Journal of Management Control
https://doi.org/10.1007/s00187-025-00392-x

ORIGINAL PAPER

Operating the boundary system: A case study of Anti-Money Laundering risk management in a bank

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Accepted: 15 May 2025
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Abstract

This paper examines the role of boundary systems in operational risk management. The paper is based on a case study of a large Scandinavian bank for which effective Anti-Money Laundering (AML) is a regulatory requirement. Relying on interviews as the primary data source, the study demonstrates how the management control system develops over time in response to regulatory intervention. While the literature has previously accentuated the role of interactive and diagnostic systems in strategic risk management, this study demonstrates the importance of boundary systems in operational risk management. Establishing a separate diagnostic system for AML reporting was ineffective and so was embedding AML in the interactive budgeting system. Instead, establishing AML as a boundary system that delineates rules to be followed rather than opportunities to be sought counterbalances the beliefs systems in decentralised organisations, where effective AML is a prerequisite licence to operate and engage with strategic risks. This paper is one of the first to unravel how boundary systems can be established and operated as part of a management control system. The case study is not only relevant to the banking sector but practitioners in other settings may also consider how boundary systems can ensure effective operational risk management.

Keywords Management control systems · Boundary systems · Operational risk management · Banking · Anti-money laundering

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Published online: 11 June 2025

1 Introduction

> *In our strategy process, we try looking into our decentralised banking model and say, 'should we adjust some of the ways we work with things now that we have a chance to do it?' […] some things where we need to say 'shall' more than we perhaps needed to 20 years ago when the decentralised banking model saw the light of day* (Head of Human Resources at BankCorp)

For decades, accounting scholars have been interested in how risk management can be integrated into management control systems (e.g., Arena et al., 2010; Arjaliès & Mundy, 2013; Mikes, 2009, 2011; Palermo, 2017; Vasileios & Favotto, 2022). Much of the management accounting literature on risk management has examined how strategic risks are managed whereas operational risks, which according to Kaplan and Mikes (2012) are "preventable risks", have received less attention. While management control systems often have the role of directing attention to opportunities and motivating managers towards goal-congruent behaviour, managing operational risks usually means telling organisational actors what they shall (not) do rather than what they can do, as mentioned by the Head of Human Resources at BankCorp, which is the case company studied in this paper.

In Simons' (1995) levers of control framework, where the use of management control systems is considered contingent on strategy, boundary systems specify the scope and limits of the firm's activities and risks to be avoided. Thus, Simons' (1995) levers of control framework provides a solid foundation for analysis when the aim is to study the interactions between operational risk management and management control (Palermo, 2017; Vasileios & Favotto, 2022). However, the management accounting literature has broadly neglected how boundary systems are established and operated in relation to other control systems.

A few studies have indicated that boundary systems play a role alongside other control systems (e.g., Mundy, 2010) but empirical studies have not found any significant results regarding boundary system effectiveness (Heinicke et al., 2016; Speklé et al., 2017; Widener, 2007). Noteworthy exceptions are two studies that carefully attended to the role of boundary systems in Corporate Social Responsibility compliance (Arjaliès & Mundy, 2013; Laguir et al., 2019). Still, calls have been made for more studies of boundary systems (Heinicke et al., 2016, p. 39), especially considering Tessier and Otley's (2012) further development of the levers of control framework, where strategic boundaries are differentiated from business conduct boundaries.

Focusing on the strategic importance of managing strategic risks holistically (Mikes, 2011), the literature has primarily been concerned with interactive and diagnostic systems and their pairwise utilisation. Certain studies have delineated how interactive systems facilitate discussions about strategic risks, which are important for organisational risk management (Arena et al., 2017; Jemaa, 2022). Other studies have illustrated how using risk tools (i.e., artefacts materialising risk representations) diagnostically can provide a coherent strategic direction for organisational actors who receive risk-based performance feedback (Carlsson-Wall et al., 2020; Giovannoni et al., 2016). It has been argued that boundary systems, which standardise procedures,

can hinder the addressing of uncertainties and in the worst case become illusory (Power, 2009). However, boundary systems are important for managing operational risks, especially when organisations face high financial and reputational costs of non-compliance (Arjaliès & Mundy, 2013).

Following recent calls for investigations into developments in risk management (Carlsson-Wall et al., 2020; Meidell & Kaarbøe, 2017), we set out to examine how operational risk is integrated with other management control systems over time. We do so by conducting a longitudinal case study of a large Scandinavian bank, BankCorp. The banking business is based on balancing profitability aspirations with risk-taking, and banking operations are especially characterised by operational risks and strict regulatory compliance requirements. While previous studies have shown how banks use management control systems to balance profitability and risk management (Arena et al., 2010; Hall et al., 2015; Lim et al., 2017), less attention has been given to how banks can ensure regulatory compliance. Standardised procedures have essentially become the licence to operate in banking (Power, 2005), and particularly, Anti-Money Laundering (AML) has received increasing regulatory attention in the past decade. Money laundering implies an operational risk, and banks are obliged to put in place policies and procedures to minimise the potential for financial crimes.

Due to its size and status as a Systemically Important Financial Institution, BankCorp is subject to regulatory scrutiny by the national banking authorities, which are responsible for enforcing directives from the European Union (EU). For decades, BankCorp has been organised in a decentralised structure, delegating decision-making authority to local branch managers responsible for their branches. Addressing the ongoing tensions between external demands for compliance with increasingly strict AML regulation and internal demands for local freedom, BankCorp has made changes to the management control system to ensure operational risk management. Recent emphasis on the operation of AML procedures as a boundary system has led us to examine the following two research questions: How and why did the integration of operational risk management with management control systems develop over time? And how did this integration impact the effectiveness of operational risk management?

The study provides retrospective and contemporary accounts from personnel at BankCorp. Through extensive interviews and document analysis, it becomes apparent that the effectiveness of AML risk management procedures depends on how operational risk is anchored in the management control systems. In addressing the research questions, we make two contributions to the literature: First, the study contributes to the management control systems literature (e.g., Arena et al., 2010; Arjaliès & Mundy, 2013; Mundy, 2010; Widener, 2007) by showing how operational risk is embedded in control systems, especially attending to how boundary systems are operated in the context of AML. It has been demonstrated that beliefs systems setting the tone at the top in combination with the interactive control system can increase organisational risk awareness when organisations attempt to balance profitability and risk management objectives (Arena et al., 2010; Mikes, 2009, 2011). However, this study indicates that neither beliefs systems nor the interactive system are sufficient for aligning strategic objectives with operational risk management.

Second, by examining how and why the boundary system, rather than other control systems, becomes effective in operational risk management, the study also contributes to the literature on the intersection between management accounting and risk management (e.g., Carlsson-Wall et al., 2020; Giovannoni et al., 2016; Mikes, 2009, 2011; Palermo, 2017; Vasileios & Favotto, 2022). The study shows how operational risk management interacts with different management control systems over time in response to the enforcement of AML regulation by national banking authorities. A change was seen in the anchoring of operational risk in the management control systems, especially when regulators interfered and legal risks increased. We find that when AML policies and procedures, including reporting of KPIs and transaction screening, are operated as a tight boundary system, the effectiveness of operational risk management increases. Thus, although compliance-focused risk management has been criticised (Mikes, 2011; Tekathen & Dechow, 2013, 2020), ensuring compliance through boundary systems may be a prerequisite for effective operational risk management.

The remainder of this paper is structured as follows. Section 2 reviews the management control systems literature, focusing on boundary systems as a lever of control and their role in risk management. Section 3 describes the methodology and methods employed in the study, presenting AML in the banking sector and the case company along with considerations about data collection and analysis. The findings of the case study are detailed in Sect. 4, which traces the development of management control systems for AML in three periods. Section 5 concludes the paper by discussing the contributions in relation to the existing literature.

2 Literature review

To avoid the dangers of managing risk as a compliance issue rather than a matter of strategic control, Kaplan and Mikes (2012) emphasised that risk management should be holistic in the sense that risk management practices should not only occur in risk management departments operating as silos (i.e., silo risk management) but facilitate discussions about uncertainties among all organisational actors. Consequently, the management accounting literature has examined how risk experts, who possess the professional competencies to familiarise decision-makers with risks (Mikes, 2011, p. 228), influence organisational risk management practices.

The importance of integrating risk management into management control systems has long been acknowledged (Bhimani, 2009; Simons, 1999; Soin & Collier, 2013). Many studies have examined how risk experts engage with risk tools on the strategic level, for instance, when risk experts adopt, deploy, and reconfigure risk tools to gain influence among organisational actors (Hall et al., 2015), or when risk rationalities, experts, and technologies interact (Arena et al., 2010). The literature often emphasises the importance of allowing for heterogeneous perspectives and reflections on risk tools in order not to cause a compliance rather than a holistic risk management focus (e.g., Tekathen & Dechow, 2013, 2020). Still, despite boundary systems being defined as the control systems that delineate risks to be avoided, less is known about the role of boundary systems in risk management, particularly at the operational

level. Therefore, we employ a management control systems lens, that is Simons' (1995) levers of control framework, to examine how operational risk management is integrated with management control systems.

2.1 The levers of control framework

Simons' (1995) levers of control framework is based on the idea that strategic opportunities and risks should be balanced by combining different management control systems. *Beliefs systems* promote the search for opportunities and articulate organisational values by explicitly communicating the vision and mission of the organisation to the employees. In a dynamic environment with a plethora of opportunities, *boundary systems* constrain the search for viable solutions by specifying the scope and limits to the activities. Any management control system that constrains behaviour or sets standards can, as emphasised by Frow et al. (2010), have the role of a boundary system. Thus, beliefs and boundary systems complement each other by inspiring and constraining opportunity-seeking (Simons, 1995).

The role of *diagnostic systems* is to coordinate and monitor the implementation of the intended strategies by identifying exceptions and deviations from the chosen plan (Simons, 1995, p. 59). In doing so, diagnostic systems are the traditional control systems, where feedback about performance leads to corrective actions (Bedford, 2015; Mundy, 2010). Since diagnostic systems direct attention to deviations between planned and actual results, *interactive systems* are often similar to diagnostic ones in the sense that both types of systems are feedback and measurement systems (Martyn et al., 2016). However, diagnostic and interactive systems should be distinguished by their information use. Simons (1995, p. 95) stated that interactive control systems are used by managers "to personally involve themselves in the decision activities of subordinates". While diagnostic systems are used in a top-down manner, interactive systems often imply dialogue and knowledge exchange. They encourage examining assumptions underlying both current and emerging strategies and lead to frequent face-to-face meetings among managers from different parts of the organisation (Bukh & Svanholt, 2020).

According to the levers of control framework, management control systems are interdependent and effective in strategy implementation when employed simultaneously (Simons, 1995), and control system interdependencies have been widely examined. Empirically Widener (2007) found that strategic uncertainty causes both diagnostic and interactive uses of performance measures, while separating operational uncertainties with the largest effect on diagnostic systems from competitive uncertainties with the largest effect one interactive systems. Other studies have unfolded how diagnostic uses of financial performance measures and interactive uses of non-financial performance measures enhance creativity (Appuhami et al., 2024; Nuhu et al., 2022) and improve service quality (Bukh & Svanholt, 2020). These studies reiterated the findings of Speklé et al. (2017), who concluded that control may enhance, rather than impede, creativity when considering beliefs, diagnostic, and interactive systems altogether.

Delving into the centrality of beliefs systems, studies have accentuated their importance among flexible organisations (Heinicke et al., 2016; Phan et al., 2023).

Regarding the interactive system, various studies have emphasised its importance in relation to risk culture (Grieser & Pedell, 2022; Kominis et al., 2022; Kunz & Heitz, 2021). In an empirical study, Braumann et al. (2020) demonstrated that tone from the top can have a positive effect on organisational risk awareness but only the interactive control system, which encourages debates and dialogues about performance measures and strategic uncertainties, reinforced this effect. A case study by Hall and Fernando (2016) also accentuated the importance of discussions around risk indicators as performance measures. Notably, while many of these studies consider risk management integration into certain control systems, fewer studies have emphasised the role of boundary systems. One noteworthy exception is the comparative case study by Rad (2016), which illustrated that organisational structure impacted the use of risk tools, as a centralised bank emphasised diagnostic and interactive systems, whereas a decentralised bank emphasised boundary systems.

2.2 Boundary systems

Although boundary systems, such as organisational codes of conduct, formal requirements, and procedures to be followed, are crucial for the attainment of strategies (Simons, 1999), and the effectiveness of internal auditing has been demonstrated in other streams of literature (Henk, 2020; Otley & Soin, 2014), boundary systems have received limited attention in the management accounting literature. Empirical studies that have examined boundary systems following Widener's (2007, p. 785) four-item scale, operationalising boundary systems as systems that (a) define appropriate behaviour, (b) inform about off-limits behaviour, (c) communicate risks to be avoided, and (d) make the workforce aware of the organisational code of conduct, have not found any significant results regarding their effectiveness (Heinicke et al., 2016; Speklé et al., 2017; Widener, 2007).

Some case studies have examined the use of boundary systems in relation to other control systems (Mundy, 2010). Nevertheless, boundary systems are often mentioned only briefly (Tuomela, 2005), in connection to beliefs systems (Hoque & Chia, 2012), or in connection to diagnostic systems (Barros & Ferreira, 2022; Deschamps, 2019). Few management control studies have detailed how boundary systems are designed and used. While Arjaliès and Mundy (2013, pp. 296–297) unfolded how boundary systems were used to manage risks, Laguir et al. (2019, pp. 548–549) provided insights into how boundary systems helped accomplish strategic objectives. Both these studies examined case companies emphasising Corporate Social Responsibility, which potentially causes greater attention to boundary-setting for compliance reasons.

However, as pointed out by Heinicke et al. (2016, p. 39), not many studies have considered the multiple dimensions of boundary systems. Boundary systems operate at two different levels: strategic boundaries impose constraints on the search for opportunities, and business conduct boundaries are concerned with operations and day-to-day decision-making (Tessier & Otley, 2012). These notions are comparable to the notions of strategic and operational risk management (Kaplan & Mikes, 2012), but the literature advocating holistic risk management tends to ignore the potential importance of management control systems at the operational level.

Simons (1995, p. 44) accentuated the particular importance of boundary systems in organisations under public scrutiny which might face reputational losses in case of undesired behaviour. Although this is the case for most large organisations today, as they are faced with increasing demands from a wide variety of stakeholders (Power et al., 2009), no studies have delved into the role of boundary systems in managing compliance requirements and associated operational risks. To better understand how operational risk management may become effectively integrated with management control systems, we mobilise the levers of control framework (Simons, 1995; Tessier & Otley, 2012).

3 Research setting and methodology

3.1 Anti-Money Laundering (AML) in the banking sector

Banking entails various operational risks. "Operational risk is defined as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events […] includes legal risk" (Basel Committee on Banking Supervision, 2004, p. 137). Such risks in the form of fraud, system failures, legal risk, etc., are a significant component within Pillar II of the Basel framework. Pillar II emphasises the need for sound operational risk management, specifying necessary identification, assessment, monitoring, and control procedures (Basel Committee on Banking Supervision, 2004, pp. 158–165).

As banks are legally responsible for preventing money laundering, non-compliance with the legislation poses an operational risk due to potential regulatory sanctions and loss of corporate reputation. Although financial penalties can be considered as having a low impact on the overall income, their aggregation may have a severe impact, and in the extreme, terminate banking operations (Power, 2005). Money laundering is a term used to describe the processes of disguising the origin of illegal funds and making them appear as coming from legitimate sources.[1] Since most financial transactions are conducted through the banking system, banks are held responsible for preventing money laundering by establishing effective AML procedures. Specifically, legislation requires senior management (i.e., personnel with sufficient knowledge regarding the organisations' risk exposure to money laundering and terrorist financing as well as sufficient seniority) who makes decisions that may affect this risk exposure to be legally accountable for AML breaches caused by ineffective policies, control, and procedures (EU Directive 2015/849, 1.1.3.12).

In 2021, the EU introduced a new legislative package regarding AML (European Commission, 2021). The sixth version of the EU Directive on AML was proposed, increasing compliance requirements (EU Directive 2015/849), and the Anti-Money Laundering and Countering the Financing of Terrorism Authority was established to

[1] Generally, money laundering involves three steps. First, "placement" where illegally obtained funds are placed into the legitimate financial system, often as small, frequent deposits. Second, "layering" where funds are layered, often across multiple jurisdictions and banks, making it troublesome to trace their origin. Third, "integration" where illegally obtained funds are integrated into the economy as legitimate funds, often through asset purchases (European Council, 2024).

enhance cooperation between financial intelligence units across the EU (EU Directive 2018/843). These recent legislative changes have increased the scope of national banking authorities' attention to AML procedures used for identifying, risk assessing, monitoring, and documenting transactions as well as the internal controls used to ensure compliance.

3.2 Case company

BankCorp was chosen for this study because one of the authors, who was a member of the Board of Directors, had deep insights into BankCorp's risk management processes. The other authors established contact with the accounting department via mail and conducted the first interviews there. A senior manager from the accounting department was the primary BankCorp contact throughout the study period and was responsible for guiding us towards other possible interviewees and approving research output informed by the case study.

BankCorp is under intense regulatory scrutiny regarding AML due to its size and status as a Systemically Important Financial Institution. Under national AML regulations in BankCorp's country of operations, banks must establish AML policies and ensure their alignment with operational practices. In case unusual customer transactions are discovered, the bank must expand its monitoring of the customer, and in case money laundering or terror financing is suspected, the bank must warn the national Financial Intelligence Unit immediately (EU Directive 2015/849, 4.1.33).

The risk management processes in BankCorp are organised in accordance with the Three Lines of Defence model that organises roles and responsibilities related to risk management and control into three distinct layers (Basel Committee on Banking Supervision, 2020, p. 3). Branch personnel comprise the first line of defence. They are directly responsible for managing risks associated with day-to-day activities. The second line of defence includes specialised risk management and compliance departments that provide the tools, systems, and expertise needed to manage risks across the organisation. The third line of defence is represented by the internal audit function and the external auditor, who are independent of both the first and second lines.

For BankCorp, regulatory requirements exist in a state of tension with the decentralised business model and aspirations for local empowerment of the branches. The bank is renowned for its flat hierarchical structure where branch managers report directly to executives. Branch managers are granted decision-making authority in many operational matters, such as local employment and termination of branch personnel, customer portfolios, and marketing initiatives. Meanwhile, intensified regulatory pressures for risk management have caused an expansion of mandatory procedures, for instance regarding AML.

3.3 Data collection

Seeking to obtain a nuanced perspective (Parker & Northcott, 2016) on how management control systems were developed to ensure operational risk management in BankCorp, managers and employees from both headquarters and branches were interviewed during four interview rounds from 2020 to 2025. In all rounds, inter-

viewees were mostly identified through purposeful sampling, with people from risk management, compliance, and legal functions being essential to this study. In addition, these interviewees often put us in contact with colleagues from their own and other departments, which provided layers to our thick description (Parker & Northcott, 2016). We interviewed a total of 59 interviewees, an overview of whom can be found in Table 1 below.

The aim was to study the integration of operational risk management into the management control systems but we prioritised obtaining multiple perspectives rather than balancing the sample across the four interview rounds. Following snowball effects from our combined intentional-unintentional sampling strategy, we ended up interviewing 21 people with expertise in strategic development, accounting, and branch operations in round one (2020), 21 people with expertise in risk management and compliance in round two (2021), 10 branch representatives and Human Resource experts in round three (2022), and finally, we conducted seven follow-up interviews with key actors, such as executives and AML managers, in round four (2024–2025).

During our interviews, we relied on semi-structured interview guides (Brinkmann & Kvale, 2014). The interview questions were refined throughout the data collection process, but the overarching themes remained the same. First, background questions were asked about strategic development at BankCorp and the interviewee in question. These were followed by questions regarding the management control systems, considering how systems were used to fulfil the bank's strategic objectives presented to us in the first part of the interview. Attending to the integration between management control systems and risk management, the final part of the interview guide entailed questions about different risk types, their identification, and management at the bank.

During several interviews, we were provided with access to internal documents, which we used as secondary data to closely scrutinise the risk management processes, comparing the accounts from our interviews in recognition of potential retrospective biases. In this process, we also mobilised publicly available documents retrieved from the company webpage. Table 2 provides an overview of the internal and external documents made available to us. For this study, insights into internal reporting at the branch level were particularly useful, as budget reports visually illustrated how AML-related KPIs were integrated into budgets, and so were internal and external risk reports that informed stakeholders about the bank's AML procedures more broadly.

3.4 Data analysis

All collected data were manually transcribed and analysed using thematic coding (Saldaña, 2016). The coding process evolved organically as a result of the data collection as the interviewees devoted attention to AML and its connection with management control. To obtain an understanding of AML in BankCorp, data were initially coded according to three broad first-order themes, namely "regulations", "policies, procedures, and controls", and "practices". Attending to how AML was differently embedded in management control systems, we used the terminology of the levers of control framework (Simons, 1995; Tessier & Otley, 2012) as second-order codes. With reference to Gioia et al. (2012), Table 3 provides an overview of the first-order and second-order codes used in this study.

Table 1 Overview of the interviewees

Number	Bank position	Interview date	Duration (min.)
Second stage (2020–2022)			
First interview round (2020)			
1	Head of accounting	10/07/2020	60
2	Business controller	10/07/2020	85
3	Business controller	10/13/2020	90
4	Chief risk officer	10/14/2020	85
5	Head of credit risk and controlling	10/30/2020	80
6	Branch manager A	11/04/2020	80
7	Internal auditor	11/11/2020	75
8	Chief internal auditing officer	11/11/2020	75
9	Financial employee at the sales and chain office	11/12/2020	80
10	Chief financial officer	11/13/2020	85
11	Branch manager B	11/18/2020	85
12	Branch employee B	11/18/2020	30
13	Middle branch manager B	11/18/2020	30
14	Branch manager C	11/19/2020	90
15	Middle branch manager C	11/19/2020	55
16	Middle branch manager C	11/19/2020	35
17	Branch manager D	11/23/2020	85
18	Branch employee D	11/23/2020	55
19	Non-executive board member	11/26/2020	85
20	Non-executive board member	11/26/2020	70
21	Non-executive board member	11/26/2020	70
Second interview round (2021)			
22	Chief credit evaluation officer	10/04/2021	50
23	Head of compliance	10/06/2021	80
24	Lawyer	10/07/2021	90
25	Chief legal officer	10/20/2021	85
26	Data governance employee	10/20/2021	80
27	Head of the credit office	10/20/2021	80
28	Compliance officer	10/21/2021	80
29	Credit consultant	10/21/2021	80
30	Credit consultant	10/21/2021	80
31	Credit consultant	10/25/2021	80
32	Head of IRB	10/25/2021	80
33	Risk controller	10/28/2021	90
34	Head of risk analysis and reporting	11/02/2021	85
35	Non-executive board member	11/02/2021	80
36	AML lawyer	11/09/2021	80
37	Risk controller	11/09/2021	75
38	Head of AML	11/29/2021	80
39	Chairman of the board of directors	11/30/2021	85
40	Ph.D. student in AML	12/07/2021	75
41	Executive officer	12/10/2021	85

Table 1 (continued)

Number	Bank position	Interview date	Duration (min.)
42	Executive officer	12/13/2021	85
Third interview round (2022)			
43	Branch manager E	04/22/2022	75
44	Branch employee E	04/22/2022	35
45	Branch manager F	05/30/2022	80
46	Branch employee F	05/30/2022	20
47	Branch manager G	06/09/2022	80
48	Branch employee G	06/09/2022	30
49	Head of human resources	06/14/2022	100
50	Human resources partner	06/20/2022	80
51	Branch manager H	06/21/2022	90
52	Branch employee H	06/21/2022	30
Third stage (from 2022)			
Fourth interview round (2024–2025)			
53	Head of data and process (previous chief legal officer, interviewee 25)	06/12/2024	65
54	Chief internal auditing officer (new)	07/03/2024	110
55	Head of AML (new)	07/04/2024	80
56	Head of IRB	07/08/2024	80
57	Executive officer (previous chief risk officer, interviewee 4)	07/09/2024	85
58	Chief credit evaluation officer	07/09/2024	90
59	AML Officer	03/04/2025	55

Table 2 Summary of documents analysed

Internal documents	External documents
Corporate budget (2019, 2020)	Annual reports (2018–2023)
Corporate forecast (2019, 2020)	Risk reports (2018–2023)
Corporate budget report (Q2 2020, Q4 2019, 2020, 2021, 2022)	Miscellaneous (company webpage)
Exemplary budget for one branch (2019)	
Exemplary budget report for one branch (Sep 2020)	
Exemplary budget report for one financial advisor (Sep 2020)	
Strategic plan 2020–2022	
Corporate AML control report (2017, 2025)	

Through our analysis, two phases were initially identified as the "beliefs system" was firstly described as being accompanied by a "diagnostic system" for AML before we entered the firm, and then, during our initial data collection, AML became increasingly embedded in the "interactive system". Still, some interviewees anticipated that the "boundary system" would come to play a larger role, and we established that a third phase of change appeared as we conducted follow-up interviews. Thus, a final temporal coding of management control systems across the three phases complemented our thematic coding (Saldaña, 2016).

Table 3 First- and second-order codes used for data analysis, categorised temporally across three phases (Gioia et al., 2012)

Temporal orientation and phase	First-order codes		Second-order codes
Retrospective accounts (2017–2020)	Strategic emphasis on local freedom	⇨	Beliefs system
	Decentralised business model Budgeting based on negotiation and dialogue	⇨	Interactive system
	Risk management focus	⇨	Boundary system
	AML control reports	⇨	Diagnostic system
Interview rounds 1, 2, and 3 (2020–2022)	Strategic emphasis on local freedom Balancing decentralisation with properness	⇨	Beliefs system
	Risk management focus	⇨	Boundary system
	AML procedures (ODD, EDD, alarm processing) Machine learning and heat maps in transaction screening Budgeting based on negotiation and dialogue AML-related KPIs in budgeting and benchmarking AML awareness campaigns and competitions Corporate and local AML lectures and workshops	⇨	Interactive system
Interview round 4 (after 2022)	Strategic emphasis on local freedom Balancing decentralisation with an effective machine room	⇨	Beliefs system
	Budgeting based on negotiation and dialogue	⇨	Interactive system
	Risk management focus	⇨	Boundary system
	AML focus Top-down communication about what must (not) be done instead of what can be done in relation to AML Enhanced authority of the AML department Centralisation of AML procedures Additional resources to the AML department	⇨	Boundary system
	Improved controls and control reports	⇨	Diagnostic system

We engaged with BankCorp after the first phase. In the summer of 2022, we hosted a presentation of the case study findings for all interested personnel, and it became evident that the interviewees' anticipations had manifested, and that the management control system had changed significantly. To provide a credible account of the unfolding changes (Messner et al., 2017), the analysis was structured to encompass both retrospective, contemporary, and anticipatory insights from the interviewees. Based on feedback at the presentation and ongoing dialogues with our contact in the accounting department, it became evident that the boundary system had received significant attention for operational risk management purposes. Therefore, we decided to conduct a final round of follow-up interviews to generate insights into this development phase. We continuously compared interview data with information from annual reports and risk reports and triangulated data to ensure validity (Hopper & Hoque, 2006). In our findings, we wish to provide an authentic storyline and give voice to different perceptions by using direct quotes from all interview rounds (Messner et al., 2017). The translation and interpretation of interview quotes have been approved by the interviewees individually.

4 Findings

BankCorp takes pride in its decentralised business model, which has been foundational to the bank since the early 2000s. The bank is organised in a flat hierarchy where branches directly engage with executives and second-line risk management

functions located at headquarters. The branches are responsible for customer relationships but can request support and guidance from headquarters, for example, concerning large-scale customers. Combined with explicitly formulated mission, vision, and value statements, the decentralised business model directs opportunity-seeking and functions as BankCorp's fundamental beliefs system.

Specifically, the bank works with three-year strategy periods emphasising three strategic objectives formulated by the Board of Directors. Based on branches' local freedom to tailor their customer solutions, the strategic objectives for the 2017–2020 strategy period were "personal customer service", "local ownership and central support", and "digitalisation" (Annual Report, 2017). A member of the Board of Directors described the decentralised business model as follows:

> *We believe that it is the decentral model that makes [BankCorp] a success. Simple as that. This means that we can attract some branch managers […] They have to be allowed to decide in their own kingdoms, and they are. And we believe that this is what we do right.* (Interviewee 35)

This decentralised decision-making authority comes with local accountability. Branches are evaluated on various financial and non-financial performance measures established as targets in branch-level budgets, and feedback on supplementary KPIs is included in the branch-level reporting. Both budgeting and forecasting processes are important control systems, primarily used to facilitate interactive dialogue between the executives and branch managers. They reinforce accountability by showing variances between the budgeted and actual performance of each branch but these variance analyses are used as a point of departure for forward-looking discussions (i.e., an interactive system).

Further, the decentralised business model and high levels of freedom are balanced by tight credit risk monitoring. A business controller explained that *"[branch managers] have high decision-making powers […] but in some areas, they do not, especially concerning credit […] we are highly controlled, thankfully, on the credit side"* (Interviewee 2). To limit credit risk specifically, an elaborate lending policy has been established as a boundary system with a centralised loan-granting hierarchy, meaning that the thresholds for loan-granting by branches are relatively low, often requiring approval by higher-ranked personnel.

While credit risk management has always been subject to regulatory scrutiny, the pressures for AML and operational risk management have increased. The following sections detail how BankCorp tries to integrate AML into various management control systems across three periods, starting when AML legislation came into force in 2017.

4.1 We think we are on the way to having AML under control (2017–2020)

Before 2017, the forthcoming AML legislation had been known for some time, but the authorities had not prepared guidelines or specific requirements on how AML procedures should be structured. BankCorp had incorporated AML as part of its compliance function from the beginning but the new legislative requirements were not

expected to demand a significant number of employees. All other banks were, of course, in the same situation, and at the national level, working groups were established to develop shared tools for monitoring and screening transactions. However, this work progressed slowly.

BankCorp was concerned about AML and the associated legal risks, and an AML policy delineated the procedures to be followed, mostly by branch personnel, to ensure that the bank was not used for money laundering or terrorist financing. For instance, Know Your Customer (KYC), Ordinary Due Diligence (ODD), Enhanced Due Diligence (EDD), and alarm processing procedures were delineated. In accordance with the decentralised business model, branch personnel were responsible for many of these procedures, from collecting and registering customer information and the purpose and extent of new accounts (i.e., KYC procedures) to updating customer information regularly, the frequency depending on the customer risk level (i.e., ODD and EDD procedures), and processing alarms triggered by systems monitoring customer transactions.

Shortly after AML legislation came into force, BankCorp started monitoring the effectiveness of these AML procedures, and new control and reporting routines were developed. Specifically, an AML control report was used to illustrate variances between AML targets (e.g., completion rates) and actuals. The Head of AML explained how *"all our controls are basically about […] where is the operational risk, so our risk management is based on controlling the operational risks, such as data entry errors, lacking identification"* (Interviewee 55). In addition, the control report differentiated between red, yellow, and green variances according to predetermined thresholds, seeking to draw attention to lacking procedures.

However, the AML control report was operated as a stand-alone diagnostic system and was not integrated with other management control systems. Competing with the reporting on financial and non-financial KPIs in the interactive budgetary control system, the AML reports received less attention among the branch managers and consequently also among branch personnel. Despite legal requirements and quarterly reporting to the Audit Committee and the Board of Directors, AML was not an explicit strategic priority in the way that credit risk management was. An executive stated that *"if you look at AML, GDPR, data ethics, this is not something that benefits our business […] it is not an overall objective"* (Interviewee 41).

The importance of complying with AML legislation was regularly included in top-down communications by the executives but neither AML nor other operational risks were integrated into the beliefs system or became part of the interactive system. In practice, there was no particular emphasis on AML policies among branch managers or executives, and the lack of emphasis led to an organisational disregard for effective operational risk management.

4.2 We need to change our management control system to improve AML (2020–2022)

In 2020, the national banking authorities became aware of significant deficiencies in AML procedures across the banking sector, which led to inspections of the most systemically important banks, including BankCorp. These banks were required to sig-

nificantly improve their AML procedures, and facing increasing regulatory demands, BankCorp realised the need to accentuate the operational risk related to AML as a strategic objective. In 2020, the bank established a new strategic plan, where "personal customer service" was given even more emphasis, reinforcing the beliefs system. Meanwhile, being "a proper bank" became a strategic objective, and executive attention was directed towards operational risk management practices in the decentralised branches (Annual Report, 2020).

As required by legislation, all customer transactions were screened, attempting to capture suspicious behaviour by triggering alarms based on predefined scenarios combined with customer information from the KYC, ODD, and EDD procedures. Only about 2% of the alarms led to reporting, but handling the large number of alarms required significant effort from the financial advisors. Many of the alarms also had to be addressed by the central AML department, which was expanded considerably. A compliance officer explained, *"There are more than 20 employees in the AML department today, when I started there were three or four"* (Interviewee 28).

As a new initiative, the bank developed a system based on machine learning to handle the alarms, and dedicated efforts were made to minimise workload and improve transaction screening systems. For example, the bank employed a researcher specialising in machine learning in AML to *"consider which alarms [transaction screening] trigger and try to qualify them […] risk score alarms"* (Interviewee 40). The machine learning approach fostered a hope that, given the increased regulatory demands, some AML procedures could be simplified for both the branches and the AML department.

Nevertheless, branch personnel felt discouraged because the cumbersome transaction monitoring procedures were perceived as conflicting with the decentralised business model that functioned as BankCorp's beliefs system. A financial advisor expressed it as follows, *"I actually wonder 'why am I having to do this?' […] ODD, it really does not motivate me, not at all […] I think it is dead boring"* (Interviewee 52). Further, branch managers acknowledged the difficulties faced by their financial advisors in assimilating AML with traditional banking operations emphasising the balancing of profit and credit risk. A branch manager explained that *"it is a regulatory requirement, but we cannot see the value in it, we cannot see the value in a customer we have had for 15 years, and known for 30 years, having to bring in a new picture of their passport"* (Interviewee 14).

To overcome the negative perceptions of AML and motivate the completion of procedures, the AML department took several steps to align the AML procedures with other control systems. Importantly, the AML department attempted to communicate why AML mattered, not just for compliance but as a measure for managing the risks of financial penalties and reputational losses. The Head of AML described some of the initiatives:

> *We have had physical training sessions where one of my employees visited the different branches. Told them about why [AML] is important, what we do, and also what do they need to do […] Really explain why it is important that we do this.* (Interviewee 38)

Further, the AML department wanted to remain open to questions regarding the procedures. Adhering to the beliefs system, the second-line functions relied on the empowerment of frontline employees, and the Chief Legal Officer stated, *"Headquarters must not disturb the frontline […] so we have some pretty acute implementation concepts […] the idea is that the frontline should ask for headquarters' services, not the other way around"* (Interviewee 25).

Branch managers played a crucial role, ensuring that AML procedures were completed by the financial advisors in the first line of defence. Consistent with the local freedom communicated by the beliefs system, branch managers were allowed to take different approaches when organising local AML procedures. Some hosted workshops to enhance the understanding of AML among their financial advisors, while others emphasised the importance of dialogue and cooperation between branches and headquarters. Based on the expectation that branch managers would address any deficiencies in AML procedures, which were reported through the diagnostic AML system (as explained in Sect. 4.1), the AML department and other second-line and third-line control functions were optimistic that branch managers would be proactive. For instance, an internal auditor was of the impression that *"they [the branch managers] receive a lot of inputs"*, elaborating on how *"sometimes, someone says 'would you please have a look at our unit because I am really in doubt about whether we do things correctly'"* (Interviewee 7).

In parallel with efforts to embed operational risk management into the bank's beliefs system, there was also an awareness at the executive and board levels that, despite being communicated as strategically central, AML could be deprioritised in favour of other KPIs in the interactive budgetary control system. With the aim of fostering a competitive spirit, the budgeting and reporting processes included extensive benchmarking of branches on both financial and non-financial targets. In ongoing face-to-face dialogues between executives and branch managers, shifting areas of focus were highlighted, and AML-related KPIs became increasingly important.

Specifically, to avoid AML being overlooked in the interactive control system, awareness campaigns and competitions based on AML procedures (e.g., KPIs for completing ODD) were launched. An AML lawyer explained that *"there have been campaigns where the bank attempted to involve financial advisors […] the competitions are maybe even better […] there was an AML competition, and it worked"* (Interviewee, 36). The ODD competition led to an improvement in completion rates, and senior managers contemplated whether future competitions should focus on other procedures, such as EDD or alarm processing.

It was also decided that the performance evaluation of branch managers should include AML compliance. Consequently, two non-financial performance indicators related to AML, namely KYC and ODD, were added to the branch managers' KPIs. The target was set at 100% completion for relevant customers in each branch, and branches were benchmarked against one another. Benchmarks were not used as a means for highlighting poor performance but to inspire dialogue among the branches and learn from best practice. An executive described the effectiveness of including non-financial performance measures in branch managers' performance evaluation and compensation:

> *We have a performance-dependent salary package […] based on both financial and non-financial performance indicators. […] This has worked especially well in situations where we have called branch managers and said, 'You were supposed to receive a nice bonus based on your financial performance but the latest controller reports on data quality, AML, etc., means that you receive nothing this year'.* (Interviewee 42)

These efforts enhanced some branch managers' attention to completing the procedures on which their relative performance was measured. For instance, a branch manager expressed that *"a very important part of our continuous growth is that we have control over our customer credits, ODD, AML, etc., […] we do not need to be number one [in benchmarks] all the time, but we definitely need to be at the top because it is simply a precondition for running a bank today"* (Interviewee 11). Altogether, complementing the diagnostic AML control report with operational risk management objectives in the beliefs system and AML-related KPIs in the interactive control system raised awareness of the importance of AML compliance.

Nevertheless, there were still differences between branches as the decentralised business model empowered branch managers to decide which performance areas to prioritise. The Head of AML recognised that *"it is different from branch area to branch area, and it starts with the branch manager […] it depends a lot on which message the branch manager conveys"* (Interviewee 38). When branch managers were free to implement the strategic objective of being a proper bank in their own manners, not everybody paid equal attention to AML. A middle manager said, *"We continually articulate that this is important […] and get it done because we know the tasks [AML procedures] are boring but they need to get done"* (Interviewee 15), alluding to how AML was considered a boring, rather than strategically important, task in that branch.

Following the inadequate prioritisation of AML by some branches, the Board of Directors became aware that while attention-directing campaigns and alignment with the performance evaluation systems improved completion rates, sustaining the compliance level was a challenge. When AML was operated as part of the interactive control system, dialogues were prone to dynamic change, sometimes shifting from AML procedures to other KPIs.

4.3 We need to focus on the boundary system for AML (from 2022)

Realising that AML compliance had improved, but not sufficiently or stably, the Board of Directors and executives at BankCorp perceived a need to tighten the control processes regarding AML, ultimately demanding a high degree of compliance by all branches. Particularly, regulatory inspections showing an ODD backlog and deficiencies in the predictive abilities of the machine learning tool forced senior managers to start operating AML as a boundary system to ensure operational risk management. The strategic plan for the 2023–2025 period decided by the Board of Directors included a strategic objective for "an effective engine", focusing on uniformity and centralisation of relevant tasks. This was supplemented by objectives concerning "customer value" and "the local business model" (Annual Report, 2023).

The shift in executive attention was reinforced not only by their communication of organisational values, but also by delegating greater authority to the AML department. While the strategic objective of "being a proper bank" only vaguely emphasised operational risk management, the new strategic objective of "an effective engine" led to significant changes in the division of responsibilities across first-line and second-line functions. In considering how this might influence the decentralised business model embedded in the beliefs system, the Chief Internal Auditor expressed, *"Just because there is a low, flat hierarchy, it does not mean everybody should be asked"* (Interviewee 54). Henceforth, as explained by the Head of AML, increasing authority was delegated to the AML department to communicate how branches should (not) operate and interfere in customer decisions:

> *The executives have delegated greater authority, going back into the [machine room] […] We have probably had a local model where AML has been recorded but the local branch has decided that it does not matter, because this customer earns us money, we can live with [suspicious transactions]. Now we get more authority to say 'we need to get rid of this customer'.* (Interviewee 55)

To further improve risk management and compliance processes, BankCorp has centralised certain credit risk analyses to the central Credit Office, and all EDD procedures and alarm processing to the AML department. Even before this centralisation, personnel from both branches and second-line functions had expressed their wishes for the centralisation of AML procedures. A branch manager explained, *"ODD or AML tasks take a lot […] I told [one of the executives] that we should centralise the AML task but that is not what the bank wants"*, specifying, *"the primary reason being that if we centralise a lot of tasks, there will be fewer people [in the branch]*" (Interviewee 45). The Head of AML was aware that *"our philosophy that the financial advisors know the customers best, we will test that and say, 'could we handle some of this centrally but still maintain the same level of knowledge about our customers and the same level of trust?'"* (Interviewee 55). Still, it was added that perhaps specialists in the central AML function would be better at discerning transactions through a risk-based approach to prevent money laundering.

As embedding AML in the diagnostic and interactive systems had not been effective in ensuring that the AML policies were followed, it was realised that the AML procedures needed to be operated as a tight boundary system. Although AML regulations demanded policies, controls, and procedures (EU Directive 2015/849), they did not delineate specificities. Regarding this, an AML lawyer explained:

> *AML regulations prescribe that the bank determines everything itself. We just need to justify […] we always need to document, justify, and evaluate. And it needs to be coherent, from the policies, from procedures, and operations.* (Interviewee 36)

To tighten control and establish AML as a boundary system, the AML department and executives changed their communications with branch managers and emphasised that non-completion of the AML procedures still remaining with the branches (i.e., KYC and ODD) was unacceptable. The Chief Internal Auditing Officer described that *"considering money laundering, communication has become harsher and harsher*

because there has been a lack of frontline managerial support for the fact that this is simply a licence to operate" (Interviewee 8).

The AML policies were simplified, and rules to follow replaced areas to be discussed. The content of the diagnostic control report was specified, as the AML Officer carefully commented on how changes to the procedures and controls would ensure adequate AML practices in meetings with the Board of Directors. The AML Officer specified how *"now we ask the question 'why does it look like this?' because before it was just an ascertainment, but what are we supposed to do with that, how do we work with it?"* (Interviewee 59). This led to a shift in executive attention, and an executive stated, *"We take money laundering extremely seriously, no doubt about that […] We have intensified our communications a lot, and we have definitely also intensified our follow-up [control reporting]"* (Interviewee 57).

More resources were allocated not only to the central AML department working with EDD and transaction monitoring but also to the team responsible for AML controlling. According to the Head of Data and Process, large sample sizes yielded more accurate results and, thus, better control reports:

> *We have made a control programme with a relatively large sample and look at the results from that. And we apply some controls in each branch once a year. And then a large sample across [branches]. Because this has been the problem in previous years, that we have lacked resources in controlling […] You cannot do much statistical analysis with 10–15 cases.* (Interviewee 53)

Since the integration of AML into the interactive control processes through the use of campaigns, competitions, and internal benchmarks failed to motivate branch managers to emphasise AML, they were discontinued. As explained by the Chief Internal Auditing Officer, *"We try saying to them, 'Listen, some things are not directly related to your compensation […] they are just essential for the bank'"* (Interviewee 8).

Hinting at the demand for AML professionalism, a branch manager said, *"We need to do things differently […] we need things to be done uniformly by people who are hired for the [AML] job, cast for the job, educated for the job […] a financial advisor is hired for different tasks"* (Interviewee 45). This point was reiterated by second-line and third-line functions who believed operating AML as a boundary system effectively counterbalanced the beliefs system. With ODD responsibilities still residing in the branches, the Head of Data and Process was hopeful that the centralisation, simplification of rules, and improved control reports would complement *"our customer knowledge, our personal relations, and our local presence, which are foundational for ensuring AML, as the two things must go hand in hand"* (Interviewee 53).

Consequently, the beliefs and boundary systems would create synergies in intertwinement with diagnostic AML reports and interactive budgeting. Through three phases, BankCorp learned the importance of boundary systems, and Table 4 summarises the changes made to management control systems over time. The AML Officer described the bank's learnings by saying, *"We have [AML] more under control […] there is no area where we in [the AML department] do not know exactly how we are doing […] We know exactly where the shoe pinches"* (Interviewee 59), acknowledging the importance of taking a risk-based AML approach.

Table 4 Overview of organisational structures, management control systems, and AML tools used in the three phases

Phase	Organisational risk management structure (Mikes, 2009)	Management control systems (Simons, 1995; Tessier & Otley, 2012)	AML tools
We think we are on the way to having AML under control (2017–2020)	Decentralisation and limited controlling of AML risk Focus on holistic strategic risk management	Beliefs system → customer satisfaction Diagnostic control system → financial performance and operational risk management	AML control reports
We need to change our management control system to improve AML (2020–2022)	Decentralisation and intense controlling of AML risk Focus on holistic strategic and operational risk management	Beliefs system → customer satisfaction and being a proper bank Interactive and diagnostic control systems → financial performance and operational risk management	AML procedures Centralising some alarm processing Machine learning and heat maps in transaction screening Budgeting and internal benchmarking on non-financial measures related to AML Campaigns and competitions Interactive lectures (hosted by AML department) Interactive workshops (hosted by branch managers)
We need to focus on the boundary system for AML (from 2022)	Centralisation and control over AML risk Focus on holistic strategic risk management and silo operational risk management	Beliefs system → customer satisfaction and centralisation Boundary system → operational risk management Interactive and diagnostic control systems → financial performance	Top-down enforcement of AML policies and procedures Enhanced authority of the AML department Centralisation of AML Improved AML controls and control reports

5 Concluding discussion

Over time, BankCorp experienced the complexities of anchoring AML in the management control systems. As pointed out by Simons (1995, p. 45), the bank needed to emphasise its boundary system in response to incidents that raised awareness of operational risks, specifically regulatory inspections and interventions. Therefore, this study adds nuance to the management accounting literature by unfolding how boundary systems become effective in operational risk management.

Operational risks are often considered preventable and a matter of compliance with no strategic relevance (Kaplan & Mikes, 2012). Still, establishing operational boundary systems (i.e., business conduct boundaries), such as rules-based policies and substantial control reports, where identified failures to comply with rules have implications for performance evaluation, is essential for engaging with strategic opportunities and risks (Tessier & Otley, 2012). Organisations cannot rely on the assumption that regulatory pressures sufficiently prevent operational risks from materialising (Arjaliès & Mundy, 2013). While the interactive system may direct attention to the uncertainties and possibilities that are important for the overall strategic objectives, the boundary system is fundamental for managing critical risks at the operational level.

By tracking developments in management control systems for AML over three stages, this study provides two contributions to the existing literature. The first contribution is the unfolding of how boundary systems can be operated, which has previously received scant attention in the management control systems literature (e.g., Mundy, 2010; Widener, 2007). While the levers of control framework originally suggested interdependencies between control systems (Simons, 1995), they may be operated differently across organisational levels (Tessier & Otley, 2012). Malmi and Brown (2008) also accentuated this in their conceptualisation of management control systems as a package. We demonstrate how boundary systems do not work in isolation but counterbalance the beliefs system, which in BankCorp emphasises decentralised decision-making.

Diagnostic and interactive systems were found insufficient in managing risk at the operational level. Performance measures may ensure strategic alignment regarding some strategic objectives (Arena et al., 2010), but boundary systems are necessary for enforcing rules and ensuring that operational risks are managed. However, the use of a boundary system is not contradictory to using an interactive system to motivate and control financial performance. While Grieser and Pedell (2022) showed that interactive discussions ensured employees' comprehension of risk-based performance measures, our study showed that the connection between KPIs and compensation was crucial for the employees. Separating financial and AML-related KPIs into interactive and boundary systems was more effective than inadequately attempting to embed AML in the interactive budgetary system.

Previous studies have cautioned against the centralisation of risk management (Mikes, 2009, 2011), Hall and Fernando (2016, p. 87) by arguing that "centralized risk management experts […] could actually hinder risk management efforts where those resources are primarily devoted to the production of, and ensuring compliance with, risk management plans and policies". Contrasting the dichotomous findings that organisations either become centralised or maintain a decentralised structure, we found that, in BankCorp, certain AML procedures were centralised, whereas others remained decentralised. Expanding central resources, strengthening second-line authority, and simplifying AML as rules to be followed in a boundary system reinforced the branches' sense of local freedom constituted by the beliefs system.

This connects to the second contribution, which is the demonstration of how and why boundary systems become effective in operational risk management. This study nuances the literature on the intersection between management accounting and risk management (e.g., Carlsson-Wall et al., 2020; Giovannoni et al., 2016; Mikes, 2009, 2011) by showing the relevance of the boundary system. The initial idea that diagnostic and interactive systems would be effective in ensuring AML compliance corresponds to previous case studies finding risk-adjusted performance measures (Carlsson-Wall et al., 2020; Giovannoni et al., 2016) or cultural controls (Grieser & Pedell, 2022) important in risk management. Nevertheless, when national banking authorities started interfering with BankCorp, the inefficiency of such tools became evident.

When AML was anchored in a tight boundary system, the organisational structures, authorities, and responsibilities changed. According to Mikes' (2011) distinction between holistic and silo risk management, operational risks would primarily be

managed by the AML department, functioning as a silo. However, strategic discussions about other risk types continued to be managed holistically. For example, strategies for striking a balance between profit generation and credit risk management were discussed interactively as part of budgeting, since risk-adjusted income measures gained significance among both executives and branch managers. We demonstrated how Simons' (1995) conceptualisation of management control systems is not only a matter of strategic development and risk management, since control systems mobilised at the operational level—in this case, the boundary system used for operational risk management—may help balance strategic concerns.

These empirical findings have several managerial implications. Managers must not only contemplate how they use management control systems at the strategic level. In decentralised organisations where operational practices might get decoupled from strategic aspirations, control systems at the operational level are essential. Particularly for organisations facing regulatory pressures, and thereby, legal and reputational risks, establishing boundary systems that delineate rules to be followed remains crucial. Although much academic literature accentuates the importance of beliefs (Heinicke et al., 2016) and interactive systems (Kunz & Heitz, 2021), managers should not refrain from establishing clear boundaries. Not all operational risks are preventable, and in many organisations today, compliance is a prerequisite licence to operate in the pursuit of strategic aspirations.

Acknowledgments This paper was presented at a research seminar at University College Cork and the EIASM Manufacturing & Service Accounting Research Conference in 2024, and we greatly appreciate the comments from the participants. We would also like to thank the participants from BankCorp for their collaboration. Finally, we want to express our gratitude to the editors, Thomas Werner Guenther, Sergeja Slapničar, and Sebastian Oelrich, and to the two anonymous reviewers for providing constructive comments.

Funding Open Access funding provided by the IReL Consortium

Data availability Interviews recorded and transcribed for this research are confidential and can therefore not be made publicly available.

Declarations

Competing interests The project was funded by Big Fonden on an unconditional basis concerning how funds were used. The funders did not influence the selection of the research site or the research process. One of the authors was a non-executive board member of the bank during the study period. This author did not participate in the interviewing and had no access to the interview transcriptions. The coding was done by the other authors. Further, the interviewees were fully informed about how potential conflicts of interest were handled.

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