Management Control System and Export Performance in an Indonesian Essential-Oil Exporter

Azka Salsabila Ramadhanti[1]
Purwatiningsih Lisdiono[2]
[1,2]Faculty of Economic and Business, University of Indonesia, Indonesia
**Correspondences*: azka.salsabila41@ui.ac.id

ABSTRACT

This study explores how an MCS-as-a-package configuration at PT Bentang Alam Sumatra (BAS) shapes export reliability in patchouli oil. A qualitative interpretive single-case study covers 2023–July 2025 (fieldwork in August 2025). The unit of analysis is BAS's MCS in export routines. Data from six semi-structured interviews, observation, and internal records were coded through iterative thematic analysis and synthesized in an MCS matrix with 1–5 maturity ratings (presence, formalization, integration). Findings indicate persistent export decline (3,200 kg in 2023; 2,750 kg in 2024; ~1,400 kg by mid-2025) and a buyer-driven rework loop. Administrative and cultural controls are stronger, while planning, cybernetic, and reward controls remain weakly linked to export-critical routines. The study contributes a traceable diagnostic of export decline and low-cost priorities to strengthen reliability

Keywords: Community-based enterprise, Emerging economy, Export performance; Management control systems as a package.

e-ISSN 2302-8556

Vol. 36 No. 1
Denpasar, 31 Januari 2026
Hal. 52-68

DOI:
10.24843/EJA.2026.v36.i01.p04

PENGUTIPAN:
Ramadhanti, A. S., & Lisdiono, P. (2026). Management Control System and Export Performance in an Indonesian Essential-Oil Exporter. *E-Jurnal Akuntansi*, 36(1), 52-68

RIWAYAT ARTIKEL:
Artikel Masuk:
30 Oktober 2025
Artikel Diterima:
5 Januari 2025

Sistem Pengendalian Manajemen dan Kinerja Ekspor pada Perusahaan Eksportir Minyak Atsiri Indonesia

ABSTRAK

Penelitian ini mengeksplorasi bagaimana konfigurasi MCS sebagai paket di PT Bentang Alam Sumatra (BAS) membentuk reliabilitas ekspor minyak nilam. Studi kasus tunggal kualitatif-interpretif mencakup 2023–Juli 2025 (pengumpulan data lapangan Agustus 2025). Unit analisis adalah MCS BAS dalam rutinitas ekspor. Data diperoleh dari enam wawancara semi-terstruktur, observasi, dan catatan internal, dianalisis melalui thematic analysis iteratif dan disintesis dalam matriks MCS dengan rating kematangan 1–5 (keberadaan, formalisasi, integrasi). Temuan menunjukkan penurunan ekspor berkelanjutan (3.200 kg 2023; 2.750 kg 2024; ±1.400 kg pertengahan 2025) serta rework loop akibat standar pembeli. Kontrol administratif dan budaya relatif lebih kuat, sementara perencanaan, sibernetik, dan imbalan lemah dan kurang terhubung. Kontribusi studi adalah diagnosis yang tertelusur dan prioritas perbaikan berbiaya rendah untuk meningkatkan reliabilitas.

Kata Kunci: *Ekonomi berkembang, Kinerja ekspor, Perusahaan berbasis komunitas, Sistem pengendalian manajemen sebagai paket.*

Artikel dapat diakses : https://ejournal1.unud.ac.id/index.php/Akuntansi/index

INTRODUCTION

Indonesia is a major player in the global essential-oil trade, with several Indonesian origin oils most notably patchouli, being repeatedly cited as high-demand inputs for downstream industries such as fragrances, cosmetics, and related consumer products. Indonesia is reported to hold a strong export position in essential oils and to supply the international market with multiple commercially traded oils, including patchouli, clove, nutmeg, and lemongrass/citronella (Al Fikri et al., 2024; Lestari et al., 2023; Patchouli Oil, 2015). Trade-based evidence further indicates that Indonesian essential oils exhibit revealed comparative advantage (RCA>1) in key destination markets, suggesting that Indonesia's sector-level competitiveness is supported by measurable trade indicators (Al Fikri et al., 2024; Lestari et al., 2023).

However, strong macro competitiveness does not automatically translate into reliable firm-level export outcomes. Patchouli agroindustry studies highlight that patchouli supply chains can be long and complex, involving multiple actors (e.g., farmers, intermediaries, processors/SMEs, collectors, exporters), and that value capture and coordination problems can emerge across stages (Pramestari et al., 2024; Rahmayanti et al., 2018). In such settings, recurrent bottlenecks, quality inconsistency, delays, rework, and unstable fulfilment, tend to materialise through day-to-day execution, planning and scheduling raw-material procurement, enforcing process and quality conformance, meeting delivery commitments, and responding to deviations across the chain (Patchouli Oil, 2015; Rahmayanti et al., 2018). Therefore, the key question is not only whether the sector is competitive, but also how exporters organise internal and inter-organisational routines to convert that competitiveness into dependable export reliability.

This micro-foundation matters in export research because export outcomes are shaped not only by industry/market conditions but also by firm-level capabilities and managerial choices that determine how export strategies are executed under uncertainty. A major synthesis of export-performance research shows that performance is systematically associated with firm resources/capabilities, strategy, and managerial/organisational factors, not merely external market attractiveness (Sousa et al., 2024). In addition, export-channel research suggests that the performance implications of control over export activities are contingent on relational conditions and environmental dynamism, implying that "what works" depends on how control is enacted in specific export relationships (Li & Ogunmokun, 2003). Taken together, these streams imply that when an exporter underperforms despite favourable macro competitiveness, explanations are likely to reside in how the firm designs and uses control to align decisions, monitor execution, and correct deviations in practice.

Management accounting research provides a precise lens for examining this problem through the notion of management control systems (MCS) as a package. Rather than treating control as a single tool, the MCS as a package perspective conceptualises how multiple controls planning, cybernetic controls (measurement and feedback), reward and compensation, administrative controls (structures, SOPs, governance), and cultural controls operate together to direct behaviour and support strategy implementation (Malmi & Brown, 2008). Complementing this view, performance-management scholarship emphasises the

centrality of objectives, target setting, incentives, and feedback loops in shaping organisational performance (Ferreira & Otley, 2009). Importantly, research on control packages stresses that outcomes depend not only on the presence of control elements but also on their internal consistency and linkages, because misaligned controls can generate confusion, gaming, or implementation gaps, especially in operationally complex contexts (Grabner & Moers, 2013; Malmi & Brown, 2008).

This study addresses the gap through a qualitative single-case study of PT Bentang Alam Sumatra (BAS), a community-based patchouli-oil exporter in North Sumatra that positions itself as a traceable, sustainability-oriented supplier embedded in a smallholder-based supply chain. Field interviews indicate that BAS experienced a sustained decline in export volume across the study period, from 3,200 kg (2023) to 2,750 kg (2024) and reaching 1,400 kg by mid-2025 (Interview MPP, 2025). This account suggests the decline is persistent across periods, strengthening the argument that the underlying causes should be traced at the level of operational processes, quality consistency, order fulfilment routines, and the management control mechanisms used to align and correct execution. Such a sustained decline points to an execution or "implementation" problem, where strategy and day-to-day routines become misaligned, whose root causes are often traced to weaknesses in objectives, measurement, feedback, and corrective-action mechanisms (Ferreira & Otley, 2009; Simons, 1995). For BAS, which depends on a smallholder-based supply chain, this makes the coherence of its MCS as a package crucial, inter firm performance hinges on how formal controls interact with relational governance (e.g., trust), and prior research shows that outcomes improve when "hard" and "soft" controls complement each other rather than operate in isolation (Cao & Lumineau, 2014; Dekker, 2004; Grabner & Moers, 2013; Malmi & Brown, 2008).

Building on this logic, the article examines how BAS's planning, cybernetic controls, reward and compensation controls, administrative controls, and cultural controls interact as a package to shape export reliability in a smallholder-based setting characterised by coordination and safeguarding challenges (Cao & Lumineau, 2014; Dekker, 2004; Malmi & Brown, 2008). For BAS, strengthening the coherence of its MCS package is not merely an administrative exercise; it is central to aligning quality and delivery expectations across actors, improving performance visibility through usable indicators and feedback routines, and enabling corrective action without undermining the organisation's community-based ethos and sustainability positioning (Grabner & Moers, 2013; Malmi & Brown, 2008).

Accordingly, the novelty of this article lies in providing a micro-level diagnosis of how MCS as a package is designed and used in a community-based essential-oil exporter in an emerging-economy setting, and in explaining how interactions among control elements can enable or constrain export reliability (quality consistency, delivery timeliness, and order fulfilment). Rather than proposing a universal roadmap for other firms, this study offers context-sensitive improvement priorities for BAS that are feasible under resource constraints and are derived from the logic of control-package coherence. As a single-case study, the research does not aim for statistical generalisation; instead, it seeks to produce a contextualised explanation and analytically grounded insights that may be

transferable to similar settings where exporters rely on smallholders, face stringent buyer requirements, and operate with limited formal systems (Yin, 2018).

Based on this background, the objective of this research is to analyse how the MCS as a package at PT BAS is designed and used in practice and to identify feasible ways to strengthen the coherence of the package to better support export performance. Specifically, the study aims to: (1) map the existing configuration of planning, cybernetic, reward and compensation, administrative, and cultural controls at BAS; (2) interpret how the interaction among these elements facilitates or constrains export reliability (quality consistency, delivery timeliness, and order fulfilment) in a volatile export environment, and (3) formulate actionable, low-cost improvement priorities that reinforce performance visibility and coordination while remaining consistent with BAS's mission and resource capacity (Ferreira & Otley, 2009; Grabner & Moers, 2013; Malmi & Brown, 2008).

Management control systems (MCS) are broadly understood as the set of formal and informal mechanisms used by managers to align organizational behaviour with strategic objectives and support decision-making. Classic definitions emphasize that MCS go beyond accounting records and include planning, performance measurement, incentives, structures, and cultural elements that shape how people act and make decisions (Anthony & Govindarajan, 2007; Merchant & Van der Stede, 2007; Otley, 1999). As business environments have become more complex and uncertain, the focus of MCS thinking has shifted from purely financial, mechanistic controls towards more comprehensive systems that also incorporate non-financial indicators, learning, and strategic adaptation (Ferreira & Otley, 2009).

Early work on organizational control tended to examine isolated mechanisms such as budgeting, performance evaluation, or behavioural monitoring, and to treat them as largely independent levers (Flamholtz et al., 1985; Ouchi, 1979). More recent contributions, however, argue that understanding how organizations are steered requires examining combinations of controls and their interactions, because the effectiveness of any single mechanism depends on how it is supported or constrained by others (Ferreira & Otley, 2009; Flamholtz et al., 1985; Grabner & Moers, 2013).

Malmi & Brown (2008) propose the notion of management control systems as a package, highlighting that organizations typically use multiple control mechanisms simultaneously and that these mechanisms must be analyzed together. They identify five main components that commonly appear in an MCS package: planning controls, cybernetic controls, reward and compensation controls, administrative controls, and cultural controls (Malmi & Brown, 2008).

Planning controls operate ex ante by defining objectives, setting performance standards, and articulating action plans for the short- and long-term. They coordinate expectations across units and build commitment to priority activities, thereby serving both predictive and normative functions in control (Merchant & Van der Stede, 2007).

Cybernetic controls refer to systems that measure performance against standards, provide feedback, and trigger corrective action. This category includes budgets, financial and non-financial performance indicators, and hybrid frameworks, which together create a closed-loop process linking goals,

measurement, evaluation, and behavioural adjustment (Green & Ann Welsh, 1988; Malmi & Brown, 2008).

Reward and compensation controls align individual and organizational interests through monetary and non-monetary incentives. Research shows that incentive schemes can influence the direction, intensity, and persistence of effort, but must be carefully designed to support strategy and avoid dysfunctional behaviour (Bonner & Sprinkle, 2002; Ittner & Larcker, 1998).

Administrative controls provide the structural and procedural backbone for organizational activities. They include organizational structure, governance mechanisms, formal policies, and standard operating procedures that define responsibilities, authority, and workflows (Abernethy & Chua, 1996; Flamholtz et al., 1985).

Cultural controls operate through shared values, norms, and beliefs that indirectly guide behaviour. Studies show that culture can powerfully shape how performance information is interpreted and how people respond to control mechanisms, thereby complementing or sometimes overriding formal controls (Birnberg & Snodgrass, 1988).

Subsequent work emphasizes that the interactions among these elements are crucial. Sandelin (2008), in a growth-firm context, shows that different control practices operate together as a package whose overall configuration must fit the firm's evolution. Grabner & Moers (2013) distinguish between complementary and substitutive relationships within control packages, arguing that some controls reinforce each other while others can partially replace or undermine one another.

In export settings, MCS play a more strategic role than in purely domestic operations because firms must comply with international quality standards, maintain a reliable supply, and adapt to diverse regulatory and market conditions. In such environments, MCS functions not only as internal mechanisms but also as tools for coordinating with suppliers, distributors, and international customers (Dekker, 2004; Florez et al., 2012).

Florez et al. (2012) find that the use of integrated social and formal controls in inter-organisational relationships improves export performance by enhancing efficiency and reducing transaction risks. Their analysis shows that combinations of budgets, performance indicators, and relational controls improve coordination between exporting firms and their foreign partners.

Gond et al. (2012) document how integrating strategy and sustainability within MCS packages, by combining formal reporting, target setting, and cultural mechanisms, can align organizational behaviour with environmental and social goals. This is especially relevant for community-based exporters that build their market positioning on traceability and ecological values, as in the case of PT BAS. More recent studies reinforce the strategic role of MCS. Dana et al. (2021) Through a literature review, they argue that well-designed MCS contribute to higher productivity and sustainability of corporate performance by supporting the deployment of intellectual capital. Fazri et al. (2024) show empirically that MCS enhances the effectiveness of business strategy and innovation, with positive implications for firm performance in the financial services sector.

Taken together, these studies suggest that in export-oriented, resource-constrained, and innovation-seeking firms, such as community-based essential oil

exporters, MCS packages must balance formalization (to ensure reliability and compliance) with flexibility and cultural alignment (to maintain relationships, support learning, and adapt to changing market demands). This balance is especially critical where supply depends on smallholder farmers and where product quality and delivery reliability are central to maintaining export relationships.

Building on the above literature, this study conceptualizes the MCS of PT BAS as an integrated package, with its coherence expected to influence export performance. Conceptually, the package links export strategy to control elements along three main channels: (i) the alignment of objectives and expectations across actors in the supply chain; (ii) the reduction of process uncertainty through standardization and feedback; and (iii) the strengthening of coordination across organizational and inter-organizational boundaries (Florez et al., 2012; Gond et al., 2012; Malmi & Brown, 2008). Based on the above literature, the conceptual framework presented in Figure 1.

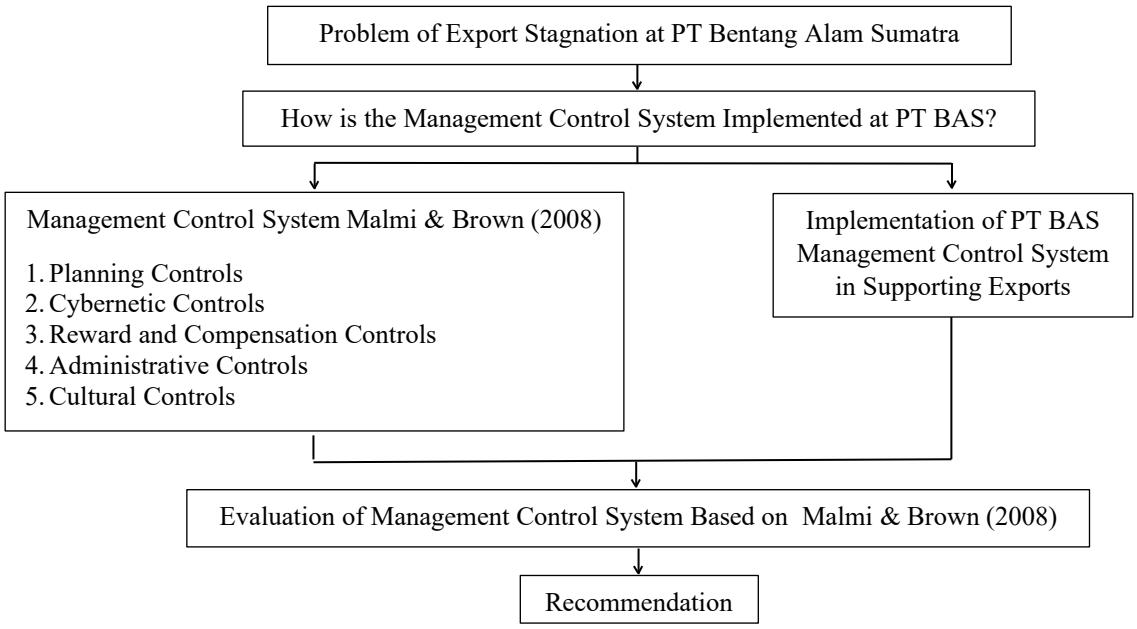

Figure 1. Conceptual framework of the study

Source: Research Data, 2025

This conceptual framework guides the empirical analysis by structuring data collection (e.g. interview topics and document selection) and providing the lens through which the as-is and to-be configurations of BAS's MCS-as-a-package are interpreted. A simplified diagram of the framework is presented in Figure 1, with export strategy and context at the top, the five MCS elements in the middle, and export performance indicators as the outcome at the bottom.

RESEARCH METHOD

This study adopts a qualitative, interpretive single-case study design. A qualitative approach is appropriate because the objective is to obtain an in-depth understanding of how the MCS-as-a-package at PT Bentang Alam Sumatra (BAS) is designed and used in practice and how it relates to export performance, rather

than to test statistical relationships between predefined variables. A single case study is suitable for addressing "how" and "why" questions in real-life organisational settings where the researcher has little control over events and rich contextual detail is required (Creswell & Poth, 2018; Yin, 2018). The empirical scope covers BAS during 2023–July 2025, while primary field data collection was conducted in August 2025.

The unit of analysis is the management control system applied by PT Bentang Alam Sumatra (BAS) in the context of essential-oil export activities, focusing on how the MCS as a package elements operate in practice (formal and informal controls) and how they relate to export strategy; thus, although data were collected from individuals, the analytical focus remains on the systemic control mechanisms used to direct and manage export activities. Informants were selected purposively across organisational levels and functions to capture both strategic and operational perspectives relevant to export planning, execution, and supply-chain coordination. Primary data were collected through semi-structured interviews with six key informants (general director, operations director, finance director, business development & market analysis manager, administration & finance staff, and logistics staff). Each interview lasted 20–50 minutes and was conducted face-to-face at BAS's operational site using a semi-structured approach aligned with the five MCS as a package elements (Malmi & Brown, 2008) and adapted from prior interview guidance (Trondsen & Rakhimov, 2016).

MCS is operationalised using the MCS as a package framework comprising planning, cybernetic, reward & compensation, administrative, and cultural controls (Malmi & Brown, 2008). Evidence for each element was assessed based on three criteria: presence/clarity of the mechanism, formalisation/consistency of implementation, and integration/linkage with other controls and export strategy (Malmi & Brown, 2008). An analytical maturity rating (1–5) was used as a synthesis device to summarise the relative development of each MCS element; this rating is not statistical measurement but qualitative reasoning supported by triangulated evidence (Creswell & Poth, 2018; Yin, 2018).

Export performance is conceptualised as export reliability, reflected in process-anchored indicators such as shipment/volume outcomes as well as operational indicators that "lock in" execution (e.g., batch quality/consistency and export-document completeness/compliance), consistent with how performance indicators were probed and discussed in the study context.

Primary data were collected through in-depth semi-structured interviews and non-participant observation, complemented by secondary data from internal SOPs, export documents, and official/public company information relevant to the research questions (Malmi & Brown, 2008). The interview guide was structured to trace both control design (targets, rules, roles, standards) and control use in decision-making, cross-functional coordination, and problem-solving when deviations occur (Malmi & Brown, 2008; Trondsen & Rakhimov, 2016). Non-participant observation was conducted by the researcher as an observer without intervening in operational decisions to capture "as-is" practices and enrich narrative interview data; field notes documented activities, interaction patterns, and situational context (Creswell & Poth, 2018; Yin, 2018).

Data analysis followed an iterative thematic analysis to identify and interpret patterns/themes emerging from interview data, conducted systematically using steps adapted from Braun & Clarke (2006) (familiarisation, coding, theme development, review, naming, and reporting). After transcription and verification, data were organised via open coding and then grouped into categories aligned with the five MCS-as-a-package elements; the results were compiled into a data matrix to support further analysis (Malmi & Brown, 2008). To synthesise results, the study uses matrix-based comparison across MCS elements and an analytical maturity rating (1–5) (presence, formalisation, integration) as a structured summary device grounded in triangulated evidence (Creswell & Poth, 2018; Malmi & Brown, 2008; Yin, 2018).

Credibility was strengthened through methodological triangulation (interviews, observation field notes, and internal documents) so findings do not rely solely on informants' narratives (Creswell & Poth, 2018). In addition, member checking was conducted by returning preliminary interpretations to key informants to ensure the analysis reflects their experienced reality accurately.

RESULT AND DISCUSSION

The results and discussion are presented using an evidence-led approach to strengthen transparency and reduce interpretive bias. Findings draw on triangulated sources—verbatim excerpts from semi-structured interviews, field observations, and internal documents/secondary records relevant to export operations and quality outcomes. Interview excerpts are reported using informant codes and the year of data collection to support traceability, while documentary evidence is used to corroborate key claims where applicable. The empirical themes are organised around the Management Control Systems (MCS) as a package framework to examine how planning, cybernetic, reward/compensation, administrative, and cultural controls interact in shaping export performance. The section concludes with an analytic synthesis display (Table 1) that summarises control-package coherence based on the coded evidence across sources.

The case context shows that PT BAS operates as an exporter of patchouli oil, managing supply activities from upstream farmers/suppliers through procurement, quality assurance, and shipment. PT BAS's internal context also indicates strong buyer-facing requirements (traceability, certification, and quality compliance), including follow-up mechanisms when nonconformities occur. Within this operating model, export performance is not only the outcome of "market demand", but also the outcome of how well the firm can stabilise quality and fulfil orders reliably under buyer scrutiny.

Empirically, PT BAS experienced a clear declining export trend: export volume decreased from 3,200 kg (2023) to 2,750 kg (2024) and about 1,400 kg by mid-2025. Importantly, BAS's export volumes are operationally shaped by a purchase-order (PO) pattern and batch-based shipments rather than a fixed quarterly schedule. At its higher-capacity phase, shipments reached approximately 800 kg per delivery and occurred around three to four times per year, while recent years show a downward trend (3,200 kg in 2023; 2,750 kg in 2024; and ~1,400 kg by mid-2025). This pattern signals an internal execution challenge: export stability depends on BAS's ability to plan capacity, schedule

fulfilment, and coordinate upstream–downstream supply quality so that buyer approvals do not repeatedly trigger rework and delays.

Interview data reinforce that export competitiveness is constrained by scale and buyer concentration. One informant compared BAS's smaller scale (about "three tons per year" in their description) with larger competitors who can supply "three tons per week", and explained that BAS's exports are tied to purchase orders and limited capacity (Interview MDA, 2025). This operational constraint matters because essential-oil export reliability depends on the exporter's ability to meet volume, timing, and buyer-specified characteristics consistently.

The decline therefore functions as a performance symptom consistent with a control-system problem: BAS can operate and comply, but its control package has not fully matured into an integrated "export-reliability infrastructure". This is consistent with prior work emphasising that exporting firms often need an appropriate MCS configuration as "managerial infrastructure" supporting export decisions and performance stability.

A central operational feature in this case is the buyer approval gate. This study describes that if the buyer does not approve the sample, the buyer provides feedback and BAS must revise the product and resend samples, repeating until approval is achieved. This rework loop is operationally costly because it increases cycle time and introduces uncertainty into fulfilment planning.

Interview evidence illustrates how buyer acceptance depends on matching a buyer's preferred "control profile" (e.g., "dark patchouli") and how BAS adapts through blending and learning-by-doing:

> *"Sometimes they accept, sometimes not… if not, we mix again…"*

The same excerpt explains that buyers store a kind of reference control (analogised to recipe proportions), and BAS must "match" that reference through trial, mixing, and experience (Interview MDA, 2025). This shows that export success is shaped by a control capability: the exporter must reproduce stable product characteristics under variable upstream conditions.

Upstream variability is also explicit. One operational improvement BAS made was acquiring a blending tank because raw oils from farmers differ in aroma, colour, and impurities; inconsistent batches had previously triggered buyer complaints:

> *"Oil from farmers isn't the same… sometimes the colour is dark… some is fragrant, some less fragrant…"*

In MCS terms, the buyer gate exposes where control must work "end-to-end": planning (what to ship, when), cybernetic measurement (how to confirm conformity), administrative traceability (what batch and documentation support it), cultural discipline (how teams coordinate), and incentives (what behaviours are reinforced). When these controls are not packaged cohesively, the system becomes reactive, quality problems are corrected after buyer feedback rather than prevented upstream.

This study focuses on PT BAS because it is not only selling a commodity, it operates in a buyer relationship that emphasises traceability, ecological value, and social impact. BAS's main buyer is Lush Cosmetics (UK) and that the relationship is not purely price-based, but built on traceability and value-based differentiation; BAS's oil is even purified by an affiliated entity before reaching the end buyer. This

relationship creates stricter control demands because export performance depends on consistent compliance across product, process, and documentation.

Furthermore, BAS's operating model includes community/farmer engagement (e.g., farmer assistance) alongside export activities (Interview MDA, 2025). This hybrid model expands the control challenge: BAS must align commercial export reliability with upstream capability building, which requires integrated control practices across boundaries.

The case therefore requires MCS analysis because export performance is produced through internal control arrangements, not only external market conditions. The study explicitly frames this through the idea that MCS effectiveness comes from how controls interact as a package, and that BAS's control mechanisms remain unevenly developed and not fully integrated for consistent export performance.

Planning is present at a general level, including annual planning discussions and export targets. An informant explained:

"Once a year… for 2026… from 3 tons to 5 tons…"

Planning is not consistently translated into functional operational targets and is not supported by systematic budgeting. The same informant stated BAS does not have an ERP/IT management system and remains manual:

"No, there's no technology, we're manual."

Budgeting discipline is also weak:

"We don't have a budgeting document… budgeting is not planned systematically."

Planning exists but remains high-level and is not decomposed into operational targets supported by systematic budgeting, making progress difficult to monitor and encouraging reactive prioritisation.

The export decline trend points to the need to strengthen capacity planning, scheduling, and upstream-downstream coordination. Without systematic planning/budgeting, BAS is more likely to operate in "firefighting mode", which increases the likelihood of late fulfilment adjustments and repeated quality rework (especially when buyer approvals require iterative resampling).

In internationalising/SME export contexts, an appropriate MCS configuration functions as "managerial infrastructure" supporting export decisions and performance outcomes. BAS's planning controls appear insufficiently infrastructural: they set direction but do not yet create operational discipline for stable export execution.

BAS performs quality checking activities and has upgraded physical infrastructure such as blending tanks to improve batch consistency (Interview DO, 2025). These actions show awareness of quality variability and the need for technical corrections.

Cybernetic control requires standards, measurement, comparison, and feedback loops. In BAS, non-financial indicators are not formally defined, especially customer satisfaction indicators:

"Until now there is no indicator to assess customer satisfaction…"

The informant explained BAS focuses on satisfying the buyer, but without formal indicators, learning remains ad hoc (Interview DO, 2025). The lack of formal measurement is paired with limited internal testing capability specifically, the lack

of GC-MS equipment, which constrains objective verification and pushes quality control toward experience-based judgement and blending:

"We don't have equipment… GC-MS… our constraint is quality."

And on how deviations are handled:

"We blend… mixed 2:1… if still not achieved… we ask for additional supply…"

This directly reflects the study conclusion that cybernetic controls have not formed a strong feedback loop because process-locking non-financial metrics (quality, batch consistency, document completeness, customer relations) have not been standardised; as a result, deviations are detected late and improvement becomes reactive.

Buyer-driven exports punish inconsistency. When measurement is weak or informal, BAS cannot reliably detect early drift in quality and cannot institutionalise preventive action. The sample-approval rework loop becomes more frequent because the system detects deviation at the buyer gate rather than earlier through internal metrics.

Evidence (what exists): BAS provides annual bonuses and allocates a dividend portion to employees:

"There is a 10% allocation from dividends for employees… shared equally… there is also an annual bonus…"

Rewards are described as informal and not linked to measurable export-critical behaviours (e.g., batch acceptance rate, complaint reduction, documentation discipline). The informant explicitly indicated limited performance impact:

"Not much impact… there isn't meaningful improvement…"

Reward & compensation have not functioned as a consistent behavioural reinforcement mechanism because incentives are not documented and are not connected to process/quality metrics.

In a buyer-specification environment, export reliability depends on disciplined routines (documentation completeness, quality checking, traceability discipline, and corrective action recording). When rewards are not tied to these routines, incentives do not strengthen consistent behaviours that could reduce rework and improve delivery stability.

Administrative controls appear relatively strong in external compliance. BAS must comply with customs and tax rules, and informants emphasised that noncompliance would stop exports:

"If it doesn't meet Customs requirements, we can't export… taxes… must be aligned…"

The informant also stated BAS had not experienced compliance problems with customs/tax/bank requirements (Interview GD, 2025), indicating a stable compliance routine.

BAS manages key export documents and technical safety requirements. One informant detailed three core export documents—Commercial Invoice (CI), Packing List, and SDS—and explained the strictness of transport safety requirements (including dangerous goods certification):

"CI (Commercial Invoice)…"

"Packing list…"

"SDS (Safety Data Sheet)… the most rigid is number 14 (transport)… therefore I have a Dangerous Goods Certificate…"

Despite external compliance strength, internal documentation and archiving are less structured. An administrative informant described miscommunication between documents sent to LUSH and those that should be archived internally, noting that the system is "not structured":

"Some miscommunication… documents that must be archived… because it's not structured…"

The informant also noted reliance on WhatsApp group messaging to coordinate needs (Interview AFS, 2025). Administrative controls are stronger externally, but internal repository/archiving/minutes are not well organised; coordination relies on ad hoc clarification and WhatsApp .

Weak internal traceability reduces organisational learning. Without structured archiving and deviation logs, BAS may struggle to systematically record: which batch caused the deviation, what blend ratio fixed it, and how to prevent recurrence, thereby reinforcing the rework loop at the buyer gate.

Cultural controls in BAS are supported by small-team coordination, fast informal communication, and clear role awareness. For example, the administrative informant described WhatsApp group use for coordination and rapid information sharing (Interview AFS, 2025). Another excerpt reflects the presence of line management and coordination lines (Interview MDA, 2025), suggesting an informal but functioning coordination culture.

Management uses warnings/pressure as a control tool when problems occur:

"…we issue warnings… pressures… warnings become a control tool…"

Cultural controls remain largely informal and have not been directed to strengthen documentation discipline and learning routines; thus reliability becomes vulnerable when workload increases or when personnel changes occur.

Cultural agility helps BAS survive day-to-day demands, but export reliability requires cultural discipline that supports consistent documentation and standardised learning from deviations. Otherwise, the organisation may depend on specific individuals' experience rather than institutional routines—especially evident in quality decisions relying on "experience" and manual judgement (Interview MDA, 2025).

To consolidate the qualitative findings into an analytic display, this study summarises PT BAS's management control configuration using an MCS as a package diagnostic matrix (planning, cybernetic, reward & compensation, administrative, and cultural controls) grounded in the Malmi & Brown framework. The matrix is used to (i) capture the relative maturity of each control element, and (ii) make visible whether these controls operate as a coherent package supporting export reliability (quality stability, documentation discipline, and timely fulfilment), rather than as isolated practices. This approach is particularly relevant in PT BAS's context, the study synthesis indicates that export-performance challenges are closely tied to quality vulnerability and batch inconsistency, triggering rework/blending/resupply dynamics and being reinforced by limited objective quality verification capacity.

The matrix is derived from the same empirical evidence base reported in this article, primary data from in-depth, semi-structured interviews (20–50 minutes each, conducted onsite at PT BAS) and non-participant observations, combined with secondary data from internal SOPs and export documents relevant to the research question on how PT BAS applies the MCS as a package framework. The scoring reflects the extent to which each control element is present, consistently applied, documented/formalised, and linked to export-critical routines (e.g., measurement and feedback loops, budgeting/target cascading, incentives tied to discipline, traceable administration, and culturally embedded learning routines). The purpose is not to claim universal benchmarks, but to provide a case-specific, evidence-based snapshot of control maturity across the five elements.

The maturity scores in Table 1 were assigned after data familiarisation, coding, and theme development, and therefore function as a structured synthesis of evidence rather than an a priori judgement. Each score reflects (i) whether the control exists, (ii) the degree of consistency and formalisation (documentation/standards), and (iii) how strongly it is linked to export-critical routines (quality stability, traceability, timely fulfilment). Evidence used to assess each element was triangulated across interviews, documents, and observation notes so that each rating can be traced back to supporting excerpts or organisational artefacts.

Table 1. MCS Matrix

MCS element	Score (1–5)	Evidence	What it means in this case
Planning controls	**2**	Budgeting is not systematically planned.	Targets exist, but weak budget/plan discipline limits execution tracking and operational follow-through.
Cybernetic controls	**2**	No documented customer-satisfaction measurement.	Limited "closed-loop" performance control; deviations are handled reactively rather than prevented by standardised metrics and feedback routines.
Reward & compensation	**2**	Incentives exist but are undocumented.	Rewards do not consistently reinforce export-critical behaviours (quality discipline, documentation, reliability).
Administrative controls	**3**	Export compliance is critical (customs/tax must align.	External-facing compliance routines are relatively strong, supporting shipment feasibility; internal structuring may still require strengthening.
Cultural controls	**3**	Coordination is fast and informal.	Strong agility in a small organisation, but reliance on informal routines can limit standardisation and knowledge transfer if not reinforced by formal controls.

Source: Research Data, 2025

Table 1 provides a compact control-package diagnosis of BAS's export-reliability problem by showing not only which controls exist, but also how

balanced and mutually reinforcing the package is. Overall, the matrix indicates an uneven configuration: BAS scores relatively stronger on administrative controls (3) and cultural controls (3), reflecting the presence of critical external-facing compliance routines and fast informal coordination, while the controls that typically "close the loop" on execution, planning (2), cybernetic controls (2), and reward & compensation (2), remain underdeveloped or weakly formalised. In MCS-as-a-package terms, this imbalance matters because export reliability depends on a coherent linkage from targets and plans to measurable indicators and feedback routines, to incentives and accountability—rather than relying on ad hoc responses after deviations occur (Ferreira & Otley, 2009; Grabner & Moers, 2013; Malmi & Brown, 2008). Concretely, limited budgeting/plan discipline and the absence of documented customer-satisfaction measurement reduce performance visibility, which makes deviations in quality and fulfilment more likely to be handled reactively rather than prevented through standardised metrics and routine follow-up. The fact that incentives are present but undocumented further weakens alignment, because export-critical behaviours (documentation discipline, quality conformance, delivery reliability) are less consistently reinforced. At the same time, relatively stronger administrative compliance helps secure shipment feasibility, and a strong informal culture supports agility; however, prior inter-organisational control research cautions that when coordination relies heavily on informality, standardisation and learning transfer can be fragile unless reinforced by formal controls and explicit routines (Dekker, 2004). Taken together, the table clarifies that BAS's main constraint is not "lack of control" per se, but limited coherence between operational planning, measurement/feedback, and incentive reinforcement, which restricts BAS's ability to stabilise export performance under resource constraints.

CONCLUSION

This study examined how management control systems (MCS) operate as a package in PT Bentang Alam Sumatra (BAS), a community-based patchouli-oil exporter embedded in a smallholder supply chain and operating under stringent buyer requirements. The findings indicate that BAS's export underperformance is best understood as an execution and control-coherence problem rather than being explained solely by external market conditions. Buyer-driven acceptance standards repeatedly trigger rework cycles (e.g., blending adjustments and repeated sampling), which undermines fulfilment reliability and export stability. BAS's control package is unevenly developed: administrative and cultural controls function relatively better in supporting compliance and day-to-day coordination, while planning, cybernetic controls, and reward/compensation controls remain less formalised and weakly integrated with export-critical routines. As a result, improvements tend to occur reactively after buyer feedback rather than through a closed-loop internal monitoring and review rhythm. This research contributes by providing a micro-level explanation of export decline in an essential-oil exporter through an MCS-as-a-package lens, demonstrating that export reliability depends on coherence among planning, measurement/feedback, incentives, administration, and culture—not merely the presence of isolated controls. It also extends MCS insights to a resource-constrained, traceability-intensive exporting

context by illustrating how "hard" controls (formal planning, measurement, documentation) and "soft" controls (coordination norms and social discipline) interact in shaping quality stability and buyer confidence. Practically, the case suggests that BAS can prioritise low-cost, high-leverage control strengthening by cascading export goals into simple operational targets and basic budget discipline, defining a minimum set of export-critical non-financial indicators with a routine review process, formalising deviation/corrective-action logs (including batch/source details and blend decisions), strengthening internal archiving/document control to reduce reliance on ad hoc messaging, and aligning existing incentives with key reliability behaviours without a major redesign of compensation. These implications are case-specific and are not proposed as a universal roadmap.

Several limitations should be noted. This is a single-case qualitative study; therefore, the findings offer analytic insight rather than statistical generalisation. Some evidence relies on informant accounts; although triangulation was applied, recall bias and social desirability bias may remain. The maturity scoring used to summarise the control package is a structured synthesis tool; future research could strengthen robustness by incorporating more objective longitudinal indicators such as sample acceptance/rejection rates, complaint histories, shipment delays, and independent laboratory verification records. Future studies could adopt multiple-case comparisons across essential-oil exporters and longitudinal designs to test whether strengthening cybernetic controls measurably reduces rework and improves export reliability, supported by richer secondary datasets (buyer feedback archives, quality test histories, and traceability records).

REFERENSI

Abernethy, M. A., & Chua, W. A. I. F. (1996). A Field Study of Control System "Redesign": The Impact of Institutional Processes on Strategic Choice. *Contemporary Accounting Research*, *13*(2), 569–606. https://doi.org/https://doi.org/10.1111/j.1911-3846.1996.tb00515.x

Al Fikri, M. Z., Nurfadillah, S., & Santoso, S. I. (2024). Competitiveness of Indonesian Essential Oils in The International Market. *SOCA: Jurnal Sosial Ekonomi Pertanian*, *18*(1), 43–58. https://doi.org/10.24843/SOCA.2024.v18.i01.p04

Anthony, R. N., & Govindarajan, V. (2007). *Management Control Systems Twelfth Edition*.

Birnberg, J. G., & Snodgrass, C. (1988). Culture and control: A field study. *Accounting, Organizations and Society*, *13*(5), 447–464. https://doi.org/https://doi.org/10.1016/0361-3682(88)90016-5

Bonner, S. E., & Sprinkle, G. B. (2002). *The effects of monetary incentives on effort and task performance: theories, evidence, and a framework for research*. www.elsevier.com/locate/aos

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Cao, Z., & Lumineau, F. (2014). *Revisiting The Interplay Between Contractual and Relational Governance: A Qualitative and Meta-Analytic Investigation*.

http://ssrn.com/abstract=2505676Electroniccopyavailableat:https://ssrn.com/abstract=2505676Electroniccopyavailableat:http://ssrn.com/abstract=2505676

Creswell, J. W., & Poth, C. N. (2018). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. SAGE Publicatons, Inc.

Dana, L. P., Rounaghi, M. M., & Enayati, G. (2021). Increasing productivity and sustainability of corporate performance by using management control systems and intellectual capital accounting approach. In *Green Finance* (Vol. 3, Issue 1, pp. 1–14). American Institute of Mathematical Sciences. https://doi.org/10.3934/GF.2021001

Dekker, H. C. (2004). Control of inter-organizational relationships: Evidence on appropriation concerns and coordination requirements. *Accounting, Organizations and Society*, *29*(1), 27–49. https://doi.org/10.1016/S0361-3682(02)00056-9

Fazri, E., Muttaqin, G. F., & Bagaskara, K. (2024). The Role of Management Control Systems in Enhancing Business Strategy Effectiveness and Innovation: Implications for Company Performance. *Journal of Applied Business, Taxation and Economics Research*, *4*(1), 144–154. https://doi.org/10.54408/jabter.v4i1.394

Ferreira, A., & Otley, D. (2009). The design and use of performance management systems: An extended framework for analysis. *Management Accounting Research*, *20*(4), 263–282. https://doi.org/10.1016/j.mar.2009.07.003

Flamholtz, E. G., Das, T. K., & Tsui, A. S. (1985). Toward an integrative framework of organizational control. *Accounting, Organizations and Society*, *10*(1), 35–50. https://doi.org/https://doi.org/10.1016/0361-3682(85)90030-3

Florez, R., Ramon, J. M., Velez, M., Alvarez-Dardet, M. C., Araujo, P., & Sanchez, J. M. (2012). The role of management control systems on inter-organisational efficiency: An analysis of export performance. *Studies in Managerial and Financial Accounting*, *25*, 195–222. https://doi.org/10.1108/S1479-3512(2012)0000025011

Gond, J. P., Grubnic, S., Herzig, C., & Moon, J. (2012). Configuring management control systems: Theorizing the integration of strategy and sustainability. *Management Accounting Research*, *23*(3), 205–223. https://doi.org/10.1016/j.mar.2012.06.003

Grabner, I., & Moers, F. (2013). Management control as a system or a package? Conceptual and empirical issues. *Accounting, Organizations and Society*, *38*(6–7), 407–419. https://doi.org/10.1016/j.aos.2013.09.002

Green, S. G., & Ann Welsh, M. (1988). Cybernetics and Dependence: Reframing the Control Concept. In *Source: The Academy of Management Review* (Vol. 13, Issue 2). https://www.jstor.org/stable/258578

Ittner, C. D., & Larcker, D. F. (1998). Are Nonfinancial Measures Leading Indicators of Financial Performance? An Analysis of Customer Satisfaction. In *Source: Journal of Accounting Research* (Vol. 36).

Lestari, P. F. K., Ferhat, A., & Bimantio, M. P. (2023). Competitiveness Analysis of Indonesian Essential Oil as an Export Commodity in the International Market Using Revealed Comparative Advantage (RCA) Method. *Jurnal*

Sosial Ekonomi Dan Kebijakan Pertanian, *7*(1), 144. http://ejournal2.undip.ac.id/index.php/

Li, L. Y., & Ogunmokun, G. O. (2003). Effect of Marketing Control on Export Venture Performance: The Moderating Role of Relationship Intensity and Market Dynamism. In *Journal of Global Marketing* (Vol. 16, Issue 3, pp. 5–29). https://doi.org/10.1300/J042v16n03_02

Malmi, T., & Brown, D. A. (2008). Management control systems as a package-Opportunities, challenges and research directions. *Management Accounting Research*, *19*(4), 287–300. https://doi.org/10.1016/j.mar.2008.09.003

Merchant, K. A., & Van der Stede, W. A. (2007). *Management Control Systems: Performance Measurement, Evaluation and Incentives*.

Otley, D. (1999). Performance management: a framework for management control systems research. In *Management Accounting Research* (Vol. 10). http://www.idealibrary.comon

Ouchi, W. G. (1979). A Conceptual Framework for the Design of Organizational Control Mechanisms. *Management Science*, *25*(9), 833–848. https://doi.org/10.1287/mnsc.25.9.833

Patchouli Oil (2015). http://djpen.kemendag.go.id

Pramestari, D., Setyaningsih, D., Syahbana, M., & Marimin, M. (2024). Sustainable Supply Chain Performance Improvement for Patchouli Oil's Agroindustry: A Systematic Review and Research Agenda. *BIO Web of Conferences*, *123*. https://doi.org/10.1051/bioconf/202412303005

Rahmayanti, D., Ampuh Hadiguna, R., & Nazir, N. (2018). *Determining the Profit Margin of "Patchouli Oil" Supply Chain: A Case Study in Indonesia*. *8*(2).

Sandelin, M. (2008). Operation of management control practices as a package-A case study on control system variety in a growth firm context. *Management Accounting Research*, *19*(4), 324–343. https://doi.org/10.1016/j.mar.2008.08.002

Schein, E. H. (1997). *Organizational Culture and Leadership*. www.josseybass.com

Simons, R. (1995). *Levers of Control*.

Sousa, R., Camanho, A. S., Silva, M. C., da Silveira, G. J. C., & Arabi, B. (2024). Best practices, performance advantage and trade-offs: new insights from frontier analysis. *Journal of Productivity Analysis*, *62*(1), 91–110. https://doi.org/10.1007/s11123-023-00714-y

Trondsen, M., & Rakhimov, M. (2016). *Management control in fast growing entrepreneurial firms Case study of four small and medium sized gazelles in Nordland county Management Control*.

Yin, R. K. (2018). *Case Study Research and Applications* (6th ed.). SAGE Publications, Inc.