

Risk Management Application Based on ISO 31000:2018 - A Case Study of Hypoallergenic Laundry Laboratory (LALABO)

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ABSTRACT

LALABO (Laundry Laboratory) is a laundry business model in Jakarta, characterized by its hypoallergenic and eco-friendly services, utilizing smart locker technology for drop points, mobile application, and personalized fragrance options. This study responds to the growing demand for skin-safe laundry services, driven by limited providers and increasing public awareness of skin health in Jakarta and other major Indonesian cities. Using a descriptive case study approach, data were collected through document analysis, observation, and organizational review. The analysis focused on designing a risk management model based on the ISO 31000:2018 framework. The findings indicate that structured risk identification, assessment, and treatment are essential for managing uncertainties in marketing, operations, human resources, and finance. LALABO can minimize potential risks and achieve operational excellence. Academically, this study expands the limited literature on ISO 31000 implementation in micro and small service enterprises, while practically it provides insights for entrepreneurs developing innovation-driven businesses.
Keywords: risk management; ISO 31000; laundry; business plan.

ABSTRAK

LALABO (Laundry Laboratory) adalah sebuah model bisnis laundry di Jakarta dengan keunggulan hypoallergenic, ramah lingkungan, memakai teknologi *smart locker* pada titik *drop point*, aplikasi mobile, dan personalisasi pewangi. Riset ini dilakukan sebagai respons terhadap meningkatnya kebutuhan layanan laundry hypoallergenic di tengah keterbatasan penyedia jasa dan meningkatnya kesadaran masyarakat akan kesehatan kulit, khususnya di Jakarta dan kota-kota besar di Indonesia. Penelitian ini menggunakan pendekatan studi kasus deskriptif dengan pengumpulan data melalui analisis dokumen, observasi, dan telaah organisasi. Analisis difokuskan dengan tujuan merancang model manajemen risiko berbasis ISO 31000:2018. Hasil penelitian menunjukkan bahwa identifikasi, penilaian, dan perlakuan risiko yang terstruktur sangat penting untuk menghadapi ketidakpastian pada aspek pemasaran, operasional, SDM, dan keuangan. LALABO dapat menurunkan potensi risiko dan mencapai keunggulan operasional. Penelitian ini berkontribusi pada literatur akademik sekaligus memberi wawasan praktis bagi pengembangan usaha berbasis inovasi.
Kata Kunci: manajemen risiko; ISO 31000; binatu; perencanaan bisnis.

INTRODUCTION

The increasingly dynamic urban lifestyle has prompted individuals to seek practical solutions for meeting daily needs, including laundry services (Handhini et al., 2022). This shift in consumer behavior has led to a substantial increase in demand, particularly in metropolitan areas such as Jakarta. According to the Indonesian Laundry Association in 2023, seven out of ten residents in Jakarta regularly use professional laundry services. At the national level, the laundry industry was valued at approximately IDR 10 trillion in 2023, with an annual growth rate of 15%. This expansion is supported by the sector's fast turnover cycle and its resilience, as the need for clean clothing remains a fundamental necessity (Setiyawati et al., 2016).

The laundry sector possesses significant growth potential market. However, entrepreneurs often confront multifaceted uncertainties and obstacles that constrain their business development initiatives (Al Farisi & Rahmi (2025). A primary challenge involves the increasing public consciousness regarding dermatological health. Study from to Norman et al., (2023) indicates that laundry detergents and fragrances in modern households are frequently suspected as a cause of allergic contact dermatitis (ACD). Data from the Indonesian Ministry of Health indicate that skin disorders are among the most common health complaints, with prevalence rates ranging from 4.60% to 12.95%, consistently ranking in the top three nationally. Research by Farage et al. (2012) further highlights that individuals with sensitive skin are more inclined to seek hypoallergenic products and guarantees of skin safety. The availability of laundry providers offering explicitly hypoallergenic services remains highly limited. In Jakarta, only a small number of brands are recognized for using hypoallergenic detergent formulations. This scarcity reflects a significant market gap, presenting opportunities for differentiation and competitive advantage within the urban laundry sector.

LALABO (Laundry Laboratory) was established as a strategic response to the growing demand for skin-safe laundry services. LALABO adopts skin-friendly detergent alternatives that are free from Sodium Lauryl Sulfate (SLS), Sodium Laureth Sulfate (SLES), phosphates, and synthetic fragrances. Preference is given to hypoallergenic and biodegradable formulations, particularly those derived from plant-based ingredients, as they minimize the risk of redness, dryness, or allergic reactions (Kirei, 2025). LALABO integrates safety and convenience through hypoallergenic products and a technology system. LALABO has a centralized headquarters for washing operations and administrative tasks, also supported by 10 smart lockers strategically located in high-traffic locations such as stations, apartments, and gyms. The smart locker system enables customers to facilitate seamless drop-off and collection of their laundry. This infrastructure reinforced by eco-friendly and halal certifications, customizable fragrances, alongside digital features like referral program and membership, secures LALABO's unique value proposition.

However, establishing an innovation-driven business inevitably involves uncertainty and risks across multiple dimensions in organization (Kountur & Sari, 2023). Therefore, a structured risk management framework is very critical not only to ensure business continuity but also to strengthen operational excellence, resilience and competitiveness in a dynamic market environment. The risk management team at LALABO prioritizes the mitigation of potential negative impacts to ensure operational stability. This study examines these efforts by analyzing internal and external factors across four key dimensions: operations, finance, marketing, and human resources. Following the ISO 31000 standard, the framework encompasses a comprehensive process of communication, consultation, and context setting, alongside the identification, assessment, evaluation, treatment, monitoring, and review of risks (Govender, 2019).

Current ISO 31000 literature is heavily dominated by studies on a large-scale industry, often overlooking the unique operational needs of innovative service SMEs. The problem in this research is that although there have been several studies that discuss risk management in various sectors, research specifically focusing on hypoallergenic laundry business with smart locker technology systems remains very limited. Existing studies frequently focus on specific part, such as risk identification or mitigation strategies (Lubis, 2023), rather than providing a complete view of the integrated risk management process. Furthermore, there is a lack of analysis on how internal and external factors influence the way risk management is implemented in this specific niche (Nurohimah et al., 2026). These gaps highlight the need for a comprehensive study on risk management frameworks that are tailored to the evolving laundry business industry in Indonesia.

From an academic perspective, this research fills a critical theoretical void by demonstrating how the ISO 31000 framework can be adapted to the unique operational constraints of SMEs, particularly within the specialized laundry sector. By analyzing both internal and external factors, this study argues that a structured risk management approach enables decision-makers to build institutional resilience and maintain competitive differentiation from the earliest stages of business development. Practically, these findings provide a strategic

roadmap for entrepreneurs in innovation-driven service industries to transform operational uncertainties into well-formulated and proactive growth plans.

LITERATURE REVIEW

Risk Management

Risk is commonly defined as the effect of uncertainty on objectives, encompassing both negative and positive outcomes (ISO, 2018). This means that when considering risk, it's not just about avoiding potential problems (negative consequences), but also about recognizing and potentially capitalizing on opportunities (positive consequences) that might arise from uncertain situations. Unlike concepts such as obstacles or challenges, risks are specifically defined by the interplay between the probability of a potential loss and the magnitude of its impact (Popova et al., 2023). The comprehensive risk management process consists of several distinct stages: setting objectives, assessing the risks themselves, evaluating their consequences, analyzing possible courses of action, choosing the appropriate actions, and continuous monitoring (Olivieri, 2023).

Risk management is central to an organization's strategic management (Ekwere, 2016). Recent studies emphasize that risk management should be embedded throughout the organization, ensuring that it informs decisions at all levels and across all activities. The effectiveness of risk management lies not only in creating and protecting value but also in improving overall performance (Farrell & Gallagher, 2015). Consequently, organizations are encouraged to implement all stages of the risk management process to ensure long-term success (Kountur & Sari, 2023).

ISO 31000

The ISO 31000 Risk Management Standard is one of the risk management standards that is a series of international standards for applying risk management guidelines issued by the International Organization for Standardization (Kitsios et al., 2022). Recent studies have demonstrated that ISO 31000-based frameworks significantly increases project success, mitigates the impact of risks, and strengthens compliance with relevant quality standards (Sulistiowati et al., 2024). The standard defines risk management through three interconnected components: principles, framework, and process (ISO, 2018).

The principles ensure that risk management is integrated into organizational activities, tailored to context, inclusive of stakeholders, adaptable to change, based on reliable information, and oriented toward continuous improvement. The framework sets out the organizational structure needed to support risk management, emphasizing leadership commitment, clear roles, resource allocation, policy development, and ongoing evaluation. Meanwhile, the process establishes a systematic sequence of activities, thereby ensuring adaptive and accountable implementation. This sequence begins with communication and consultation, is followed by setting the scope and criteria, risk identification, analysis, evaluation, and treatment, and concludes with continuous monitoring and transparent reporting (ISO, 2018).

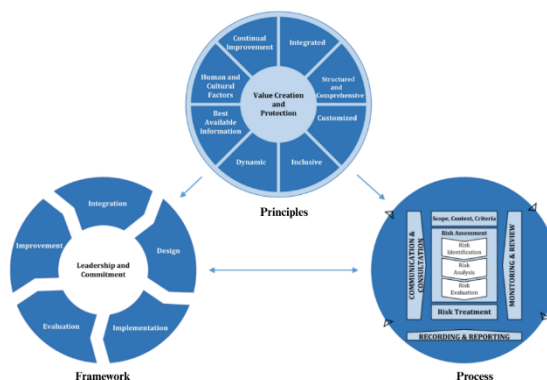


Figure 1. Graphical illustration of risk management from ISO 31000:2018

Source: ISO, 2018

RESEARCH METHODS

This research is a descriptive study that aims to provide a comprehensive picture of the implementation of risk management within an organization. This research was conducted at LALABO, a hypoallergenic laundry business utilizing a smart locker drop-point system, with data collection carried out through document analysis, observations, and organizational reviews. The primary focus of this study is to improve the understanding of how the organization identifies, assesses, and manages risks related to its unique service model based on the ISO 31000:2018 framework. The data obtained were then analyzed using descriptive analysis methods, without testing hypotheses or tracing cause-and-effect relationships. This analytical process involves an iterative evaluation of the following stages: (1) defining scope, context, and criteria; (2) conducting risk assessment, including identification, analysis, and evaluation; (3) implementing risk treatment; (4) communication and consultation; (5) monitoring and review; (6) recording and reporting; and (7) projecting risk costs.

RESULTS AND DISCUSSION

LALABO's risk management short-term objective is to establish an effective risk evaluation system prior to launching, focusing on identifying and minimizing potential risks related to operations, marketing strategies, staffing shortages, and financial constraints. In the medium term, LALABO aims to implement internal control systems through standard operating procedures (SOPs) for all business processes, while integrating risk management activities to enhance employee awareness of roles and responsibilities, as well as continuously evaluating emerging risks. In the long term, LALABO seeks to strengthen its capacity to adapt to market changes, while achieving risk maturity through the full adoption of risk management practices across all organizational levels.

1. Scope, Context, and Criteria

The scope of implementation is defined based on the LALABO's business objectives in managing its operations. The context of risk management application encompasses both internal and external factors. The risk assessment focuses solely on the areas of marketing, operations, human resources, and finance within LALABO, which operates in the service industry. The risk criteria is an activity used to assess level of risk (Lubis et al., 2025). Potential risks are then evaluated and classified according to their level of significance (Iman et al., 2022). The risk criteria established by LALABO are as follows:

Table 1. Risk Probability Criteria

Index	Probability	Percentage (%)
1	Barely happened (rare)	(0% < p < 10%)
2	Rarely happened (unlikely)	(11% < p < 30%)
3	It might happen (possibly)	(31% < p < 60%)
4	Most likely happen (likely)	(61% < p < 90%)
5	Almost certain to happen (almost certain)	(91% < p < 100%)

Source: Author, 2026

Risk probability refers to the likelihood of its occurrence in the future. The probability level is measured on a scale of 1 to 5. Score of 1 indicates that the event is almost impossible to occur, and a score of 5 indicates that it is almost certain to occur. This process serves as a basis for informed decision-making.

Table 2. Risk Impact Criteria

No	Impact	Impact On Reputation	Impact on Operational Continuity	Impact on Organizational Strategic Goals
1	<i>Insignificant</i>	No impact	No disturbance	Performance targets and targets can still be achieved 100%
2	<i>Minor</i>	Relatively small impact on internal company	No disturbance	Achieved targets and performance targets 91% - 99%
3	<i>Moderate</i>	Impact on several drop point branches	Minor disturbance, no operational impact.	Achieved targets and performance targets 71% - 90%

4	<i>Major</i>	Impact on all drop point branches	Operational impact due to disturbances.	Achieved targets and performance targets 51% - 70%
5	<i>Catastrophe</i>	Impact on all drop point branches & headquarters	Major disruption, loss of operational capability	Performance goals and targets <50%

Source: Author, 2026

Risk impact refers to the potential losses that may arise if a risk occurs. This impact is quantified using an impact tolerance table that captures both measurable (quantitative) and descriptive (qualitative) risk consequences through comprehensive assessments.

2. Risk Assessment

Risk assessment is the overall process of risk identification, risk analysis, and risk evaluation. Risk assessment activities provided the necessary information to design appropriate security controls and measures that would reduce or eliminate risks during the mitigation process (Kitsios et al., 2022).

2.1. Risk Identification

In conducting risk identification, LALABO considers several factors, including sources of risk, causes and events; threats and opportunities to the company; vulnerabilities and capabilities; changes in the external and internal context; indicators of emerging risks; as well as the nature and value of assets and resources.

2.2. Risk Analysis

Risk analysis provides input for risk evaluation, determining whether a risk requires treatment and how it should be addressed, as well as identifying the most appropriate risk treatment strategies and methods based on the Risk Priority Number (RPN) (Iman et al., 2022).

Table 3. Risk Identification and Analysis

No.	Risk Context & PIC Department	Risk Event	Inherent		RPN (Total)
			Probability	Impact	
External Risk					
R1	Marketing	LALABO has not yet established a strong brand image among the public.	4	4	16
R2	Marketing	Appearance of similar competitors.	3	3	9
R3	Marketing	Resistance to changes in customer habits.	4	4	16
R4	Operations	Failure to obtain business licensing certifications.	2	4	8
R5	Operations	Customer complaints.	4	3	12
R6	Operations	Customers failing to collect cleaned garments.	2	2	4
R7	Operations	Customers not understanding how to operate the smart locker drop point.	2	3	6
R8	Operations	Locker unavailability for customers.	3	2	6
R9	Operations	Loss or theft of smart lockers.	3	4	12
R10	Operations	Transportation disruptions during delivery and pickup.	4	3	12
R11	Operations	Fire incidents.	2	5	10
R12	Operations	Power outages.	2	5	10
R13	Operations	Flooding.	3	3	9
R14	Operations	Dirty or cloudy water supply.	3	5	15
R15	Operations	Decline in the quality of raw materials from suppliers.	2	3	6
R16	Operations	Self-service laundering at home using personal hypoallergenic detergents.	4	2	8
R17	Operations	Emergence of home-use washing machine technology with allergy care features.	4	2	8
R18	Human Capital	Labor regulation issues.	2	2	4
R19	Finance	Fluctuations in the prices of raw materials of laundry.	2	3	6
R20	Finance	Increases in energy costs (electricity, water, fuel).	3	4	12
Internal Risk					
R21	Marketing	Incorrect determination of strategic drop point locations	3	4	12
R22	Marketing	Limited market coverage, with LALABO yet to reach a wide range of major cities in Indonesia	4	2	8
R23	Marketing	Failure to achieve targeted laundry volumes	3	5	15

R24	Operations	Damage to laundry equipment	3	4	12
R25	Operations	Cyberattacks on the LALABO application	2	5	10
R26	Operations	Garments failing the sorting process	3	2	6
R27	Operations	Errors in laundry handling	2	2	4
R28	Operations	Improper waste management leading to environmental contamination	2	4	8
R29	Operations	Shortage of raw materials	2	3	6
R30	Operations	Unstable internet network connectivity	2	3	6
R31	Operations	Absence of additional services such as shoe laundry and dry cleaning	5	2	10
R32	Human Capital	Incompetent employees failing to comply with Standard Operating Procedures (SOPs)	3	5	15
R33	Human Capital	Fraud or deception committed by employees	2	2	4
R34	Human Capital	Workplace accidents	3	3	9
R35	Human Capital	High employee turnover	2	2	4
R36	Finance	High capital requirements compared to conventional laundry businesses	4	3	12
R37	Finance	Unexpected expenses exceeding the allocated budget	3	3	9
R38	Finance	Errors in financial recording	2	2	4
R39	Finance	Failure to manage and pay operational expenses	3	5	15

Source: Author, 2026

In the table above, the Risk Priority Number (RPN) is calculated by multiplying probability and impact. The categories for risk probability are detailed in Table 2 (1: rare, 2: unlikely, 3: possible, 4: likely, 5: almost certain), while the risk impact categories are presented in Table 3 (1: insignificant, 2: minor, 3: moderate, 4: major, 5: catastrophic). The resulting values indicate the priority level of each risk and determine the corresponding mitigation actions to be taken.

Table 4. List of Risk Positions

Color	Risk Position	Risk Response	Risk Action
Red	Extreme	Risk not accepted	Warning – Immediate Action Required
Orange	High	Risk not accepted	Alert – Prompt Action Required
Yellow	Moderate	Risk accepted	Caution – Action Needed
Green	Low	Risk accepted	Monitor and Evaluate

Source: Author, 2026

2.3. Risk Evaluation

Risk evaluation is comparing the results of risk analysis with risk criteria to determine how risk management will be applied (Sanjaya et al., 2020). Risk evaluation is carried out by developing an inherent risk map. The following is LALABO's inherent risk map.

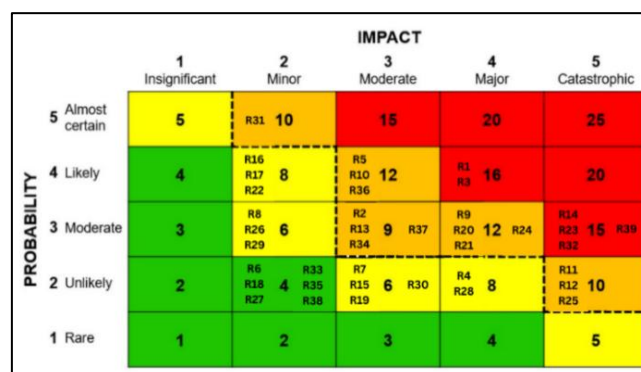


Figure 2. Risk Inhern Map

Source: Author, 2026

The position of risks on the risk map is divided into four levels: Low, Moderate, High, and Extreme. The yellow area below the dashed line represents the LALABO's risk appetite. Risks that are beyond management's risk appetite cannot be tolerated and must be addressed immediately (Iman et al., 2022).

3. Risk Treatment

Risk treatment, also referred to as risk mitigation, involves addressing risks identified through the assessment process that require specific actions (Jusnibilna et al., 2021). Implementing appropriate treatments reduces the level of risk, which can then be reflected in the residual risk map table. Several strategies can be applied in risk treatment, including avoidance, reduction/mitigation, transfer, and acceptance (Mehta, 2024).

Table 5. Risk Treatment

No.	Risk Event	Risk Treatment	Residual		
			Proba- bility	Impact	RPN (Total)
External Risk					
R1	LALABO has not yet established a strong brand image among the public	Conduct extensive marketing activities by offering attractive promotions, loyalty and referral programs, collaborating with influencers, organizing campaigns, increasing testimonials, and activating engagement in local communities.	2	3	6
R2	Appearance of similar competitors.	Develop service advantages that are difficult to imitate, focusing on customer experience and strong brand positioning.	3	2	6
R3	Resistance to changes in customer habits.	Implement marketing campaigns emphasizing ease, time efficiency, and the benefits of smart locker technology, while providing clear visual and written guides at each smart locker location.	3	2	6
R5	Customer complaints.	Enhance quality control standards at every stage of the laundry process in accordance with SOPs. Provide guarantees such as one free rewash for dirty clothes, a 50% discount voucher for delayed deliveries, and compensation for damaged or lost items based on the estimated brand and type of clothing.	3	2	6
R9	Loss or theft of smart lockers.	Ensure CCTV coverage around smart locker locations and use sensor notifications to detect unauthorized access or tampering.	2	3	6
R10	Transportation disruptions during delivery & pickup.	Include buffer time in pick-up and delivery schedules and identify alternative routes considering traffic conditions via Google Maps.	4	2	8
R11	Fire incidents.	Install fire extinguishers (APAR) at retail locations, provide employee training on building electrical systems and occupational safety fire simulations (K3), and arrange business property insurance claims.	2	4	8
R12	Power outages.	Prepare backup generators (genset) to ensure uninterrupted operations.	2	4	8
R13	Flooding.	Select retail locations free from flooding risks, improve internal drainage systems, and secure customers' clothes, equipment, and electrical panels.	3	2	6
R14	Dirty or cloudy water supply.	Regularly monitor water quality, maintain multi-stage water filtration and wastewater treatment systems to prevent pollution, and provide backup water tanks connected to alternative clean water sources (PDAM).	2	4	8
R20	Increases in energy costs (electricity, water, fuel).	Invest in energy-efficient equipment, manage energy usage based on load to avoid waste, optimize operational schedules, install rooftop solar power plants (PLTS), set aside emergency funds to cover unexpected cost, and communicate price changes transparently to customers.	3	2	6
Internal Risk					

R21	Incorrect determination of strategic drop point locations	Conduct feasibility studies on locations and regularly monitor location performance alongside enhanced marketing strategies. Prepare contingency plans for relocating smart lockers if a location proves ineffective.	2	3	6
R23	Failure to achieve targeted laundry volumes	Develop data-driven marketing strategies based on market segmentation and customer persona analysis. Design alternative campaign plans (Plan B) or activation strategies using different promotional approaches such as flash sales, bundling, referral and loyalty programs.	2	4	8
R24	Damage to laundry equipment	Schedule routine maintenance and inspections. Train employees on proper machine operation (SOPs). Manage warranty or insurance claims with third parties.	2	3	6
R25	Cyberattacks on the LALABO application	Coordinate with application developers to secure system and software configurations. Monitor system logs in real-time to detect signs of cyberattacks.	1	4	4
R31	Absence of additional services such as shoe laundry and dry cleaning	Conduct surveys to gauge customer interest in additional services such as shoe laundry and dry cleaning. If positive, prepare the necessary equipment and human resources to support these new services, aiming for LALABO to become a one-stop laundry solution in the medium to long term.	4	1	4
R32	Incompetent employees failing to comply with Standard Operating Procedures (SOPs)	Implement strict onboarding selection and training processes, provide incentives and rewards, conduct coaching, mentoring, and regular performance evaluations. Develop visual SOP videos as quick references in the field.	2	4	8
R34	Workplace accidents	Organize occupational safety and health (K3) training, enforce SOP compliance, & provide first aid equipment.	3	2	6
R36	High capital requirements compared to conventional laundry businesses	Create realistic financial projections, seek investors knowledgeable about the laundry or technology industry, and interested in the hypoallergenic market potential. After operations commence, focus on operational cost efficiency to improve profitability.	3	2	6
R37	Unexpected expenses exceeding the allocated budget	Limit non-essential expenditures, perform budget reforecasting, and provide basic financial training to division managers to increase cost awareness and accountability for budget allocations.	2	2	4
R39	Failure to manage and pay operational expenses	Implement cost-cutting measures and renegotiate contracts with vendors or suppliers to delay payments or obtain discounts. Offer early payment discounts to customers. Maintain an operational emergency fund.	2	4	8

Figure 3 presents the residual risk evaluation matrix following the implementation of treatment measures.

		IMPACT				
		1 Insignificant	2 Minor	3 Moderate	4 Major	5 Catastrophic
PROBABILITY	5 Almost certain	5	10	15	20	25
	4 Likely	R31 4	R30 8 R17 R22	12	16	20
	3 Moderate	3	R2, R3 R5, R8 R13 6	R20, R26, R34, R36 9	12	15
	2 Unlikely	2	R6, R18 R25, R27 4	R33, R35 R37, R38 4	R1, R7 R9, R15 R19 6	R21, R24 R28, R30 6
	1 Rare	1	2	3	4	5

Figure 3. Residual Risk Evaluation Matrix
Source: Author, 2026

4. Communication and Consultation

Communication and consultation are critical stages in the risk management process. The communication and consultation stage aims to support stakeholders in comprehending risks, facilitating decision-making, and determining appropriate treatments for identified risks (Iskandriani et al., 2023). Communication and consultation are carried out based on the following risk escalation Table 6.

Table 6. Risk Escalation

Risk Score	Escalation Level
1-4	Staff
5-8	Responsible Manager
9-12	All manager and report to Director
13-25	Director

Source: Author, 2026

LALABO ensures operational excellence by aligning organizational accountability with risk severity through a structured escalation mechanism. Minor risks (1-4) are managed at the staff level to maintain daily efficiency, while moderate risks (5-8) require manager-level intervention to prevent further disruption. To effectively navigate uncertainties, high-priority (9-12) and critical risks (13-25) trigger collaborative oversight involving all managers and the Director, ensuring that complex threats receive the strategic resources and authority necessary to maintain business resilience.

5. Monitoring and Review

Monitoring and Review is part of risk management that ensures that all stages of the process and risk management function are running well (Wiradarma & Sasmita, 2019). This stage is carried out periodically. The results of monitoring and review are then recorded and reported, serving as input for the review of the risk management framework.

Table 7. Monitoring dan Review

No	Events
1	Risk Manager prepares the risk profile framework and disseminates it to each Division Manager (Finance, Marketing, Operations, Human Resources)
2	Managers and staff of each division fill out the risk profile framework as the <i>risk owners</i>
3	Each Division Manager summarizes the risk profile and reports it to the Risk Manager
4	Risk Manager collaborates with the Director and Division Managers to plan and select appropriate risk treatment actions, especially for priority risks
5	Managers and staff of each division implement the planned risk treatment actions
7	Risk Manager and Director monitor and review the effectiveness of risk treatment implementation and changes in the risk context periodically
8	Risk Manager and all Division Managers prepare a report on the results of risk treatment implementation
9	Risk profile is summarized in the annual risk management report, followed by evaluation for continuous improvement

Source: Author, 2026

The monitoring and review phase functions as a continuous feedback loop designed to sustain operational excellence and proactive resilience. By empowering division managers as risk owners to track shifts in the risk profile, LALABO creates a coordinated system for navigating uncertainties in real-time. This process culminates in a collaborative evaluation and an annual risk report, transforming past challenges into actionable data for continuous improvement and long-term service quality optimization.

6. Recording and Reporting

Recording and reporting are essential to convey risk management processes and results, supply information for decision-making and policy development, enhance the effectiveness of risk management practices, and facilitate engagement with stakeholders (Parviainen et al., 2021). The unit in charge of corporate risk management is required to analyze the generated reports and subsequently deliver the analysis results to the management.

Table 8. Recording dan Reporting

Time	Activity	PIC	Monitored By
1 month	Preparing a monthly Risk Event Report documenting all risk incidents that occurred during the month.	Staff and Manager	Risk Manager
6 months	Preparing a Six-Month Risk Event Summary covering all risk incidents within the six-month period.	Manager	Risk Manager
1 year	Preparing a Risk Management Report.	Risk Manager	Director

Source: Author, 2026

To establish a cohesive feedback loop, LALABO integrates its monitoring and reporting functions into a unified strategic cycle that drives continuous improvement and operational excellence. The process begins with the systematic monitoring identified in Table 7, where division managers act as risk owners to track real-time shifts in the business environment. These observations are then formalized through the multi-layered reporting structure of Table 8, which progresses from monthly incident tracking by staff to a comprehensive annual summary monitored by the Director.

7. Risk Cost Projection

The implementation of planned risk management incurs handling costs and the consequences associated with it (Bakar et al., 2025). Several routine expenses, such as laundry equipment maintenance and waste management, have already been incorporated into the operational budget. The proposed risk management cost plan of LALABO is presented in Table 9.

Table 9. Risk Cost Projection

No.	Types of Costs	< 1 st Year	1 st Year	2 nd Year	3 rd Year	4 th Year	5 th Year
1	Fire Extinguisher (APAR)	6.449.200	0	0	0	6.836.152	0
2	Fire & Gas Detector Alarm System	13.300.000	0	0	0	14.098.000	0
3	First Aid Kit	660.700	0	485.622	495.265	1.205.375	1.029.600
4	Occupational Health and Safety (OHS) Training	14.000.000	0	0	0	7.420.000	0
5	Business Property Insurance	32.370.000	0	33.988.500	35.687.925	62.372.321	65.490.937
6	Operational Vehicle Insurance	24.148.000	0	25.355.400	26.623.170	52.914.583	55.560.312
7	Electronic Equipment Insurance	3.552.500	0	1.310.700	1.336.400	3.855.750	1.663.200
Total		94.480.400	0	61.140.222	64.142.760	148.702.181	123.744.049

Source: Author, 2026

Table 9 provides a multi-year financial roadmap for risk mitigation, ensuring operational excellence by integrating safety and protection costs directly into the business budget. Initial investments of over 94 million focus on fire safety, OHS training, and comprehensive insurance to protect property, vehicles, and electronics. By projecting these costs through the fifth year, LALABO proactively navigates uncertainties associated with physical hazards and equipment failure, ensuring that financial resources are always available to maintain a resilient and secure service environment.

Practical Business Implications in the Laundry Sector

Risk management emphasizes that a business survives by proactively anticipating and preparing for shifts, rather than merely reacting to changes after they occur Ekwere (2016). Within the laundry sector, this risk management approach as observed in LALABO aligns with the findings of Lubis (2023), Nurohimah et al. (2026), Priatna et al. (2026). However, a significant differentiation exists in their business models; while the laundry businesses studied in those researches represent typical SMEs or home-based laundry services,

LALABO operates as a more innovative enterprise by using technological adoption. LALABO has a centralized headquarters for washing operations and administrative tasks, also supported by 10 smart lockers strategically located in high-traffic locations such as stations, apartments, and gyms. The smart locker system enables customers to facilitate seamless drop-off and collection of their laundry. In the following years, the number of smart lockers will be expanded across various strategic drop points.

Regardless of these differing innovation levels, all cases suggest that even for small-scale services implementing a comprehensive risk management process is critical for navigating uncertainties during the early stages of business. Study from Lubis (2023) utilized risk contingency theory for its flexibility, yet this approach often lacks the structured discipline found in formal standards like ISO 31000. In contrast, while Nurohimah et al. (2026) applied ISO 31000, the study did not include a residual evaluation matrix, leaving the post-treatment reduction in probability and impact scores unquantified. Similarly, Priatna et al. (2026) attempted to adopt partial of the standard (risk analysis and treatment), but relied on qualitative descriptors (high/medium/low) rather than providing quantitative metrics during risk analysis. LALABO utilizes the systematic framework of ISO 31000:2018 to foster operational excellence through a more quantifiable approach to risk management.

The findings identified in previous studies necessitate a comprehensive adaptation of ISO 31000:2018 to modernize the sector. LALABO has addressed these gaps by implementing ISO risk management principles, framework, and processes in a highly structured manner. This holistic approach includes defining scope and criteria, conducting rigorous risk assessments, implementing targeted treatments, and ensuring continuous monitoring. By incorporating quantitative metrics and residual risk evaluations, this study provides a more disciplined framework compared to earlier investigations, positioning ISO 31000:2018 as a vital tool for attaining operational excellence in the modern laundry industry.

Through this structured implementation, the distinguishing risk characteristics of creative SMEs like LALABO become evident, lying in the complex interplay between technological adoption and behavioral uncertainty. Generally, risks within the laundry SMEs sector are dominated by operational capabilities, marketing enhancement, and human resource skills. For instance, the recurring issues across the studies of Lubis, (2023), Nurohimah et al. (2026), Priatna et al. (2026) include frequent machinery breakdowns, unstable utility costs, and intense price competition. While LALABO encounters that common risk, its traditional operational challenges are further compounded by 'digital-human interface' risks, such as customer resistance to smart locker systems, the requirement for higher digital literacy, and cyberattacks on the LALABO application. These findings underscore that the most significant threats to creative SMEs often stem from internal process inefficiencies and the difficulty of scaling service quality alongside technological adoption. Consequently, unlike conventional laundries that face static operational risks, creative SMEs must navigate dynamic risks where technical reliability and consumer habit transformation are managed simultaneously to ensure long-term resilience.

CONCLUSIONS AND RECOMMENDATIONS

As a hypoallergenic laundry service utilizing a smart locker system in Jakarta, LALABO is committed to enhancing organizational performance through effective risk management. This study concludes that implementing a comprehensive risk management process is critical for navigating uncertainties during the early stages of business. Beyond large-scale industries, the ISO 31000:2018 framework offers viable applications for other micro and small service-based enterprises due to its flexible and adaptable nature. During the risk analysis phase, operational risks were identified as the most frequent, originating from both internal and external factors. Following the implementation of risk treatments, there was a significant decrease in the probability, impact, and RPN (Risk Priority Number) for each risk event.

The critical importance of operational excellence to LALABO requires that future strategic human resource management focuses on rigorous selection and training to ensure employees possess the necessary skills for business operations. This is particularly crucial since LALABO implements smart locker technology and utilizes digital applications. However, this study is limited by its focus on a single case study. Future studies should focus on how Indonesian laundries adopting smart locker technology and digital applications integrate risk management to achieve long-term sustainability during their business expansion process. Additionally, further studies recommendation could also explore how leadership commitment, employee perceptions, and organizational culture influence the effectiveness and sustainability of ISO 31000 implementation in SMEs.

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