

Implementation Study of ISO 14001:2015 in the PT X Textile Industry, Karanganyar Regency, Central Java Using AHP Analysis

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Article history

Received	Received in revised form	Accepted	Available online
11 October 2024	05 November 2024	19 November 2024	25 November 2024

Abstract: PT X, one of the textile industries engaged and located in Central Java Province, has implemented ISO 9001: 2015 about the quality management system, but its application has not been efficient in understanding or managing the environmental problems caused so it is necessary to prepare SML (Environmental Management System) implementation of ISO 14001: 2015 in its production activities. This study analyzed not only the preparation but also the implementation of ISO 14001: 2015 using AHP (Analytical Hierarchy Process) through Expert Choice 11 programs, starting with documentation, the SML ISO 14001: 2015 checklist, an interview process. The results have concluded synthesis of ISO 14001: 2015 in PT X could be implemented wherein the lowest strategic value of 0.12 new tools or technology (modernization), followed by regulatory improvements and human resources planning were 0.131 and 0.291. The highest strategic value for the implementation of an Environmental Management System (EMS) was 0.458 with a strategy references, i.e. additional human resources or personnel related to the Leadership and Planning Clause in the field of Electrical and Quality Control, including planning for chemical monitoring carried out in the Operation Clause, as stated by Forestry Regulation Ministry.

Keywords: AHP analysis, environmental system, ISO 14001:2015

1. Introduction

The environment is an important aspect that must be managed in human life. The development of infrastructures and facilities, both national and regional, must be studied and discussed together with the environmental impact analysis of industrial facilities and infrastructure [1]. The management and use of the environment related to facilities, infrastructure and industrial-scale projects must be studied early, analyzed, and declared for their viability, including previously valid environmental permits [2]. One method to evaluate environmental impact analysis is through AMDAL (Environmental Impact Analysis), monitoring and management through UKL-UPL (Environmental Management Efforts-Environmental Monitoring Efforts), and ISO 14001, which work to overcome the emerging environmental risks and improve environmental performance in an agency or industry.

The management of environmental problems at a global level can be carried out with the existence of an EMS (Environmental Management System), the tool to manage and analyze environmental impacts. Management of various environmental aspects in an agency or industry is by planning and implementing environmental protection by increasing efficiency in the use of natural resources, maximizing profits and environmental performance of efficient operations and formation of a positive view of the agency by reducing the level of environmental pollution.

Responsibility increased the important understanding of the environmental impact of industrial activities produced [3]. The success of the EMS in an agency can be measured by implementing the ISO 14001:2015 standard through the study of environmental sustainability strategies such as policies and procedures, evaluation and training of management performance, unity, and harmony of vision of employees. agency, integrity, and monitoring, agency management information, emergency preparedness, and the formal risk management system [4]. The existence of a performance evaluation system, rewards and punishments as well as training will improve the Object of Employment or performance of employees in the SML itself [5], including the planning regarding environmental management that continues to be carried out through each Standard Operating Procedure (SOP) to ensure more consistent, efficient performance by minimizing expenses and error rates, as well as continuous monitoring [6].

PT X is a textile industry whose activities move in part dyeing, printing, finishing, and this location is in Karanganyar Regency, Central Java. Production activities that use various chemicals in PT X tend to reduce and even contaminate the quality of the environment around the industrial area with the B3 waste (Toxic and Hazardous Substances) produced. PT X has implemented the ISO 9001:2015 standard regarding the quality management system with sufficient results or a percentage score of 76.25% in

external audits, but in its implementation, the environmental problems that arise have not been understood or managed, so it is necessary to prepare. An SML (Environmental Management System) implementation of the ISO 14001:2015 standard in its productive activities. Apart from that, there needs to be a uniform understanding among employees regarding environmental management and monitoring responsibilities, and consistency in meeting standards in PT X's Environmental Management System (EMS) is also not effective yet.

The implementation of ISO 14001:2015 in PT X is expected to be useful in improving environmental performance and complying with applicable environmental laws and regulations, including reducing the impact of environmental pollution [7]. This will provide a positive image of the agency in reducing the risk of environmental pollution by improving the Environmental Management System (EMS) [8]. Apart from that, it is expected that public and employee understanding will increase and environmental management efforts can be carried out effectively [9]. One of the tools used in this study using AHP (Analytical Hierarchy Process) analysis. AHP analysis was used to resolve complex and unstructured situations into several components in a hierarchical order by giving subjective values regarding the relative importance of variables and determining which variables have the highest priority in influencing the outcomes of the situation [10], many researches have used AHP method, like at the PT Surya Sentosa Sejahtera (PT SSS) tea factory, which reviews management reviews against criteria of location, financial viability and operational needs before establishing the factory while in PT X it is based on the criteria of the ISO 14001:2015 clause [11] and in the selection of the best employees, as in the Dharmais Cancer Hospital being at PT X to learn about the implementation strategy of ISO 14001:2015., through references to the criteria of work results, initiative at work, compliance and duration of service [12], as well as the strategy to select the best suppliers of raw materials based on price, quality, delivery time and service, including consideration of halal certification, physical observation and commitment to cooperation with the supplier's office while PT X includes EMS criteria, for regulatory changes, human resource acquisition, and new technologies [13].

2. Material and Methods

2.1. Type of Research

Experiments in this research will be carried out in PT X. This research is included in the quantitative descriptive research type to obtain information about PT X's preparations for the implementation of the ISO 14001:2015 standard. Until now, PT X continues to implement the ISO 9001:2015 standard.

2.2. Methods

2.2.1. Source of Information

The data used in this research were primary and secondary data. Primary data was collected using a purposive sampling method by completing a checklist and interviewing 5 stakeholders including the Head of Environmental Affairs, Head of Environmental Shift, Head of the Public Services Department, Head of General Affairs, and the Head of General Affairs for information on preparations. to implement ISO 14001:2015 EMS and location monitoring in PT X. Secondary data was obtained from the results of the ISO 9001:2015 documentation study process with ISO 14001:2015 and other PT X related data. Organizational structure data is used to determine the staff composition and authority of employees at PT X.

2.3. Research Instruments

The instruments used in this research were interview guides, observation guides for field monitoring related to PT X, and the ISO 14001:2015 checklist. The following stages include the development of interview guides, observation guides or guides for field monitoring and the ISO 14001:2015 checklist. The development of this instrument was carried out to obtain information about the preparations for the implementation of the EMS ISO 14001:2015 standard in PT X. The analysis of the implementation of the SML ISO 14001:2015 Standard will be carried out in the context of the organization, leadership, planning, support, operations, performance evaluation and Improvement (improvement) clauses through the GEMI (Global Environmental Management) Self-Assessment Initiative) 2017. The GEMI ISO 14001:2015 checklist includes all the general requirements and even an overview of the topics or categories to be evaluated and, upon completion of this checklist, will show the condition or scope of the implementation of PT X EMS ISO 14001:2015.

2.4. Data Collection and Analysis

The research stages begin with documentation studies, preparation of research instruments, collection of research data, analysis of observation results, analysis of interview results and results of filling out the EMS ISO 14001:2015 checklist followed by recommendations for implementation and environmental sustainability. The documentation study is a stage that consists of the process of identifying differences between ISO 9001:2015 and EMS ISO 14001:2015, including the identification of the implementation ISO 9001:2015 in PT X and the identification of the clauses in ISO 14001:2015. The stages of preparing the research instruments include the preparation of field observation guidelines and interview guidelines for actors in PT X through the GEMI checklist ISO 14001. Environmental sustainability can be seen from the activities carried out by PT X not polluting the environment, environmental

conditions, or problems around PT X are taken into account and the conditions of PT X's existence have the potential to be sustainable.

The GEMI ISO 14001 checklist application is an application template that contains various questions on clauses such as organizational context, leadership, planning, support, operations, evaluation, and performance improvement. Each question has an answer value from 0 to 2 as shown in Table 1 below. PT X value of 0 indicates that PT X has not implemented the requirements of the question asked at all, a value of 1 if PT X has met or partially implemented the requirements, and a value of 2 if PT X has fully met the requirements.

Table 1. Description of the GEMI ISO 14001 checklist evaluation interval

Description	Score
PT X has not met this requirement	0
PT X has partially fulfilled this requirement	1
PT X has fully complied with this requirement	2

Data obtained from using the GEMI ISO 14001 checklist can show whether improvements need to be made or not. The use of the GEMI ISO 14001 checklist can facilitate researchers to find the root of agency problems related to aspects of environmental sustainability [14]. Agencies may also review or further analyze which clauses, sections or departments need improvement and/or development in their performance or activities. The total value or score obtained by completing the GEMI ISO 14001 checklist evaluation can be compared to the EMS implementation evaluation interval in Table 2 below using GAP analysis and Table 3 on the compliance or sustainability level category [15]. The function of GAP Analysis is to know and analyze gaps in the planning of EMS implementation, including the evaluation stage of the skills or competencies obtained [16].

Table 2. Evaluation Interval for the Implementation of the Environmental Management System (EMS)

Score (%)	Information
75-100	The company is ready to implement and carry out ISO 14001:2015 certification
50-74	The company partially implements and must improve EMS ISO 14001:2015
1-49	The company really needs to improve because it has not implemented EMS ISO 14001:2015

Table 3. Classification Evaluation ISO 14001:2015

Score (%)	Sustainability Dimension
75-100	The level of compliance with ISO 14001:2015 is poor, and not yet ready for certification
50-74	The level of compliance with the ISO 14001:2015 standard is good, a transition is still necessary to improve the EMS ISO 14001:2015
1-49	The level of compliance with the ISO 14001:2015 standard is satisfactory and certification has been achieved.

The data that has been collected will be processed and analyzed using the AHP method. The results of this analysis will show PT X's readiness to implement ISO 14001:2015, including strategies or recommendations for implementing ISO 14001:2015 EMS so that environmental sustainability at PT X can be accomplished.

3. Results and Discussion

The application of ISO 9001:2015 in PT X shows a sufficient score or a score percentage of 76.25% with respect to the score information, based on the GAP percentage range evaluated that agency PT X was in the range of 75 to 100% and showed readiness to implement the ISO 9001:2015 certified Quality Management System and the ISO 14001:2015 Environmental Management System. This is demonstrated by the integration of parameter objects of the equality clauses of ISO 9001:2015 with ISO 14001:2015 related to the growing need and development of environmental policy objectives and programs, environmental management planning processes, training implementation, maintenance of equipment or infrastructure followed by reporting and prevention or improvement system processes. The impact of the implementation of ISO 14001:2015 in PT X which is integrated with ISO 9001:2015 includes ensuring the quality of the agency's environment because the environmental conditions are clean and healthy, the quantity and quality of products has increased because there is an ISO 9001:2015 quality management system that has been well implemented, followed by the maintenance of waste produced to increase trust in consumers and society [17].

The ISO 9001:2015 external audit implementation results in Table 3 above show that there are several clauses that are the same as ISO 14001:2015, only some parameter values have not been met or have experienced a cut. Value of 7 points or greater for the Quality Control Objects is included in sections 6 of Planning and 8 of Operation in the ISO 9001:2015 or ISO 14001:2015 standard and a reduction of 3 points in the Object of Use, Leadership and Obedience, Competency Improvement which is included in clause

4 and Organizational Context, clause 5 of Leadership and clause 6 Planning as well as the Object of Competency Improvement which is also included in clause 7 Support, while the Condition and Maintenance of Equipment is included in clause 9 of Performance Evaluation and clause 10 of Improvement. The reduction in the value of employment that is included in clauses 4 to 6 is due to the lack of expert personnel in their fields indicated by training and certificates, so the increase in competence that is also included in clause 7 of Every staff working in each department needs to be improved, including Human Resources (HR) planning and management through seminars, training and certification. The existence of a system of performance evaluation, rewards and punishments, as well as training, will improve the Object of Employment or performance itself of the employee. The Leadership and Obedience objects that are also included in clauses 4 to 6 also experience a reduction in value, this could be due to the lack of coordination of each actor or management review with the tools used so they need to be calibrated or adjusted for example in the wastewater monitoring system, that calibration or adjustment is necessary to support the quality system of machines or tools in the agency and maintain the condition of measuring instruments, including knowing the deviation value of a measuring instrument [18]. Furthermore, Human Resources (HR) parameters, including employment objects, skill improvement, leadership and obedience, can be developed or improved by identifying the growth and development of employees in each department, and analyzing the procedures and policies implemented in PT to identify which workforce in specific departments requires training and what tools or machines require adjustment or calibration [19].

The Facilities and Infrastructure parameters in ISO 9001:2015 PT X from Table 3 showed there was a reduction in the value of 7 points for the Quality Control Planning Object that is included in clause 6, namely Planning and Operation of clause 8, as well as a The reduction of the value of 3 points for the condition object and equipment maintenance is included in clause 9, that is, the performance evaluation and improvement clause 10, while 0 points or none Value deduction for work procedure objects (SOP) are also included in clause 7, namely Support, the ninth clause, namely Performance Evaluation and the tenth improvement clause. Deductions in the value of the Quality Control Planning Objects may be due to a lack of supervision and control over the dyeing process of the fabrics and the chemicals used, so it is necessary to continue carrying out periodic reviews and monitoring regarding the environmental standards implemented by the Ministry of Environment and Forestry

(Ministry of Environment and Forestry) as set out in the Regulation of the Ministry of Environment and Forestry of Indonesia Number P.16/MENLHK/SETJEN/KUM.1/4/2019 relating to the activities of the textile industry and/or wastewater quality standards so that they do not exceed the established quality standards, for example the maximum limit for the COD (Chemical Oxygen Demand) and BOD (Biological Oxygen Demand) standards is 60 and 150 mg/L and Total Ammonia is 8 mg/L. Regular monitoring and assessment are needed to manage and reduce the negative impact of textile production on society, and reduce impacts and even environmental damage, including reducing greenhouse gas (GHG) emissions during the process of raw materials, material production, assembly, and finishing of the final product [20].

The reduction in value for the Equipment Condition and Maintenance Object was due to the large number of old and old agency machines (the process of replacing new machines) which resulted in the machine utility process being hampered and many employee personnel not completing the forms or checklists for maintaining the equipment used, the importance of new technology and filling out maintenance checklists is to determine needs and movement of required materials, monitor production processes, product financing and planning and decision making based on business analysis [21]. Meanwhile, the Work Procedure Object (SOP) does not experience a reduction in value or flow charts in each department have been provided regarding work rules, and use of tools including application systems which continue to be well understood and implemented, by revealing that the existence of a Standard Operational Procedure (SOP) will create more consistent, efficient employee performance, minimize expenses and error rates, including making it easier to monitor the tools used and protect workers because it is accompanied by smooth coordination and communication.

The results of the implementation of ISO 9001:2015 on data capture objects and reporting systems on archiving parameters show good results in clause 1 Scope, clause 2 Normative references, and clause 3 Terms and definitions The definition is due to that there is no reduction in value or a value reduction of 0 points. This shows that the Data Capture Object has been working optimally in each PT department. This is also supported by internal meetings every Saturday and continuous efforts have been made to implement the Object of reporting system through communication and collection of reports in Karanganyar Environment Service (DLH) and the Ministry of Environment and Forestry in Semarang. The importance of data capture and reporting systems in achieving environmental objectives by balancing economic growth and reducing environmental impacts, identifying each growth in a specific, measurable way

and relevant, including establishing all policies and responsibilities in achieving the company's objectives and vision [22]. The overall results of the implementation of ISO 9001:2015 at PT X show sufficient value and the existence of ISO 9001:2015 really helps PT X to integrate the entire management system, both related to the quantity and quality of the product, including the delivery of goods, which includes requirements and forms of responsibility, in addition to serving as relevance for business management [23], supply and industrial management interests including market share when sending products abroad (globally), however in terms of environmental responsibility and sustainability it is necessary to plan and implement an ISO 14001:2015 Environmental Management System (MSL) that focuses on solving environmental problems through objects in Employment, Improvement of Competencies, Leadership and Compliance, Planning of Quality Control and Maintenance of the State of the Equipment.

The international standard ISO 14001:2015 is necessary as a form of company assurance for the environment that all risks have been appropriately managed and that environmental quality has improved through all approaches to prevent pollution and environmental damage.

Table 3. Results of the Implementation of the ISO 9001:2015 Standard in PT X

Parameter	Object	Clauses	Value Deduction
<i>Human Resource</i>	1 Employment	4, 5 and 6	-3
	2 Leadership and Obedience	4, 5 and 6	-3
	3 Improved Competition	4, 5, 6 and 7	-3
Facilities and Infrastructure	4 Work Procedure (SOP)	7, 9 and 10	0
	5 Quality Control Planning	6 and 8	-7
	6 Equipment and Maintenance Tools	9 and 10	-3
File	7 Employment	1, 2, 3, and 10	0
	8 Leadership and Obedience	1, 2, 3, and 10	0
Total			-19
Full Total Value			80
Final Score			61
Final Percentage			76,25

The results in Table 4 below show that the value of the GEMI ISO 14001:2015 GAP Analysis Checklist in PT X shows an achievement value of 870 points so a percentage of 88.62% [24], this shows that PT X is ready to implement and carry out ISO 14001:2015 certification, apart from that, the compliance value was 88.62%, so the

implementation of ISO 14001:2015 in PT X has shown satisfactory results so that it can be continued or implemented for SML ISO 14001:2015 certification [25]. The average percentage results were obtained from the 10 highest or most satisfactory clauses, including the Improvement clause of 95.56%, followed by the Performance Evaluation clause of 94.29%, Operational Clause and Support Clause respectively 93.85% and 93.68% respectively, followed by Context of the Organization and the Planning Clause with values of 86.67% and 83.33% respectively, and the lowest or the one that still requires improvement in the SML is the value of the Leadership clause up to 72.94%.

The results of the Leadership clause obtaining the lowest results or even requiring improvements to the EMS may be caused by a lack of expert personnel in their field, this is indicated by the lack of training or experience and certification in the field of work involved, the lack of coordination of stakeholder reviews or management with the appropriate tools used, therefore there is a need to increase competence through training, as stated by of Human Resources or the employment itself, followed by adjustments and calibration of equipment in PT X so that each machine in operation can function smoothly and optimally. Meanwhile, the analysis results of other clauses show that PT X is ready to implement and implement ISO 14001:2015 certification.

This can be seen in the Improvement clause with a high or satisfactory achievement percentage of 95.56% shows that there have been periodic reviews and improvements throughout each data reporting system, the Performance Evaluation, Operational and Support clauses also show a high or satisfactory achievement percentage with respective values of 94.29%, 93.85% and 93.68% , this can be caused by fluid communication from each section or departmental division of PT X, followed by the results of data or information captured, including support for the management of environmental issues through internal audits and management or audit reviews the interested parties. This is followed by the Organizational Context clause with satisfactory results or a compliance percentage of 86.67% and the Planning clause with good compliance of 83.33%, these results show that the understanding between departments and each work table has been understood, and planning regarding environmental management continues that will be carried out through each Standard, and Operating Procedures (SOP) to ensure more consistent and efficient performance by minimizing expenses and error rates, including continuous monitoring.

Table 4. Results Calculation GAP Analysis Checklist of the GEMI ISO 14001:2015

Clause	Maximum Value	Achievement Value	Achievement Percentage Total
4	90	78	86.67%
5	170	124	72.94%
6	180	150	83.33%
7	190	178	93.68%
8	130	122	93.85%
9	140	132	94.29%
10	90	86	95.56%
Total	990	870	88,2%

The next results in Figure 1. determined that the priorities that must be implemented immediately in the implementation of the ISO 14001:2015 Environmental Management System (EMS) are the Leadership Criteria as a priority with rank 1 with a value that reaches 21.2%, followed of Improvement or Improvement Criteria as a priority. Priority with rank 2 amounts to 20.3%, and Planning 15.8% as priority rank 3, followed by the priorities of Organizational or Departmental Context Criteria 12.1%, Support 11.2% and Operations 10.2%, while the lowest value or last priority is Evaluation Criteria with a value of 9.2%. This shows that the PT X places a high priority on leadership, improvement and planning criteria when making improvements in preparation for the implementation of ISO 14001:2015 compared to the organizational or departmental context, support, and operational criteria. Leadership Criteria are necessary and prioritized first to ensure that each employee in each section can carry out their duties and responsibilities, including the continued prevention of pollution and protection of the environment.

That Leadership Criteria will help businesses adopt them. Responsibility for the effectiveness of the EMS, ensuring that EMS requirements and resources are available and met, including EMS results achieved in accordance with expected commitments. Repair or improvement criteria as 2nd priority whose improvements must be implemented immediately, expected to be able to achieve environmental management objectives in PT X by identifying existing non-conformities, followed by determining the causes and potential impacts arising from these non-conformities, including achieving continuous improvement or continuous improvement, that there are Improvement or Improvement Criteria will help evaluate corrective actions and meet the needs to reduce or even eliminate the causes of non-conformity. Planning criteria is one of the important priorities with the

third order of improvements to be made in PT X, aimed at providing an overview of the risks and opportunities that will occur in relation to environmental issues. That planning is expected to be capable of ensuring the performance of Standard Operating Procedures (SOP) more consistently, including reducing and preventing the influence of unexpected internal and external conditions [26].

The Organizational Context Criteria with a result of 12.1% is the 4th priority, this could be because many employees still need an understanding of the work table, the needs, and expectations of the interested parties, especially in regards to the management of environmental problems, which can be obtained through training or training in PT X, that each department or organization must consider internal and external issues as well as authority in environmental management and control. Criteria with the lowest priority value or that only have a small need to improve the ISO 14001:2015 EMS include Operational and Support Criteria that can be caused by the existence of relationships and communication between each section in the management of environmental problems. Another criterion with a low priority value is an evaluation of 9.2%, this could be because many discussion and audit processes have been carried out between PT X departments. The Evaluation Criteria that have been implemented in PT X can minimize error rates and increase environmental monitoring in a sustainable manner. Alternative results or strategies to implement ISO 14001:2015 based on the recommendations of 5 experts include the implementation of an Environmental Management System (EMS) with the highest value of 45% or the priority to be improved in ISO 14001:2015 in PT X, followed by Human Resources (HR) planning as the 2nd priority requiring improvement with a value of 29.6%, the improvement of regulations with a value of 13.1% occupies the 3rd priority and The last priority for improvement is the acquisition of new tools or technology (modernization) with a value that amounts to 12.3%.

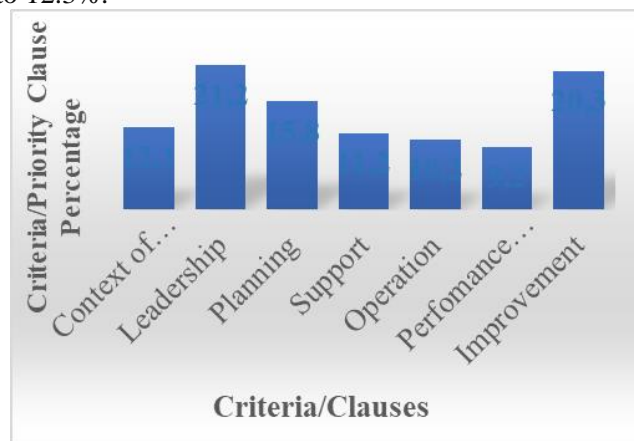


Figure 1. Result of Data AHP Analysis

The results of the synthesis of ISO 14001:2015 implementation strategies in Figure 2 determined that the highest strategy value or priority in the way of implementing an Environmental Management System (EMS) with a ratio value of 0.458, followed by Human Resources planning as the second priority at 0.291 and improvement of regulations with 2nd priority 3rd is 0.131, while the last strategy or priority value is 0.12 in the form of acquisition of new tools or technology (modernization). The strategy of acquiring new tools or technology (modernization) and improving regulations is an alternative or preparation strategy to implement ISO 14001:2015 in PT X with the latest results or priorities that may arise from the results of the calculation GAP Analysis Checklist GEMI ISO 14001:2015 in Table 4 told that the Improvement Clause or Improvements with the Performance Evaluation, Operational and Support Clauses show high scores, indicating that communication between departments has been working properly optimal followed by the acquisition of new equipment and the repair of damaged equipment, as well as a data record reporting system that has been submitted periodically so that there is no need for repair regulations or procurement of new equipment again.

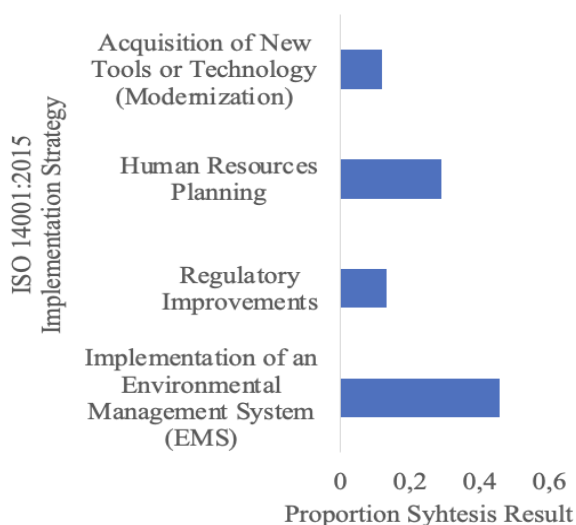


Figure 2. Result Synthesis Strategies Implementation of the ISO 14001:2015

The Human Resources (HR) planning strategy shows the highest value or 2nd priority after the strategy or priority of Implementing an Environmental Management System (EMS), which may be due to the need to still carry out training and certification of employees to improve each one of them. Personnel competence of employees at PT X, that a training or performance development process is necessary to increase the capacity and potential of employees in achieving PT X's own organizational objectives, including environmental management and the implementation of its policies [27]. The strategy to analyze the implementation of ISO

14001:2015 in the PT X environment through efficient operations, including raising awareness of employees to keep the environment clean and conducive and forming a positive vision of the company by maintaining the level of environmental responsibility or obligations, including goals and objectives, environmental policies, environmental management planning, including monitoring and conducting audits.

The results of the alternative synthesis or implementation strategies for ISO 14001:2015 are shown in Figure 6 below. The AHP priorities of 5 experts can be seen in Table 7 below.

Table 7. Recommendations to Improve the EMS ISO 14001:2015 in PT X

Clauses/ Priorities	Strategy/Recommendations for Improvement
Leadership	- Additional personnel in the required fields - Acquisition of training and certification of skills
Context of the Organization	- Understanding of the work table and the responsibilities in the prevention of environmental pollution - Intensive communication between departments regarding equipment repair or machine damage
Planning	- Hiring HR (Human Resources) - Monitoring of the chemical products used
Support	- Internal audits and management or stakeholder reviews continue to be conducted
Operation	- Periodic environmental evaluation of each chemical product through environmental standards implemented by the Ministry of Environment and Forestry concerning textile industry activities and/or wastewater quality standards of the Ministry of Environment and Forestry of the Republic of Indonesia Regulation Number P.16/MENLHK/SETJEN/KUM.1/4/2019
Performance Evaluation Improvement	- Review and complete the maintenance form or checklist for the equipment used - SOP, environmental data recording and reporting continue to be implemented by the latest policies or regulations

The implementation of EMS as a top priority to be implemented can begin with the implementation of environmental policies to ensure that environmentally related activities are by the objectives of the company's organization or department, the existence of environmental management procedures and planning followed by training, consultation and management accountability and reporting based on monitoring and documentation to achieve sustainable environmental development in PT X, so that recommendations are made to improve implementation of the EMS ISO 14001:2015 in PT X.

4. Conclusions

Based on the result obtained, it can be concluded that the preparation of PT X for the implementation of ISO 14001:2015 must be carried out because the implementation of ISO 9001:2015 in PT X shows sufficient results with a value of 76.25%. Stakeholder perceptions regarding the implementation of ISO 14001:2015 in PT X have shown readiness for the implementation and certification of ISO 14001:2015 with calculation results from the GEMI ISO 14001:2015 GAP Analysis Checklist of 88.62%. Strategy for the implementation of ISO 14001:2015 in PT X through the implementation of an Environmental Management System (EMS) and Human Resources (HR) planning.

Acknowledgment

We would like to express our gratitude to the PT X and all respondents involved in completing this article, including a big thank you to the supervisors, Mrs. Nurhasanah and Mr. Abdillah Munawir who provided direction from beginning to the end of making the proposal article.

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