM manager).

While changes in organisational structure were crucial for establishing a formal arena for joint discussion, it was argued that moving the two units into the same office space was even more important.

...I think the most important thing was not that we ended up in one organisational unit, but that we were sitting on the same floor... because that really triggered that new level of communication and dialogue between us (R3: BSC senior advisor).

Notably, the ERM manager and BSC senior advisor both initiated discussions as to how the BSC and ERM could be integrated:

⁵ The enterprise risk map in STIR assessed risks as any deviation (upside or downside) from a reference value (the y-axis), with associated uncertainties (the x-axis).

ERM manager: ...It means that now when we sit together, we see each other more... and then we will become more integrated. And we can already see that it is starting to work.

BSC senior advisor: That's actually what we're going to have a meeting about afterwards, where we're going to look at the whole process in PMR, which means that things are much more connected than before.

ERM manager: It is [BSC senior advisor] and I who have discussed this the most, and it is not certain that everyone has seen the same thing. This must mature.

BSC senior advisor: That type of discussion puts a little more weight on the agenda in PMR when it comes from several environments. Instead of you standing on the outside and me sitting on the inside...

ERM manager: So now we have a forum to develop this further... so the first part of that collaboration is that we can make ERM and the BSC influence each other. (R1: ERM manager and BSC senior advisor)

While the ERM manager and BSC senior advisor were central to challenging the status quo, the BSC senior advisor emphasised that other colleagues shared this opinion, but it would take time:

Also [BSC senior advisor] was part of the management committee under PMR, and we supported each other. I think it was just he and I who talked about these things [integration of the BSC and ERM]. So, I had to convince them over time, a year went before we were able to convince that this is something we should do (R3: ERM manager).

Both the BSC senior advisor and ERM manager believed in a holistic approach to managing risk and performance. They were concerned about the prevailing narrow focus on KPIs:

I think what triggered this, was the rebellion against traditional target setting... We were both seeing how the KPI targets and the KPIs were running the show, dominating everything. It was all about hitting those [pre-set] targets. And that is very worrisome, both from a performance measurement point of view and from an ERM point of view. (R3: BSC senior advisor).

And what [the BSC senior advisor] believed in was a holistic approach, think a bit bigger, that was very much in line with how we [in the ERM unit] talked about it. So, what [the BSC senior advisor] came with, involved performance measurement and risk going together. But that way of thinking was not the case on lower levels, where they only did what was necessary to meet the [strategic] objectives [and KPIs]. Then you often got the wrong ERM approach and the wrong performance measurements (R1: ERM manager).

Additionally, staff from the BSC and ERM units stressed, during formal meetings and informal conversations, that both BSC and ERM practices should be forward-looking. Inspired by the ERM way of thinking, the BSC unit decided to change the BSC from a 'backward-looking focus to a forward-looking focus' (R3: BSC senior advisor). This involved changing performance evaluations from 'actual outcome to target' to 'forecast to target':

So, when you have business reviews you go straight into that discussion about what does it look like out there, and what do we need to do if we don't like what we see. If it looks ok, what kind of risks can jeopardise what looks ok. So, for me both [the BSC and ERM] need to be forward-looking (R3: BSC senior advisor).

This change in how they worked with the BSC was pivotal in better

aligning it with an ERM way of thinking and developing a common mindset:

One of the key elements as to why a common mindset was gradually developing involved changing the BSC's backward-looking focus to a forward-looking focus that was action oriented. So, we talked a lot about that when you compare and measure you should not look backwards and compare 'actual [outcome] vs. target' because that is looking backwards and it is variance oriented, explanation oriented, excuse oriented. We said that focus had to be forward looking, and for that to happen we changed what was driving the colour of KPIs [in the BSC]. We changed it to 'forecast vs target' (R3: BSC senior advisor).

The ERM manager argued that ERM could provide additional information for the forward-looking practice of the BSC, assessing a larger outcome distribution of possible future events:

Remember that controllers are very concerned with specific cases at all times ... they think in terms of a performance perspective in order to look into the future, and there we come in as a support with larger outcome distributions, giving width and risks in that dimension, and not only seeing the most likely case and explaining deviations. (R1: ERM manager).

While the BSC senior advisor and ERM manager shared a common vision for integrating the BSC and ERM, it took time to change the mindsets of the rest of the PMR management team:

...then both I and [ERM manager] used this [management meeting] extensively; call it push and challenge. Because there were so many business situations popping up where this perspective was relevant, giving us an opportunity to raise it, not from a theoretical point of view but from an actual case point of view (R3: BSC senior advisor).

Despite an emergent common mindset at the corporate level, ERM remained a less visible practice at the local level compared to the BSC:

This was back in 2013, we were just organised together ... it was kind of specialists working with risk ... and nobody knew except when we presented to the corporate executive committee. So, we were kind of hidden ... whereas in the BAs they had people working with the BSC (R3: ERM manager).

To summarise, an important step towards integration of the BSC and ERM was taken when top management decided to merge their two respective units into one organisational unit, the new PMR unit. The appointment of the BSC manager as head of the new unit served as a highly visible means of showing that the BSC was the management control anchor practice (Ahrens, 2018). Following the merger, the two practices initially continued to enact the constitutive rule within their separate local networks and supporting software. Over time, the new PMR unit served as an organisational structure facilitating the emergence of a common mindset around holistic and forward-looking practices. We observed antagonistic social relationships (Swidler, 2001) between BSC and ERM managers and employees from PMR when discussing a lack of integration between the two practices. Over time, we observed that ERM impacted the BSC, changing performance evaluations from 'actual outcome to target' to 'forecast to target'. This meant that BSC and ERM managers, along with employees, were united by ideas of 'holistic and forward-looking' practices, enabling the enactment of the organisation's constitutive rule. But even when the 'groundwork' for BSC-ERM integration was laid, the two practices remained stand-alone practices; the BSC was still more visible throughout the organisation, while ERM struggled to gain visibility and traction locally.

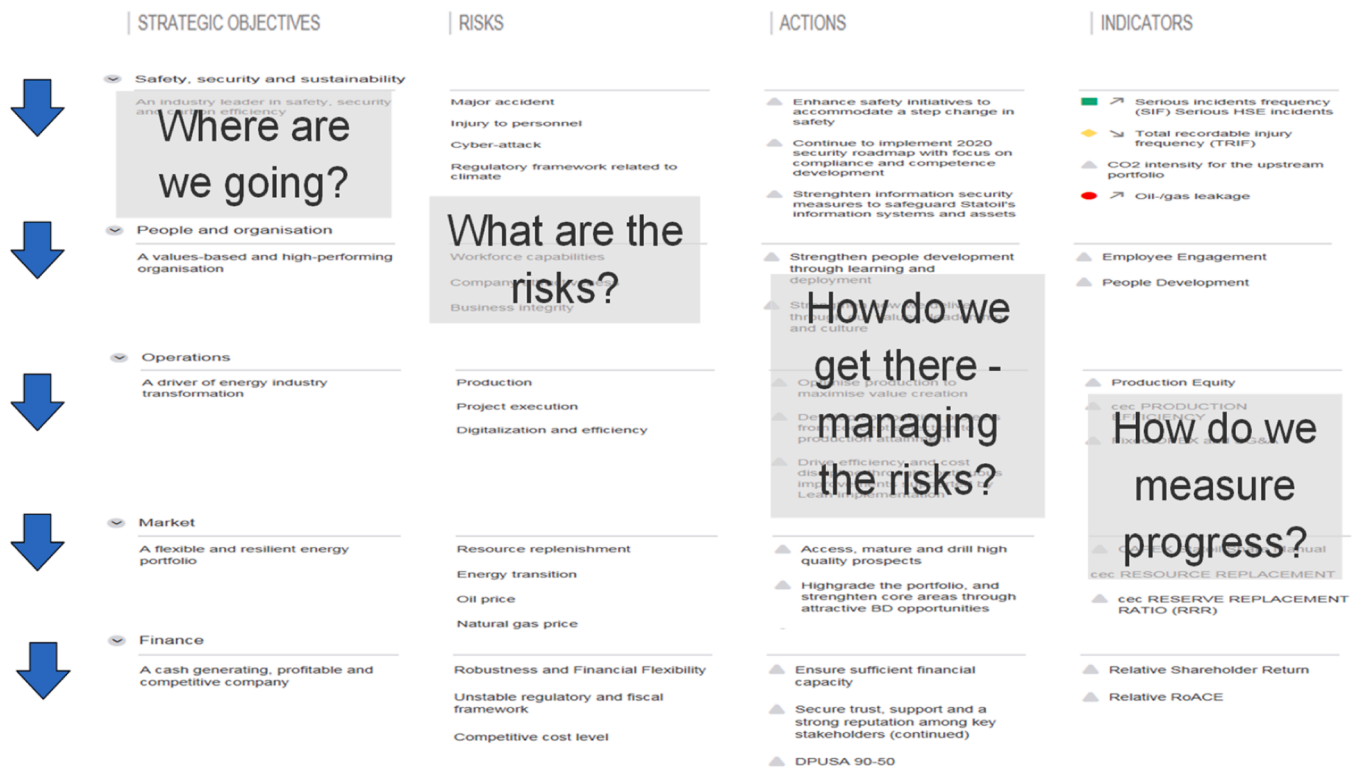


Fig. 5. Illustration of the new BSC with risk integrated.

Table 2
Summary of findings.

	Phase 1 (1990s-2006)	Phase 2 (2007–2012)	Phase 3 (2013–2016)	Phase 4 (2017–2018)
BSC-ERM integration	<ul style="list-style-type: none"> Emergence of the BSC and ERM as stand-alone control practices. 	<ul style="list-style-type: none"> Stalled attempt by the ERM unit to integrate risk in the BSC software: the BSC and ERM remained stand-alone control practices. 	<ul style="list-style-type: none"> Top management intervention to change the organisational structure by merging the BSC and ERM units into one PMR unit, which facilitated the emergence of a common mindset. Both practices remained stand-alone control practices. 	<ul style="list-style-type: none"> ERM integrated in a new BSC software. The BSC-ERM integration was perceived as ‘successful’ and the new software was seen as improving decision making in various ways.
The BSC and ERM’s enactment of the constitutive rule	<ul style="list-style-type: none"> The BSC was established as the management control anchor practice, enacting the constitutive rule of ‘create value, avoid incidents’. ERM was established as a subsidiary control practice, enacting primarily the ‘create value’ part of the constitutive rule. 	<ul style="list-style-type: none"> The BSC as anchor practice remained stable and did not change. Influenced by the BSC anchor practice, ‘actions’ became incorporated into the ERM software. The ERM practice also changed to incorporate HSE risks to ‘better’ enact the constitutive rule. 	<ul style="list-style-type: none"> The BSC as anchor practice still remained the more central control practice as it enacted the constitutive rule on both central and local levels. Influenced by the ERM practice, the performance evaluations in the BSC changed from ‘actual outcome to target’ to ‘forecast to target’ as a way to ‘better’ enact the constitutive rule. 	<ul style="list-style-type: none"> The integration of ERM in the new BSC software influenced the BSC anchor practice to take a more holistic and forward-looking approach when enacting the constitutive rule. Via the new software, ERM enacted the constitutive rule also on the local level.
Antagonistic social relationships between BSC and ERM managers and employees	<ul style="list-style-type: none"> BSC and ERM managers focused on their own areas of responsibility. 	<ul style="list-style-type: none"> Heated discussions within the ERM unit about whether or not ERM should be integrated in the BSC software. 	<ul style="list-style-type: none"> Over time, less antagonism as BSC and ERM managers developed a common mindset of the importance of ‘holistic and forward-looking’ practices. 	<ul style="list-style-type: none"> With a common mindset, the overall idea of BSC-ERM integration met little resistance. Heated discussions about specific software details, which resulted in compromises (e.g., altering the name of the strategic perspectives and the exact position of the risk column).
Visibility of the BSC and ERM control practices	<ul style="list-style-type: none"> The BSC was highly visible as it was connected to the incentive system and had both central and local support. ERM was mainly supporting top management with financial risk decisions and was less visible at local levels. 	<ul style="list-style-type: none"> Top management intervention to increase ERM visibility by formally appointing both units as ‘functional owners’. With a new ERM software, ERM increased visibility at the central level but still struggled to gain local visibility and traction. 	<ul style="list-style-type: none"> The BSC manager was appointed head of the new PRM unit, a visible means of showing that the BSC was (still) the management control anchor practice. ERM still struggled to gain visibility at the local level. 	<ul style="list-style-type: none"> As the new BSC software had ERM as an integrated part, ERM gained access to a broader user base and improved significantly its visibility also at the local level.

Table A.1
List of formal interviews.

Interview	Role	Interviewee	Unit	Date	Duration (hrs:min)
First round of data collection (R1)					
#1	ERM manager	#1	ERM unit	23.04.2013	2:00
#2	Risk employee 1	#2	ERM unit	23.04.2013	1:45
#3	ERM manager	#1	ERM unit		
	Former ERM manager	#3	BA4, Trading	29.04.2013	2:00
#4	Risk employee 2	#4	ERM unit	30.04.2013	2:00
#5	BSC senior advisor	#5	BSC unit	30.04.2013	1:30
#6	Risk employee 3	#6	ERM unit	30.04.2013	1:00
#7	Risk employee 4	#7	ERM unit	07.05.2013	0:45
#8	Risk employee 5	#8	ERM unit	07.05.2013	1:00
#9	Risk employee 6	#9	ERM unit	04.06.2013	2:15
#10	Safety manager	#10			
	Safety risk employee 1	#11	Corporate Safety & Security	05.06.2013	2:00
#11	Former risk employee 1 (in the ERM unit)	#12	BA4, Trading	07.06.2013	0:45
#12	Former risk employee 2 (in the ERM unit)	#13	Corporate Safety & Security	12.06.2013	2:00
#13	BSC manager	#14	BSC unit	24.06.2013	1:00
#14	Safety manager	#10	Corporate Safety & Security	27.09.2013	0:30
#15	Safety risk employee 1	#11	Corporate Safety & Security	01.10.2013	5:00
#16	Safety risk employee 2	#15	Corporate Safety & Security	02.10.2013	1:30
#17	Safety risk employee 3	#16	Corporate Safety & Security	14.10.2013	1:15
#18	Management system employee	#17	Management system	18.10.2013	2:00
#19	Risk coordinator	#18	BA1	30.10.2013	2:00
#20	Safety risk coordinator	#19	BA6	08.11.2013	1:30
#21	Safety risk coordinator	#20	BA3	08.11.2013	1:30
#22	Internal audit manager	#21	BA3	11.11.2013	1:15
#23	Risk coordinator	#22	BA3	11.11.2013	1:10
#24	Safety manager	#23	BA3	13.11.2013	1:00
#25	Controller	#24			
	Risk coordinator	#25	BA3	13.11.2013	1:00
	Finance employee	#26			
#26	Finance and control manager	#27	BA1	21.11.2013	1:00
#27	Safety manager	#28	BA6	21.11.2013	1:00
#28	Safety risk employee 1	#11	Corporate Safety & Security	22.11.2013	0:50
#29	Finance and control manager	#29	BA3	18.12.2013	1:00
#30	Risk coordinator	#30	BA6	15.01.2014	1:00
#31	Risk employee 3	#6			
	Risk employee 7	#31	ERM unit	30.01.2014	1:00
#32	ERM manager	#1	ERM unit		
	BSC senior advisor	#5	BSC unit	30.01.2014	1:30
#33	ERM manager	#1	ERM unit	30.01.2014	1:30
#34	Risk employee 3	#6			
	Risk employee 7	#31	ERM unit	27.03.2014	2:00
#35	ERM manager	#1			
	Risk employee 2	#4	ERM unit	23.04.2014	2:30
#36	ERM manager	#1			
	Risk employee 2	#4	ERM unit	18.12.2014	2:00
#37	Internal audit manager	#21	BA3	12.02.2015	1:00
#38	Internal auditor	#32	Corporate audit	12.02.2015	1:00
#39	Former risk employee 3 (in ERM unit)	#33	BA 1	23.03.2015	1:00
#40	ERM manager	#1	ERM unit	12.10.2015	1:00
Second round of data collection (R2)					
#41	ERM manager	#1			
	Risk employee 2	#4	ERM unit	25.09.2017	2:00
	Risk employee 8	#34			
#42	Project manager new BSC software	#35	BSC unit	26.10.2017	1:00
#43	Risk coordinator	#36	BA1	29.11.2017	2:00
#44	Controller	#37	BA2	08.05.2018	1:30
#45	Controller	#38			
	Risk controller	#39	BA5	09.05.2018	1:30
#46	Field development manager	#40	BA6	31.05.2018	1:30
#47	Controller	#38			
	Risk controller	#39	BA5	22.11.2018	1:00
	Safety risk employee	#41			
#48	Risk coordinator	#36	BA1	28.11.2018	1:30
#49	ERM manager	#1	ERM unit	30.11.2018	1:15
#50	ERM manager	#1			
	Risk employee 1	#2	ERM unit	30.11.2018	0:30
#51	Risk controller	#34	BA6	30.11.2018	0:45
#52	Controller	#37	BA2	04.12.2018	1:00
#53	Strategy employee	#42	BA7, Strategy unit	04.12.2018	1:00
#54	Risk employee 1	#2	ERM unit	30.01.2019	0:45
Follow up interviews (R3)					
#55	BSC senior advisor	#5	BSC unit	26.10.2022	1:30
#56	ERM manager	#1	ERM unit	14.11.2022	1:30
	TOTAL INTERVIEW TIME				79:15

Table A.2
List of observed meetings.

Observation	Meeting	Date	Duration (hrs:min)
First round of data collection (R1)			
#1	Corporate Risk Committee meeting	16.05.2013	1:30
#2	Risk improvement project meeting	02.10.2013	2:00
#3	Internal meeting on Safety Management	04.10.2013	1:00
#4	Risk improvement project group meeting	08.10.2013	5:50
#5	Risk improvement project group meeting	09.10.2013	5:00
#6	Risk improvement reference group meeting	18.10.2013	2:00
#7	Risk improvement project group meeting	22.10.2013	2:00
#8	Risk improvement project group meeting	09.12.2013	2:00
#9	Risk improvement project group meeting	15.12.2013	2:00
#10	Internal meeting on Safety Management	15.12.2013	1:00
#11	Internal meeting on Safety Management	15.01.2014	1:00
#12	Internal meeting on Safety Management	03.02.2014	1:00
#13	ERM unit meeting	23.04.2014	1:15
#14	ERM unit meeting	23.04.2014	1:15
#15	ERM unit meeting	26.06.2014	1:15
#16	ERM unit meeting	20.08.2014	4:00
#17	Risk network meeting	26.10.2015	2:00
Second round of data collection (R2)			
#18	External presentation by BSC senior advisor about the Performance management practices in Global Energy	13.09.2017	0:30
#19	Clarification meeting about new BSC software between PMR unit and Strategy unit	25.09.2017	0:55
#20	New BSC software implementer leader meeting	25.09.2017	1:30
	TOTAL TIME OF OBSERVED MEETINGS		39:00

4.5. Phase 4: BSC-ERM integration (2017–2018)

In 2017, the existing BSC software, which was based on an old Lotus Notes database technology, was considered outdated. The BSC unit initiated a process to develop a new software application enabling the integration of risks. As discussions concerning the integration of the BSC and ERM had endured for years, the new solution met little resistance:

If the window [for a new BSC software] had opened during any of the earlier phases, I am not sure we would have been able to grab [the opportunity] in the same way. But now the timing was right... because we had had these common discussions over several years. This had matured for both of us [the BSC and ERM units] over a long period. So now it became kind of obvious that we should do this [jointly work to implement the new BSC software] (R3: BSC senior advisor).

The ERM manager supported a view that ‘to have ERM as part of the new BSC software, it was a no-brainer [in 2017]. However, ‘the ‘fight’ was how to more precisely structure such integration within the software’ (R3: ERM manager). The final version of the new software application followed the structure of the old software by incorporating a BSC with five strategic perspectives. The former HSE perspective was renamed as ‘Safety, Security and Sustainability’. Also, the order of the columns in the BSC changed. Risks now came second after strategic objectives. Indicators were placed in the far-right column. Fig. 5 shows cases this renewed arrangement.

The design of the new technical solution triggered antagonistic social relationships, often manifested in vigorous discussions and negotiations. The initial point of contention revolved around the ordering of the columns. The purpose of changing the order of the columns was to put less emphasis on KPIs and more focus on risks and actions:

...here you can see the strategic objectives, risks, actions, indicators, in that order, i.e., the indicators are no longer in the middle [as they were in the previous BSC software], but to the far right. Automatically, they get less attention. Actions get more [attention] and risks get more [attention], and you get a longer ‘distance’ between the strategic objectives and indicators (R2: ERM manager).

Another point of contention pertained to the nomenclature and number of strategic perspectives. In particular, the BSC senior advisor clarified that a consideration of ‘security’ was deemed missing. Although initially proposed as a sixth perspective by ERM staff, debates ensued regarding whether security warranted a separate perspective. According to the BSC senior advisor, this ‘was perhaps the most challenging aspect for ERM people to acknowledge in the process.’ The resolution involved incorporating security into the initially proposed fifth perspective, renaming it as ‘Safety, Sustainability, and Security’ (R3: BSC senior advisor).

The BSC and ERM experts collaborated closely in the development of this new tool. The BSC unit considered it to be an enhancement of the existing BSC tool. However, for ERM, the integration of risks into the BSC represented a significant transformation and, consequently, ‘most of the development took place at the ERM side’ (R3: BSC senior advisor). A dedicated risk expert assumed responsibility for integrating risk functionalities from STIR, such as the risk register and the enterprise risk map with upside and downside risks, into the new BSC software. As a result, ERM was not just an add-on to the BSC, it was a robust, integrated functionality where risk was a distinguishable domain within the BSC software. The new software was a ‘door opener’ for ERM practices – the user base was now much larger than for the previous ERM stand-alone software. The new software also incorporated risk in performance discussions at local levels:

We saw that this really, this is a door opener, a really important door opener [to also get local BA visibility and traction] ... But the other one [the BSC unit] had the door [open to the BAs] already, and [for the BSC unit it was] more of an IT tool upgrade. But for us it was something more, it was actually a door opener for getting the ERM way of thinking spread in the company. And not only for the specialists, but for everyone (R3: ERM manager).

Suddenly, it has become much more important because in our new BSC software there is now a risk [column], and it cannot be blank. So suddenly everyone starts thinking about ERM...it makes risk visible. It is actually risks that drive the actions...So I would say that the BSC [in the new BSC software] has become much stronger than before. It was [prior to the new BSC software] just about ‘getting the KPI green’. But now it is about reaching the strategic objectives and influencing the risks at the same time. It makes it so much more powerful (R2: ERM manager).

The new BSC software was widely adopted across the organisation, with an increase in the number of BSCs to ‘about 900’ (R3: BSC senior advisor). The new BSC was ‘in many ways the one portal for how to manage and get information’ (R2: Project manager new BSC software). The new BSC software aimed to place less emphasis on KPIs, or, as the project manager put it, ‘move the focus from a “Go green program”⁶; to

⁶ The ‘Go green program’ or ‘getting a KPI green’ refers to a practice where managers only do what is necessary to get the colour of the KPI to green, rather than taking a more holistic approach to performance measurement.

instead let green KPIs just monitor progress’.

The integration of quantitative information on risks and KPIs provided local managers with a more holistic approach to decision making. The ERM manager explained how he demonstrated this to a BA management team, comparing the monetary effect of an action’s impact on a KPI compared to its possible impact on risks (both upside and downside) in the risk map:

Let’s say it was something that could have a cost effect, for which you had a KPI...When the cost is so and so much compared to what we wanted it to be, then it gets a lot of attention because there is a KPI on it – a lot of focus. But now, when you go to the risk map and see that the cost effect, it does not have such a great impact... then they see that, oh, I use my resources the wrong way now, I use time on what has my attention, but not necessarily what is most important for the bottom line. And we really bring it out by showing the monetary effect [on the enterprise risk map] (R2: ERM manager).

Upon the implementation of the new BSC software, interviewees observed a series of notable shifts in the utilisation of the BSC and ERM throughout the organisation, including local BAs. First, the integration of risk into performance discussions was perceived to enhance better decision making: ‘[The new software] helps us make better decisions, it improves our understanding of how risk is affected by strategic objectives, and which actions to take’ (R2: Project manager new BSC software). Respondents positively received this integration, noting it facilitated more holistic, integrated presentations of and discussions about risk and performance during management meetings: ‘I must say that it is a very positive thing with risk integrated in the new BSC software’ (R2: Controller, BA2). The integration of ERM seamlessly wove risks into discussions about each strategic perspective of the BSC, progressing from strategic objectives to risks, actions, and, finally, KPIs. Managers assumed responsibility for including risks in their performance discussions, aligning this with their longstanding duty to update the BSC software.

So, we have had perspectives [in the BSC] with indicators and actions and the like all along, so when we got risk in [to the new BSC software], it felt in a way as a natural part of what we have been doing all along... Now the local managers do more or less everything [update on risk] themselves...and that is not what it used to be. Before we had to call them into meetings and write for them and arrange for them. (R2: Risk coordinator at local BA level).

This respondent further emphasised that the incorporation of risks in the new BSC software heightened managerial accountability also at the local level, necessitating proactive measures of risks. This marked a significant evolution, with risk management becoming an inherent and expected component of managerial responsibilities.

A second notable enhancement involved streamlining the process of updating information within the unified tool, rendering it more ‘efficient’ compared to the previous practice of duplicating risk and action data across multiple tools. Despite increased complexity, respondents found that the number of risks were reduced and now there was an integrated system:

... risk as it is now integrated is a huge strength... we have a lot of risks, and it may seem quite bureaucratic to many, but there is a system for things and we have managed to reduce the number of risks from what we had... so even though the volume here is still quite a lot, it is also because it is a large business that we are running (R2: Controller, BA5).

Respondents further highlighted the elimination of a need to generate risk reports or other preparatory materials for management meetings, emphasising instead the seamless utilisation of the new system:

I much prefer that risk is integrated like this [in the new BSC software]...I do not intend to use any presentations for the review meeting. I will only use the tool. (R2: Field development manager, BA6).

This not only saved time for controllers and managers during report preparation and review, but also created a demand for ongoing updates to the new BSC software. Correspondingly, the new software was perceived as more dynamic and forward looking:

...it is a completely different dynamic...It becomes much more frequent, there is much more focus on actions when new information comes up. Much more...Look forward instead of looking back (R2: Project manager new BSC software).

It has become much more efficient [with the new BSC software]: from 2, 3, 4 times a year [risk update] it is now monthly. It is much more efficient and transparent, which is the goal after all. There is a lot more dynamism [in the discussions]. (R2: Risk controller, BA5).

In summary, with a common mindset, the overall idea of BSC-ERM integration met little resistance. However, we observed intense antagonistic discussions (Swidler, 2001) about specific software details, which resulted in compromises (e.g., altering the name of the strategic perspectives and the positioning of the risk column). The new integrated BSC-ERM tool was a highly visible way of demonstrating how the once subsidiary ERM practice was now an integrated part of the BSC anchor practice. Boasting a significantly larger user base than the previous ERM stand-alone software, the new BSC software made ERM visible and accessible to a broader audience within Global Energy. The integration of ERM into the BSC changed the enactment of the constitutive rule (Ahrens, 2018) to be more holistic and forward-looking. Respondents perceived this to improve decision making compared to previous stand-alone practices.

5. Concluding discussion

This paper has explored the interplay between the BSC and ERM over time through a case study of a large energy corporation (Global Energy). Table 2 summarises our findings. We elaborate on our contributions below and conclude with suggestions for future research.

5.1. Analysing BSC-ERM integration through the lens of anchor practices

Both practitioners and academics suggest managers may achieve a better understanding of the overall risk exposure and performance by integrating ERM into BSC reporting and measurements (Beasley et al., 2006; Boicova and Slagmulder, 2012; Cheng et al., 2018; Kaplan and Mikes, 2012). However, prior studies also acknowledge substantial difficulties (such as professional disputes and difficulties in understanding how risk and performance are linked) facing BSC-ERM integration (Hall et al., 2015; Palermo, 2011; Posch, 2020; Power, 2009; Tillema et al., 2022). Further, we have limited knowledge of ‘how’ BSC-ERM integration unfolds over time. Our study takes a step towards rectifying this situation by providing in-depth empirical evidence on BSC-ERM integration over a period of two decades. At the heart of our empirical findings is a hierarchically arranged management control infrastructure: the BSC was ‘more central, more controlling, more determinative’ (Swidler, 2001, p. 81), serving as the management control anchor practice (Ahrens, 2018; Carlsson-Wall et al., 2021a). Such a clear hierarchy was surprising, given that the literature on BSC-ERM integration (e.g., Cheng et al., 2018) has tended to treat BSC and ERM practices as equal, thereby assuming ‘analytical equality’ (Carlsson-Wall et al., 2021a, p. 252) between the two practices. We propose that a focus on the dynamics between the anchor and subsidiary practices offers a fruitful way of developing existing insights on BSC-ERM integration.

In Phase 1, there was an extant and distinct hierarchy of practices

between the BSC and ERM in Global Energy. As the management control anchor practice, the BSC enacted Global Energy's constitutive rule, 'create value, avoid incidents'. The different BSC perspectives (People & Organisation, Operations, Market, Finance) connected to 'create value' and 'avoid incidents' (HSE). The visibility (Ahrens, 2018; Swidler, 2001) of the BSC was further strengthened through its connection to the incentive system. In contrast, ERM was perceived as a subsidiary control practice. It only partially enacted the constitutive rule (primarily the 'create value' dimension of the constitutive rule), supporting top management by characterising the financial risk of decisions. ERM did not have significant organisational visibility or traction at the local BA level. Integration between the two practices was almost non-existent in this initial phase. The BSC and ERM were stand-alone control practices (Cheng et al., 2018).

As such, the ERM unit struggled to gain local visibility. Antagonistic social relationships (Swidler, 2001) within the ERM unit were spurred by an attempt to integrate ERM into the BSC software. A top management initiative to change organisational structure by amalgamating the BSC and ERM units, fostered continuous communication and reduced antagonistic social relationships between BSC and ERM practitioners. Over time, a common mindset was cultivated by a 'holistic' and 'forward-looking' approach. We found that organisational structures on their own were insufficient, as local BAs treated the two practices separately. But when a common mindset between BSC and ERM managers and employees emerged and informed technical changes, the two practices were eventually integrated via new BSC software. Accordingly, our case highlights two key factors of importance for analysing how the BSC-ERM integration plays out over time. These factors emphasise the importance of, first, facilitating *organisational structures* to enhance the visibility of the subsidiary (ERM) practice and, second, an emerging *common mindset* among BSC and ERM managers and employees, reducing the antagonism among these groups during integration work. Our analysis of 'how' integration occurs thereby also provides insights that are important to the achievement of the 'ultimate aim' of more informed and effective decision making (i.e., the 'why' question). Our findings suggest that changes in organisational structure and the gradual development of a common mindset enabled the perceived 'successful' integration of the BSC and ERM in a common software. It was through the use of this common software that central and local managers and employees achieved a better understanding of the integration between the overall risk exposure and performance challenges. Our informants described this in terms of more dynamic, holistic and forward-looking discussions and a clearer appreciation of the importance of ERM for business decisions by central and local managers, which were perceived to be key factors for 'better' decision making (compared to the previously narrower focus on 'getting a KPI green').

Furthermore, whilst Arena et al. (2017) and Palermo (2011) caution that integration between ERM and other control practices (such as BSC) may suppress alternative and potentially useful perspectives on risk, we did not find this. Instead, ERM significantly increased its impact in Global Energy when integrated with the more established and impactful BSC anchor practice via new software. Similarly, we did not find evidence of the enhanced BSC overextending the cognitive limitations of managers by producing 'information overload' as reported in previous literature (Lipe and Salterio, 2000).

More broadly, these findings speak to the emerging body of field studies examining the interplay between risk management and other control practices (e.g., Arena et al., 2017; Carlsson-Wall et al., 2021b; Jordan et al., 2013; Mikes, 2009; Tekathen and Dechow, 2013). Instead of side-stepping the question of management control practice hierarchies, such studies conceptually frame integration efforts in terms of anchor and subsidiary practices and analyse whether, and, if so how, antagonistic social relationships, visibility, organisational structure, and common mindset influence control practice integration.

5.2. The impact of subsidiary practices on anchor practices

Our study also contributes to the emerging literature on management control anchor practices (Ahrens, 2018; Carlsson-Wall et al., 2021a; Swidler, 2001) by highlighting the impact of subsidiary practices on management control anchor practices. The literature generally assumes that the anchor practice remains stable and subsidiary practices change. Our findings concur with this literature's prediction that the hierarchy between the BSC and ERM continued over time; the BSC remained as the anchor practice while ERM changed substantially in form, organisation, and content. However, during the integration process, the BSC anchor practice also changed. BSC managers embraced ERM-driven ideas of 'holistic' and 'forward-looking' practices. Importantly, input from ERM managers and practice led to changes in the BSC evaluation approach, shifting from performance evaluations based on 'actual outcome to target' to 'forecast to target'. Thus, the subsidiary practice in our case did not simply execute predefined scripts determined by the anchor practice. Instead, it played an active role in uniting BSC and ERM managers and employees around ideas of 'holistic and forward-looking' control practices. The ERM was integrated with the BSC in a way that changed both the anchor and the subsidiary practice, enabling the enactment of the organisation's constitutive rule.

We suggest that analysing the relationship between control practices and the organisation's constitutive rule helps explain changes to the anchor practice. According to Swidler (2001), a practice becomes an anchor practice when it becomes important for enacting an organisation's constitutive rule. This implies that practices may be related to the constitutive rule to varying extents and change over time. The BSC was perceived as important for enacting Global Energy's constitutive rule 'create value; avoid incidents', yet the BSC was 'imperfect' in enacting this rule. Influences from ERM helped the BSC overcome its narrow focus on 'turning KPIs green', which was perceived as problematic for value creation. Similarly, ERM influenced changes in the performance evaluation approach of the BSC, as well as informing the labelling of one of the BSC perspectives to explicitly recognise risk in terms of security. The integration of ERM into the new BSC software substantially influenced the BSC anchor practice to assume a more holistic and forward-looking approach, thereby more robustly enacting Global Energy's constitutive rule.

5.3. Outlook

There are important research implications stemming from our finding that management control anchor and subsidiary practices offer a suitable lens to analyse how BSC-ERM integration unfolds over time. Prior empirical studies have frequently reported variations in the use of ERM (Mikes, 2011) and the BSC (Kraus and Lind, 2010). This begs the question of how such variations affect the hierarchy of control practices. For instance, how may BSC-ERM integration unfold in settings when ERM has been the established anchor practice, enacting the organisation's constitutive rule?

Furthermore, in our longitudinal study, substantial changes to the BSC anchor practice happened only in the later stages. Studies may find changes to anchor practices either through long-term studies or studies of critical periods. Our study shows that the change in the anchor practice was the culmination of a lengthy process, yet the change *per se* happened relatively quickly. This could inform empirical studies by pointing to specific periods of change as being of particular interest. To develop a more dynamic perspective on management control anchor practices, researchers could look specifically at the timing, directionality, and magnitude of changes to anchor practices. Furthermore, our case organisation was a large company with sophisticated BSC and ERM practices. Our case organisation also had significant resources to devote to integration efforts. How does BSC-ERM integration play out in other less well-resourced contexts?

It is also worthwhile reflecting on whether it makes sense to still talk

about a hierarchy of control practices once two practices have become integrated via common software (as happened in the final phase of our study). We suggest treating this as an empirical question. In our case organisation, distinct groups of BSC and ERM experts remained with interests and knowledge clearly tilting towards one of the two practices. Thus, even if the two practices were integrated via common software, they may not be perceived as ‘one practice’ but rather as a well-integrated anchor (the BSC) and subsidiary (ERM) control practices. Conceptually, the question may shift to a consideration of how such a ‘successful’ integration can be sustained and what the role of anchor and subsidiary control practices would be. What tensions arise when the visibility and traction of the subsidiary practice increases? With new (integrated) software, will issues related to information overload (Lipe and Salterio, 2000) arise and create new tensions? Over time, will integrated BSC-ERM practices become the anchor practice in relation to other extant and emerging management control practices? As our study has shown, much practical work goes into integrating management control practices, such as the BSC and ERM, and such work deserves future scholarly attention.

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Appendix. – List of formal interviews and observed meetings

Data availability

The data that has been used is confidential.

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