

Green Retail Strategies for Sustainability at the Alfamidi Branch in Bekasi

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Keywords:	Abstract
green retail; energy efficiency; water efficiency; reduce paper; sustainability	This study aims to formulate a Green Retail strategy to improve operational efficiency and sustainability at Alfamidi Branch Bekasi through the implementation of Energy Efficiency, Water Efficiency, and Reduce Paper. The research is motivated by rising operational costs of electricity, water, and paper use, as well as demands for the company to adopt more environmentally friendly and sustainable business practices. The study used a descriptive qualitative approach with data collected through observation, interviews, Focus Group Discussion (FGD), documentation, and company operational data. Analysis was carried out using PESTLE to identify external factors, SWOT to analyze internal and external conditions, TOWS to formulate alternative strategies, Pareto to determine implementation priorities based on operational cost contribution, and 5W+1H to arrange a systematic implementation plan. The results show that Energy Efficiency is the top priority, contributing 73.72% of operational costs, followed by Water Efficiency at 18.78% and Reduce Paper at 7.50%. Strategy implementation includes converting air conditioners to inverter type, using LED lighting, preparing a Solar Power Plant (PLTS) roadmap, controlling and monitoring water use, and digitizing documents to optimize paper use. The implementation results show a 3.55% reduction in electricity cost, a 17.72% reduction in water use, and a 60.36% reduction in paper cost. The implementation of Green Retail also optimizes resource use, reduces environmental impact, improves compliance with sustainability principles, and strengthens Alfamidi Branch Bekasi's reputation as a retail company committed to sustainable business practices.

INTRODUCTION

PT Midi Utama Indonesia, Tbk known as Alfamidi is one of the modern retail companies in Indonesia which was established in 2007 and listed its shares (IPO) on the Indonesia Stock Exchange in 2010. Until 2025, the number of Alfamidi outlets will reach 2,587 outlets spread across Java, Kalimantan, Sumatra, Sulawesi, and Maluku with a total of around 30,000 employees, consisting of 2,503 Regular Alfamidi outlets, 80 Alfamidi Super outlets, and 4 Midi Fresh outlets. Alfamidi Branch Bekasi is one of the largest branches among 12 other branches, overseeing 21 Alfa Supermarket outlets and 393 regular outlets spread across the Greater Jakarta and West Java areas, with a focus on developing outlets in the Bandung, Cirebon, Tasikmalaya, Sukabumi, Cianjur, and Indramayu areas.

The rapid development of the retail industry, the increasing preference of consumers for online shopping, and fierce competition demand modern retail companies to provide a pleasant shopping experience through cool, bright, clean, and well-organized store conditions. On the other hand,

digitalization also encourages corporate responsibility for environmental sustainability, one of which is through reducing the use of paper which has an impact on reducing deforestation. The continuous use of air conditioners according to the outlet's operating hours also increases electricity consumption and operational costs.

The data shows that electricity consumption at the beginning of 2025 is relatively decreasing compared to the same period in 2024, but increasing again in the second quarter. Alfamidi Branch Bekasi, which is located in an industrial area, uses products from regional electricity providers at rates that follow the dollar exchange rate, so that these fluctuations have a direct impact on high operational costs. The total cost of electricity use reaches IDR 4,009,251,312 per year or an average of IDR 334,104,276 per month.

In addition to electricity, Alfamidi Branch Bekasi's operations also depend on the use of water provided by industrial estate vendors, where every liter of water expended is also subject to waste water management costs, so it is one of the main focuses of management in efficiency efforts. The company's administration also still needs hard print documents from various divisions, ranging from printing invoices, making purchase orders, to submitting fees, so that the use of paper is quite high. The year-to-date comparison of paper usage costs (comparison of the previous year's month with the same month in the next period after optimization).

Cost of using paper before the implementation of reduce paper fluctuated between Rp55.8 million to Rp118.9 million per month, while after the implementation of the reduce paper program (reducing grammar, reducing paper size, and digitizing part of the document) the cost was consistently reduced to Rp33,997,260 per month. This condition strengthens the urgency of implementing the Green Retail strategy as an effort to achieve cost efficiency as well as environmental responsibility.

In terms of market position, Indonesia's modern retail industry shows stable growth in line with the increase in people's purchasing power. Based on the Central Statistics Agency, the domestic economy in 2024 will grow by 5.03%, with the highest growth in the other service sectors (9.80%), transportation and trade (8.69%), and the provision of food and beverages (8.56%), while the retail industry grew steadily by 5-6%.

Indomaret occupies the market leader position with a market share of 48.96%, followed by Alfamart at 43.75%, while Alfamidi is in the position of a mid-player with a market share of 5.21%. This condition requires Alfamidi to continue to improve operational efficiency and competitiveness, one of which is through the Green Retail strategy.

Problem Identification and Problem Formulation

Based on this background, several main problems were identified, namely: (1) increasing operational costs of the company; (2) demands for compliance with regulations because the company's location is in an industrial area; (3) high operational impact on the environment; and (4) there is no clear strategy to support sustainability. The problem is formulated into three research questions, namely: (1) what is the current state of energy, water, and paper use; (2) what the company is doing in improving efficiency and sustainability; and (3) how to recommend the implementation of strategies in improving the efficiency and sustainability of the company.

Problem Limitations

This research is limited to: (1) the research object of Alfamidi Branch Bekasi; (2) focusing on the implementation of Green Retail through three indicators, namely Energy Efficiency, Water Efficiency, and Reduce Paper; (3) strategy analysis using PESTLE, SWOT, TOWS, Pareto, and 5W+1H methods; (4) data obtained from observations, interviews, FGDs, documentation, and operational data of the company during the research period; and (5) the evaluation only covers the results of the implementation during the capstone project implementation period without discussing the long-term impact.

Research Objectives and Benefits

This research aims to: (1) reduce the cost of electricity use by 3%; (2) reduce costs and responsibilities for wastewater waste; (3) reduce the cost of using paper by 30%; and (4) improve the company's reputation in environmental responsibility. This research is expected to provide theoretical benefits for the development of operational and sustainability management science, practical benefits for companies and management in the preparation of strategic recommendations and increased awareness of resource use, benefits for future researchers as a reference for Green Retail studies, as well as environmental benefits through waste reduction, reduction of dependence on paper, and support for the achievement of the Sustainable Development Goals (SDGs).

Literature review

Energy Efficiency

Energy efficiency is an effort to reduce energy use and reduce carbon emissions, not only as a way to reduce operational costs but also as an effort to reduce carbon footprint and overcome climate change. The wise use of an air conditioning system is one of the efforts to reduce electrical energy consumption at the Alfamidi Branch Bekasi. Solar Power Plants (PLTS) are a form of renewable energy that utilizes solar energy to generate electricity through solar panels, becoming a strategic solution in reducing dependence on conventional energy and reducing long-term electricity costs while supporting the achievement of the company's sustainability goals.

Water Efficiency

According to WaterSense (US EPA), water efficiency is the smart use of water resources through water-saving technology and simple measures, with the aim of ensuring a reliable and sustainable water supply for the needs of today and future generations. This research focuses on water use efficiency efforts in the Alfamidi Bekasi Branch and its effect on sustainability and operational efficiency.

Reduce Paper

Kristanti et al. (2023) define reduce paper office as a system that shows how to reduce paper use. Reduce paper is the initial initiative to optimize the use of paper at the Alfamidi Bekasi Branch, not a form of management change to full digitalization, but optimization through the change of manual goods receipts to online Goods Receipt Memorandum (NTTB).

Operational Efficiency

Efficiency is an important indicator in measuring company performance. Mukaromah and Supriono (2020) stated that operational efficiency is related to the ability of institutions to manage their resources. Operational efficiency in this study focuses on efforts to reduce operational costs

through the Green Retail strategy with the implementation of energy efficiency, water efficiency, and reduce paper indicators, reviewed from the impact of operational costs, company sustainability, strategy priorities, and supporting or inhibiting factors.

Sustainability

Sustainability is related to the concept of triple bottom line which according to Elkington (1997) is the principal foundation in the application of the Corporate Social Responsibility program, consisting of people, planet, and profit. GVSM provides a more comprehensive basis for designing improvement initiatives that simultaneously improve efficiency and reduce environmental impact (Imaroh et al., 2026). The United Nations organization has a Sustainable Development Goals (SDGs) program consisting of 17 global agendas for 2030. This research is in line with point 7 (Affordable and Clean Energy), point 9 (Industry, Innovation, and Infrastructure), point 12 (Responsible Consumption and Production), and point 15 (Terrestrial Ecosystem), where the Green Retail strategy based on reduce paper also supports the UN program in creating a better future.

Green Retail

Green Retail is a business strategy to reduce damage to the environment. Mahdi et al. (2023) emphasized the importance of integrating Green Retail strategies into the company's overall business strategy to achieve long-term success. The implication of green stores is a derivative of Green Retail which focuses on store operations. According to Testa et al. (2020), green stores are retail operational concepts that emphasize the application of environmentally friendly practices in all operational activities, such as energy efficiency and the use of green technology, which can improve operational performance and company image. Joshi and Rahman (2020) define green stores as a form of Green Retail implementation that integrates environmental aspects in business activities to create added value for companies and consumers.

Previous Research Studies

According to Sekaran and Bougie (2016), previous research studies aim to identify previous findings and find gaps in research that can be developed. A summary of previous research related to this study is presented in Table 4.

Table 4. Previous Research Studies

Yes	Researcher (Year) and Title	Method	Results	Gap
1	Pratiwi, Wolor, & Utari (2025) – Analysis of the Paperless Office System at PT Duraquipt Cemerlang	Descriptive qualitative	Increased efficiency, reduced costs, barriers to adaptation & digital literacy	Only focusing on paperless offices, has not discussed Green Retail widely
2	Astuti (2024) – Implementation of Paperless Office of PT Angkasa Pura I Bali	Qualitative (field study)	Faster administration, still a hybrid system	Focus on paperless administration without retail sustainability strategy analysis

Yes	Researcher (Year) and Title	Method	Results	Gap
3	Putri et al. (2026) – CRM Strategy in Improving Customer Retention in Modern Retail Business	Literature study (meta-synthesis)	Increase customer loyalty & retention	Focus on customer loyalty without operational sustainability
4	Zhong & Huo (2022) – Impacts of Power Structure on Introduction of Green Store Brand	Quantitative, Game Theory	Green store brand improves retail sustainability strategy and supply chain efficiency	Only discussing sustainability efficiency globally
5	Ioannou (2025) – Is the Electronic Trade Documents Act 2023 Sufficient to Promote Paperless Trading Systems	Normative qualitative (legal analysis)	Regulation is not enough without trust and governance	Focuses on electronic document regulation without retail operational implementation
6	Chu & Huynh (2026) – Moderating Effect of Green Customer Behavior and Green Sale Growth	Quantitative (survey + SmartPLS)	Green marketing is positive, green behavior can reduce sales	Focusing on green consumer behavior, it has not yet discussed the company's operational strategy
7	Ayuningtyas & Asifa (2026) – Green Banking and Sustainability of Bank Victoria Syariah	Descriptive qualitative	Not yet optimal in environmental efficiency	Focusing on the Islamic banking sector
8	Khan (2026) – Digitizing Academic Governance for Sustainability	Conceptual (Theory of Planned Behavior)	Paperless system reduces paper consumption & supports sustainability	Focus on academic governance and paperless systems
9	Azizah et al. (2024) – Management Model of Green Office Education Learning	Qualitative descriptive	Green office & paperless improve digital efficiency and competence	Focus on green office education
10	Gatoi et al. (2026) – Green Intelligence in Finance: AI-Driven ESG Analytics	Quantitative (ESG & AI analytics)	Technology-based ESG improves sustainability performance	Focusing on ESG and AI in the financial sector
11	Wahyuni et al. (2025) – Application of the Green Building Concept in Bantaeng Shopping Centers	Qualitative descriptive	Green building improves energy efficiency & operational sustainability	Only discussing green building

Yes	Researcher (Year) and Title	Method	Results	Gap
12	Fricilia (2026) – Application of Office Automation in Government Administration Efficiency	Systematic literature review	Office automation improves efficiency & supports paperless governance	Focus on government administration
13	Gabriele et al. (2022) – Comparison of Competitive Analysis Strategies of Indomaret and Alfamart	Porter's Five Forces	Modern retail needs a sustainable operational strategy & innovation	Focusing on retail business competition without sustainability
14	Syahrir (2023) – Analysis of On-Grid Solar Power Plant Planning at the Port Office of PT Pupuk Kaltim	Quantitative, HelioScope simulation	Solar PV improves energy efficiency & reduces carbon emissions	Only discussing the implementation of solar power plants
15	Fagerholm et al. (2025) – Zero Waste for All? Sustainable Practices in a Zero Waste Community	Case studies (interviews, thematic analysis)	Zero waste forms a culture of sustainability through lifestyle changes	Focusing on a zero waste community
16	Wikurendra et al. (2023) – Municipal Waste Management with Zero Waste Concept in Indonesia	Literature review	Zero waste supports waste reduction & resource efficiency	Focusing on municipal waste management
17	Aprinawati et al. (2025) – The Effect of Process Efficiency and Service Quality on Consumer Loyalty	Quantitative, multiple linear regression	Process efficiency & service quality have a positive effect on loyalty	Focus on consumer loyalty and quality of service
18	Arifin & Ramli (2025) – Green House Innovation in Galeso Village	Green house installation, IoT, observation	Greenhouse technology improves water and fertilizer efficiency	Focusing on the greenhouse-based agriculture sector
19	Ramli et al. (2025) – The Effects of Green Technology, Energy Efficiency and Environmental Concerns	Quantitative (Smart-PLS)	Green technology, energy efficiency, & environmental concern have a positive effect on the sustainable environment	Focusing on the oil industry
20	Imaroh, Purwanto, & Indrajaya (2026) – Sustainable Production Optimization in Food MSMEs (GVSM, SWOT, AHP)	Descriptive-qualitative, GVSM-SWOT-AHP	Successfully identify waste production and priorities for sustainable production strategies	Focusing on food MSMEs

Yes	Researcher (Year) and Title	Method	Results	Gap
21	Nugroho & Iskandar (2020) – Application of AHP for Supplier Selection in Construction Companies	Analytical Hierarchy Process (AHP)	Quality is the top priority for supplier selection	Focusing on the selection of construction suppliers

Source: Journal of Attached Publications.

Based on previous research studies, it can be concluded that although the implementation of paperless and the concept of sustainability has been extensively researched, there are still limitations in the integration of the two, especially in the context of the modern retail sector. This research is differentiating because it integrates three main indicators, namely Energy Efficiency, Water Efficiency, and Reduce Paper, in one Green Retail strategy which is compiled using a combination of PESTLE, SWOT, TOWS, Pareto, and 5W+1H analysis.

Frame of Mind

The framework of this research began with business phenomena in the form of increasing costs of electricity, water, and paper use, as well as increasing demands for the implementation of sustainable business practices and Environmental, Social, and Governance (ESG) principles at Alfamidi Branch Bekasi. This condition encourages the identification of problems related to the lack of an integrated Green Retail strategy, which is then analyzed using the theoretical foundations of Green Retail, Energy Efficiency, Water Efficiency, Reduce Paper, Operational Efficiency, Sustainability, Triple Bottom Line, ESG, and SDGs. Data is collected through observation, interviews, FGDs, documentation, and operational data, then analyzed descriptively, followed by the analysis of PESTLE, SWOT, TOWS, Pareto, and 5W+1H, resulting in the formulation of a Green Retail strategy that focuses on three main programs and is implemented through various operational programs, resulting in the achievement of operational efficiency and sustainability of Alfamidi Branch Bekasi.

METHOD

This study used a mixed method approach namely qualitative descriptive data collection through FGD and interviews with General Service Managers and Operational Managers, as well as analysis of reports on the use of electricity, water, and paper energy at Alfamidi Branch Bekasi. The results of data collection are processed using simple statistics to determine the indicators that need to be addressed to create efficiency and sustainability for the company.

Table 5. Design and Research Objects

Yes	Aspects	Remarks
1	Types of Research	Descriptive Qualitative
2	Research Object	Energy Efficiency, Water Efficiency, and Reduce Paper Indicators of Alfamidi Branch Bekasi operations

Yes	Aspects	Remarks
3	Research Subject	General Service Manager and Operational Manager as the person in charge of energy and paper operations Energy and paper usage reports
4	Research Location	Alfamidi Branch Bekasi
5	Research Time	May 2026 – July 2026
6	Unit of Analysis	Location area: 10,000 m ² Number of employees: 5,000
<i>Source: Company Internal Data.</i>		

Table 6. Research Data Sources

Yes	Type	Remarks
1	Primary Data	Focus Group Discussion (FGD) with the relevant person in charge Interviews with operational management Observation of field practices related to energy and paper use
2	Secondary Data	Alfamidi Branch Bekasi operational performance report
<i>Source: Company Internal Data.</i>		

Data collection techniques were carried out through FGD and semi-structured interviews with four respondents (General Service Manager, Operational Manager, General Affair Coordinator, and Fixed Asset Coordinator), as well as direct observation of the use of electricity, water, paper, operational conditions, and the implementation of the Green Retail strategy. The focus of interview questions and FGDs is presented in Table 7.

Table 7. Focus of Interview Questions and FGDs

Key Focus	Question Summary	Related SDGs
Energy Efficiency	The current conditions of electrical energy use; plans for the use of solar PV/energy-saving technology; energy-saving AC switching effectiveness	SDG 7, SDG 13
Water Efficiency	Water use management; efforts to control water and waste discharge; The Effect of Water Efficiency on Operational Costs	SDG 6, SDG 12
Reduce Paper	Management of paper use; efforts to reduce the use of paper; Effectiveness Reduces Size, Gramation, and Type of Paper	SDG 12
Green Retail	The main objectives of the implementation of the Green Retail strategy	SDG 9
Sustainability	The company's long-term sustainability targets	SDG 11

Source: Results of Researcher Analysis.

Descriptive analysis was used to describe the actual conditions of the use of electricity, water, and paper energy in the operations of Alfamidi Branch Bekasi. The indicators used are presented in Table 8.

Table 8. Research Descriptive Analysis Indicators

Indicator	Size/Coverage
Energy Efficiency	The use of electricity KWH, the use of energy-efficient equipment, and the timing of equipment use
Water Efficiency	Water discharge use, area wastewater cost, water use control
Reduce Paper	Reduction in grammar, reduction in paper size, reduction in paper usage, digitization of approval and report, reduction in paper waste

Source: Results of Researcher Analysis.

The data analysis then uses the PESTLE (Political, Economic, Social, Technological, Legal, Environmental) method to identify external factors; SWOT (Strengths, Weaknesses, Opportunities, Threats) to identify internal and external conditions; TOWS to formulate alternative strategies; Pareto analysis with the formula $\text{Percentage} = (\text{Indicator Value} / \text{Overall Total}) \times 100\%$ to determine the priority of the indicator based on cost contribution; and 5W+1H (What, Why, Who, When, Where, How) to formulate a systematic implementation plan. Data validity is obtained through triangulation by checking the credibility of data from various techniques and data sources, while data reliability is carried out through consistent data collection, combining data with analysis results, and documenting the entire project flow. The implementation of the research was prepared for approximately three months (May-July 2026), including the preparation stages of proposals and literature studies, data collection, data processing and analysis, preparation of results and discussions, preparation of final reports, and revision and finalization.

RESULTS AND DISCUSSION

Existing Resource Usage Conditions

The results of observations and interviews show that the existing conditions of energy, water, and paper use in the Alfamidi Branch of Bekasi are still dominated by conventional patterns that are not yet fully efficient. A summary of the conditions before the project, the impact caused, and the proposed Green Retail strategy for each indicator is presented in Table 9.

Table 9. Existing Conditions and Green Retail Strategy of Alfamidi Bekasi Branch

Indicator	Pre-Project Conditions	Impact	Green Retail Strategy
Energy Efficiency	The use of electricity has not used renewable energy	Dependence on conventional electricity; high operational costs; greater carbon emissions	Gradual implementation of renewable energy through solar PV
Energy Efficiency	Total electricity cost of IDR 4,009,251,312/year (average	Electricity costs are the largest operational	Optimization of electricity

Indicator	Pre-Project Conditions	Impact	Green Retail Strategy
	IDR 334,104,276/month); Air conditioning & lights on during operating hours	component; Wasted time without monitoring	consumption monitoring, setting operating hours, replacement of inverter air conditioners & LED lights
Water Efficiency	Water use has not been monitored regularly; No savings target yet	Difficult to identify waste; Water use has not been optimally controlled	Periodic water discharge monitoring, target setting, and periodic evaluation
Water Efficiency	Water fees are charged according to consumption and waste; No water saving tools yet	Increase operational costs; Relatively high-water consumption	Water efficiency program with automatic timer and flow controller
Reduce Paper	There is no paper reduction target yet; Paper types and sizes vary	Efficiency has not been measured; ATK fees increase; high paper waste	Setting paper reduction targets, standardizing paper size & grammatical
Reduce Paper	The administrative process still uses a lot of physical documents	High paper consumption; Operational costs increase	Document digitization and paperless administration

Source: Results of Researcher Analysis.

PESTLE Analysis

The PESTLE analysis is used to identify external factors that affect the implementation of the Green Retail strategy. The results of the PESTLE analysis are presented in Table 10.

Table 10. PESTLE Analysis Results

Aspects	Analysis Indicators	Linkage
Politics	Government policies related to sustainability, energy efficiency, and green business	Supporting the implementation of Green Retail through environmental regulations and energy efficiency programs
Economy	Rising electricity, water, and company operational costs	Encouraging operational efficiency through energy efficiency, water efficiency, and reduce paper
Social	Public awareness of the environment and sustainability	Increasing consumer demand for eco-friendly retail
Technological	The development of energy-saving technology and digitalization	Supports the implementation of solar PV, energy-efficient AC switching, water monitoring, and paperless systems

Aspects	Analysis Indicators	Linkage
Legal	Regulation of waste management, energy, and environmental standards	Becoming the basis for the company's compliance in the implementation of Green Retail
Environmental	Climate change issues, resource scarcity, environmental pollution	Encourage the implementation of sustainability and resource efficiency strategies

Source: Results of Researcher Analysis.

The results of PESTLE's analysis show that the implementation of Green Retail is influenced by increased operational costs, government regulatory support, resource-saving technology developments, and increasing public awareness of environmental issues. These results are the basis for the preparation of a SWOT analysis.

SWOT and TOWS Analysis

Table 11. Matrix SWOT

Strengths (S)	Weaknesses (W)
1. The company's commitment to sustainability 2. Opportunities to implement energy efficiency and reduce paper 3. Potential operational cost efficiency through Green Retail 4. Modern retail brands are easier to adopt Green Retail	1. The initial investment in the implementation of Green Retail is quite high 2. Not all operations use energy-saving and paperless systems 3. Monitoring of energy and water use is not optimal 4. There is still a high use of operational paper
Opportunities (O)	Threats (T)
1. Sustainability and ESG trends are increasing 2. Development of energy-saving technology and digitalization 3. Government regulatory support for green business 4. Consumer awareness of eco-friendly businesses increases	1. Increase in electricity and operational water costs 2. Changes in increasingly stringent environmental regulations 3. High cost of implementing environmentally friendly technology 4. Risk of operational inefficiencies if implementation is not optimal

Source: Results of Researcher Analysis.

Table 12. Matrix TOWS

	Opportunities (O)	Threats (T)
Strengths (S)	SO Strategy: 1. Developing the implementation of Green Retail through energy-saving technology and operational digitalization 2. Utilizing sustainability commitments to improve the image of Green Retail	ST Strategy: 1. Optimize energy and water efficiency to reduce the impact of rising utility costs 2. Utilizing sustainability commitments to meet environmental regulations

	Opportunities (O)	Threats (T)
	3. Optimizing reduce paper and energy efficiency to support the company's ESG	3. Develop more efficient and environmentally friendly retail operations
Weaknesses (W)	WO Strategy: 1. Utilizing technological developments to improve the implementation of Green Retail 2. Develop digital-based electricity, water, and paper usage monitoring 3. Reduce paper use through digitization of operational documents	WT Strategy: 1. Prioritize the implementation of Green Retail based on operational cost efficiency 2. Increase supervision of energy, water, and paper use to reduce waste 3. Arrange the implementation of Green Retail in stages according to the company's ability

Source: Results of Researcher Analysis.

The results of the SWOT analysis show that Alfamidi Branch Bekasi has strengths in the form of the company's commitment to sustainability and management support, but still faces weaknesses in the form of limited resources and investment needs. Increasing public attention to environmental issues and government regulatory support are opportunities, while changes in economic conditions and rising operational costs are threats. The results of the SWOT analysis are used as the basis for the preparation of the TOWS Matrix to formulate a Green Retail strategy that is most suitable for the conditions of Alfamidi Branch Bekasi.

Pareto Analysis

Pareto analysis is used to determine the indicators that have the largest contribution to operational costs. The total operating costs for the three indicators are presented in Table 13.

Table 13. Company Operating Costs Based on Green Retail Indicators

Indicator	Total Cost per Year (Rp)	Average Cost (Rp)
Energy Efficiency	4.009.251.312	334.100.000
Water Efficiency	1.021.161.302	84.000.000
Reduce Paper	407.900.000	33.990.000
Total	5.438.312.614	452.000.000

Source: Company Internal Data (processed).

The percentage contribution of each indicator is calculated using the formula $\text{Percentage} = (\text{Variable Value} / \text{Total Variable Value}) \times 100\%$, then sorted into cumulative percentages based on the largest to smallest contribution. The results of the Pareto analysis are presented in Table 14.

Table 14. Pareto Analysis Results

Yes	Indicator	Cost (Rp)	%	% Cumulative
1	Energy Efficiency	4.009.251.312	73,72%	73,72%
2	Water Efficiency	1.021.161.302	18,78%	92,50%

Yes	Indicator	Cost (Rp)	%	% Cumulative
3	Reduce Paper	407.900.000	7,50%	100,00%
	Total	5.438.312.614	100,00%	

Source: Company Data, processed by researchers.

Based on the results of the Pareto analysis, Energy Efficiency is the indicator with the largest cost contribution (73.72%), followed by Water Efficiency (18.78%) and Reduce Paper (7.50%). Based on the Pareto principle (80/20), the priority order of implementation of the Green Retail strategy at Alfamidi Branch Bekasi is: (1) Energy Efficiency; (2) Water Efficiency; and (3) Reduce Paper. This order of priorities is the basis for the preparation of the implementation roadmap and action plan.

5W+1H Analysis

The 5W+1H analysis was used to formulate a systematic Green Retail strategy implementation plan, involving four resource persons as presented in Table 15.

Table 15. Research Resource Persons

Yes	Initials of Resource Persons	Departments
1	RPI	GS Manager
2	ABY	Technical Manager
3	RPO	GA Coordinator
4	PTO	FA Coordinator

Source: Company Internal Data (name withheld).

Table 16. Results of the 5W+1H Green Retail Strategy Analysis

Aspects	Energy Efficiency	Water Efficiency	Reduce Paper
What	Switching AC inverter gradual Usage & switching of LED Lights Implementation of solar PV installation	Installation of the flow controller on the water tap Periodic monitoring of water usage Inspection & repair of pipe leaks	Digitization of administrative documents Reduction of grammar & paper size Electronic document optimization
Why	Pareto top priority (73.72%); switching AC & lamp control energy consumption; Solar PV reduces conventional energy	Pareto's second priority (18.78%); monitoring helps identify waste; Leak repair reduces costs	The third priority is Pareto (7.50%); digitalization reduces paper consumption; Supporting environmental sustainability
Who	General Service Manager; General Affairs & Fixed Assets; Entire Department	General Service Department; Technical Support; Entire Department	General Service Manager; General Affairs & Fixed Assets; Entire Department
When	Short term (1 year): switching AC & lights; intermediate (1–3 years):	Short term (≤ 1 year): flow controller & monitoring; secondary (1–3 years):	Short term (≤ 1 year): digitization & double-sided printing; intermediate (1–3

Aspects	Energy Efficiency	Water Efficiency	Reduce Paper
	equipment replacement; length (2–5 years): Solar PV	inspection & repair; Length (2–5 years): continuous evaluation	years): grammatical/size adjustments; length (2–5 years): digital document optimization
Where	Office, Warehouse, Shop	Office, Warehouse, Shop	Office, Warehouse, Shop
How	KPI/SOP-based strategies; the use of energy-saving equipment; Solar PV implementation roadmap	Water use audits; installation of flow controllers & leak repair according to SOPs; Monitoring of water efficiency KPIs	Digitization of documents; implementation of paperless administration; Standardization of paper size

Source: Results of Researcher Analysis with FGD and Interview.

Implementation is carried out in stages according to priorities: Reduce paper as a short-term initiative because it is easy to implement with low investment; Water efficiency as a medium-term program that focuses on periodic monitoring and evaluation; while Energy efficiency is planned as a medium to long-term program because it requires greater investment such as solar power and the replacement of energy-saving equipment.

Results of the Implementation of the Green Retail Strategy

The results of the implementation of the Green Retail strategy in the first month of the project trial, compared to the same month in the previous year, are presented in Table 17.

Table 17. Results of Green Retail Strategy Implementation (Before vs After)

Indicator	Before	After	Decline	Initial Target
Energy (Electricity Cost)	IDR 340,000,000	IDR 328,000,000	3,55%	3%
Water (Volume of Water)	3.070 m ³	1.164 m ³	62,08%	50%
Paper (Paper Cost)	IDR 85,776,064	IDR 33,997,260	60,36%	50%

Source: Results of Researcher Analysis (data processed).

All three indicators show achievements that exceed the initial target. The reduction in electricity costs by 3.55% was obtained from the process of controlling and switching the air conditioner through the installation of an automatic timer (on at 07.00 WIB and off at 17.00 WIB), setting the air conditioner of the prayer room only on for 1 hour during worship, and manual switching of lights in the work area. The decrease in water use by 62.08% (from 3,070 m³ to 1,164 m³) was obtained from the installation of automatic timers, water rate control devices, and periodic monitoring and control of water use. The reduction in paper costs by 60.36% (from IDR 85,776,064 to IDR 33,997,260, or a decrease of IDR 51,778,784) was achieved through the reduction of the grammaton of A4 paper from 80 grams to 70 grams, the reduction of paper size from 91/2 × 131/2 inches to 91/2 × 111/2 inches, as well as the digitization of some operational documents. The action plan and status of the implementation checklist are presented in Table 18.

Table 18. Action Plan and Implementation Checklist

Indicator	Action Plan	Checklist
Energy Efficiency	Installation of solar power plants	Installation process
Energy Efficiency	Controlling & switching the use of air conditioners and lights during operating hours	Already
Energy Efficiency	Energy-saving equipment replacement	Phased process
Water Efficiency	Automatic timer installation	Already
Water Efficiency	Installation of water speed control devices	Already
Water Efficiency	Controlling water usage	Already
Reduce Paper	Reduce Grammar	Already
Reduce Paper	Reduce size	Already
Reduce Paper	Digitization of part of administration	Phased process

Source: Results of Researcher Analysis.

Discussion and Implications

The results of the study show that the Green Retail strategy through Energy Efficiency, Water Efficiency, and Reduce Paper is able to support operational efficiency as well as the sustainability of Alfamidi Branch Bekasi. This finding is in line with Mahdi et al. (2023) who emphasized that the Green Retail strategy needs to be integrated into operational activities to achieve long-term business success, as well as the concept of green stores according to Testa et al. (2020) that energy efficiency, environmentally friendly technology, and resource optimization can improve operational efficiency while strengthening the company's image.

The results of the study also support the concept of the Triple Bottom Line (Elkington, 1997): the implementation of Energy Efficiency provides economic benefits through reduced electricity costs, environmental benefits through a reduction in conventional energy consumption and carbon emissions, and social benefits through a more comfortable working environment; Water Efficiency reduces water use and industrial area waste costs; while Reduce Paper supports the digitization of administration and reduces paper consumption. Based on Pareto analysis, Energy Efficiency is a top priority because it contributes the largest operational costs, so it deserves to be the main focus of the implementation of Green Retail at the Alfamidi Bekasi Branch. This research has novelty because it integrates three main indicators in a Green Retail strategy in the modern retail industry, something that has not been done much in previous studies that generally only discuss one aspect of sustainability.

Managerial Implications

Implementation recommendations are prepared based on three-time horizons taking into account the ease of implementation, investment needs, and readiness of the company, as presented in Table 19.

Table 19. Recommendations and Managerial Impact

Period	Recommendations	Managerial Impact
Short Term (0–1 Year)	Regular monitoring of electricity, water, and paper use; Implementing Reduce Paper through Document Digitization	Increase resource utilization awareness, reduce paper consumption, improve administrative efficiency
Medium Term (1–3 Years)	Changing non-inverter air conditioners to phased inverter air conditioners, use of LED lights, integrated energy & water monitoring	Reduce energy and water consumption, improve operational cost efficiency, control of resource use
Long-term (3–5 years)	Implementation of renewable energy (PLTS); develop the concept of Green Retail in the company's sustainability strategy	Supporting sustainability, reducing carbon emissions, improving long-term efficiency, strengthening competitiveness

Source: Results of Researcher Analysis.

Academic Implications

Table 20. Academic Recommendations and Impact

Aspects	Academic Implications
Theoretical Contributions	Strengthening the concept of Green Retail as a strategy to increase operational efficiency and corporate sustainability
Variable Contribution	Integrating Energy Efficiency, Water Efficiency, and Reduce Paper in one Green Retail strategy
Methodological Contribution	Provide a combination of PESTLE, SWOT, TOWS, Pareto, and 5W+1H analysis for the preparation of Green Retail strategies
Further Research Contributions	Becoming a reference for Green Retail, sustainability, and operational efficiency research in the retail sector and other industries

Source: Results of Researcher Analysis.

This research makes an academic contribution to the development of operational management, strategy management, and sustainability, especially regarding the implementation of Green Retail in the modern retail sector in Indonesia. Unlike previous research which generally only discussed one aspect of sustainability, this study combines three indicators in one strategy framework that is tailored to the operational characteristics of retail companies.

Implementation Plan

The implementation plan is prepared based on the strategic priority results of the Pareto and 5W+1H analyses so that each program has clear targets, responsible persons, implementation times, and risk mitigation, as presented in Table 21.

Table 21. Green Retail Strategy Implementation Plan

Strategy	Activities	PIC	Target	Time	Cost	Risks
Energy Efficiency	Electricity monitoring, AC timer, AC inverter, PV	GS & Maintenance	$\geq 3\%$	1–5 Years	Height	Phased implementation
Water Efficiency	Water monitoring, timer, flow control	GS	$\geq 20\%$	1–3 Years	Medium	Periodic evaluation
Reduce Paper	Reduce gramation, reduce size, digitization	GS & All Dept	$\geq 50\%$	0–1 Year	Low	Socialization

Source: Results of Researcher Analysis.

The Reduce paper program is positioned as a short-term initiative because it is relatively easy to implement with low investment and has had a real impact on reducing paper costs. Water efficiency is focused on controlling water use through monitoring and the use of supporting devices, while energy efficiency is implemented in stages because it requires greater investment such as replacing inverter air conditioners and implementing solar PV. Successful implementation requires management commitment, coordination between departments (General Service, Maintenance, Information Technology, Warehouse, and all user departments), determination of Key Performance Indicators (KPIs), and periodic evaluation of target achievement.

CONCLUSION

Alfamidi Branch Bekasi faces operational efficiency challenges due to high electricity, water, and paper costs, so a Green Retail strategy is needed that supports efficiency and sustainability of the company. The results of the analysis of PESTLE, SWOT-TOWS, Pareto, and 5W+1H show that Energy Efficiency is the top priority with a cost contribution of 73.72%, followed by Water Efficiency 18.78% and Reduce Paper 7.50%, so that the implementation is focused on energy control first. Implementation showed positive results: electricity costs decreased by 3.55% (exceeding the target of 3%), water use decreased by 62.08% through automatic timers, water discharge control devices, and periodic monitoring, and paper costs decreased by 60.36% through reducing grammar and paper sizes and digitizing part of the administration. Based on these achievements, it is recommended that Green Retail be made a permanent part of the company's operational strategy in a sustainable manner. For Energy Efficiency, the company is advised to continue periodic electricity monitoring, optimize inverter air conditioners and LED lights, and implement the solar PV roadmap in stages. For Water Efficiency, companies need to maintain monitoring, automatic timers, water rate control devices, and periodic evaluations considering that the location is in an industrial area with water waste costs. For Reduce Paper, companies are advised to continue reducing the grammatical and paper size and gradually expand document digitization to cover the entire administrative process. The company also needs to establish Key Performance Indicators (KPIs) as a measure of success, evaluated periodically, supported by coordination between departments (General Service, Maintenance, Information Technology, Warehouse, and all user departments), socialization and training of employees, as well as risk mitigation in the form of limited initial investment and resistance to change through gradual

implementation according to the priority scale and strengthening of standard operating procedures (SOPs). Through planned, measurable, and sustainable implementation, Alfamidi Branch Bekasi is expected to be able to increase operational efficiency, optimize resources, reduce environmental impact, and strengthen competitiveness as a modern retailer that is oriented towards sustainability.

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