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Total Quality Management: A Strategic Management Model

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Abstract:

This work presents an analysis on the process of a conceptual development and implementation of an integrated strategic management model and operational management system model based on ISO 14001:2015.

The model integration approach is encouraged by the issuance of International Standardization Organization 9001 and 14001 version 2015 on quality and environmental management system. It is apparent in many companies that top management's vision and strategic intentions are not always communicated well to managers and all other employees and therefore, they are not familiar to top management's intentions.

The paper defines a conceptual integration of the two models and implements the new model in an automotive manufacturing company located in Karawang, Indonesia. The study uses a qualitative method of analyses, involving 5 experts in strategic and management systems, the manufacturing company top management, senior management and middle management.

Interviews and notetaking were conducted to get the themes of the issues. The study results show that the strategic management model fully accommodates ISO 9001 and 14001 operation management models.

The implementation results have also supported the applicability of the new conceptual model through higher performance achievement and approval from auditors of certification bodies.

Keywords: *Strategic management, operational management, integration, quality, environment.*

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1. Introduction

Companies are of the opinion that strategic intention should be seen in operational activity, and the company mission is adopted by each person working for the organization. Similarly, the strategic choice of top management should be well executed by personnel on the shop floor. Although this sounds logical, yet it is not commonly seen in real business operation. Many strategic plans are kept at executive level and middle managers only apply executive orders. Therefore, a real integration between the strategic agenda and the operation plan, through strategic management, is essential for companies' sustainability.

Bao (2015) mentions that strategic management relates to the survival and growth of organizations and includes two dimensions, i.e. the 'overall space effect', which refers to the survival and/or growth of an organization as a whole, and the 'future effects', which refer to the survival and/or growth of an organization over the course of time. In order to compete well, automobile plants in Indonesia have adopted management tools ranging from strategic management to operational management, ones like BSC (Balance Score Card). Other tools relating to operational management include 5S, QMS (quality management system), EMS (Environmental management system), OHSAS (Occupational Health Safety Assessment Series) and ISO TS which is particularly relevant for the automotive industry. Companies must seek quality management tools provided with business excellence practices (Dinu, 2017), whilst Kopia *et al.* (2017) conclude in their research that a BSC, used as a strategic instrument, has a positive effect on companies' performance compared to the BSC used as only a measurement instrument. Furthermore, the competition is no longer limited to product/service quality issues but has reached areas such as social performance, global environmental protection, employee's safety and so forth.

Doorasamy (2017) notes that, in developing countries, increases in industrial activity, electricity demand, and transportation frequently result in higher levels of emissions, with poor air quality becoming a major issue. Companies using obsolete and inefficient processes and technologies incur higher production costs that reduce profitability and competitiveness (Schaltegger *et al.,* 2010 in Doorasamy 2017). The nature of quality and environmental management system implementation might soon be changed due to the ISO 9001:2015 & ISO 14001:2015 issuance and deadline adoption by September 2018. The change is caused by the addition of strategic requirements stipulated in clauses on understanding context, understanding needs and expectations of stakeholders as well as undertaking risk assessment (Paraschievescu, 2016). In the past, implementation of ISO was concerned with operational management issues only, without any connection with strategic decisions, although the adoption of ISO and associated certification has given companies a competitive edge over their competitors. Therefore, companies can now make use of the new standards to integrate strategic management and operational management. As additional illustration, automotive manufacturing enterprises in Indonesia has taken different approaches on quality and environmental external demands. Generally,

quality requirements have received more resources than environmental ones, keeping environmental requirements at a minimum level as long as certification is maintained, and no governments complained. However, lately global customers and other stakeholders ask that the automotive industry contributes to the protection of the environmental, so manufacturing enterprises can no longer differentiate between quality and environmental matters, at strategic and operational level (Yadav *et al.*, 2015).

With pressure from one side and a new resource on the other, this study aims to provide a conceptual model of integrated strategic management and operational management in automobile manufacturing enterprises to increase strategic performance. The structure of the research paper is as follows. The first section discusses the introduction of the study and research objectives. The second section highlights literature about strategic management and ISO management system models. The third section elaborates the research design and methodology. The fourth section highlights the result of conceptual development and implementation of the concept. Finally, the last section summarizes the study.

2. Literature review

There are various areas of literature that study strategic management and management systems. Bao (2015) says that strategic management theorists and practitioners need new scientific theories. In this modern turbulent environment, the existing strategic management research and strategic management theories can neither satisfy the practical needs nor the theoretical development needs of strategic management. In relation to this, Bettis *et al.* (2014) in Bao (2015) add that, in particular, strategic management needs more accurate and reliable predictive scientific theories. Good research need not necessarily seek to establish causality. With that in mind, this study aims to review the strategic management model provided by Pearce and Robinson Jr. (2013). Pearce and Robinson Jr. declare that this model is similar to any strategic management model. In this respect, the choice of any strategic management model could be represented by this model. Shujahat *et al.* (2017) in their research, agree on this opinion by stating that business is managed, and competitive advantage is gained through a process or strategic management as in Fred Davis's model. Strategic management process comprises three stages, namely strategy formulation, strategy implementation and strategy evaluation. This process drives all the activities of an organization.

The strategic management model is presented in Figure 1. It basically shows the strategic formulation phase leading to the strategic implementation phase (read: operational management). The model starts with strategic formulation containing the company vision and mission, scanning of the external environmental, analyze the internal environment, selecting and executing strategic goals through long term objectives and grand strategy determination. The second phase is strategic execution consisting of short-term objectives, tactical policies, structures, leadership, cultures,

control and innovation. This phase obviously deals with operational issues rather than strategic issues. Shujahat *et al.* (2017) explain the necessity of strategic management. The dynamic, turbulent and complex business environment has compelled today's organizations to use accurate information and knowledge of their internal and external environmental in making strategic, operational and tactical decisions. It is confirmed by Yadav *et al.* (2015) stating that globalization has made the life of organizations tougher and has compelled them to adopt management techniques faster, to get better performance results including in the automobile sectors. The strategic factors related to performance are generally context specific which vary across countries and sectors.

Figure 1. *Strategic management model (Pearce and Robinson, 2015)*

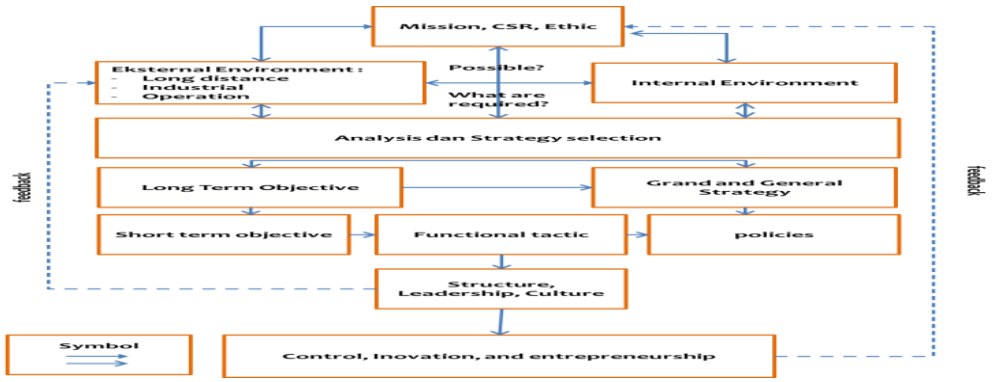
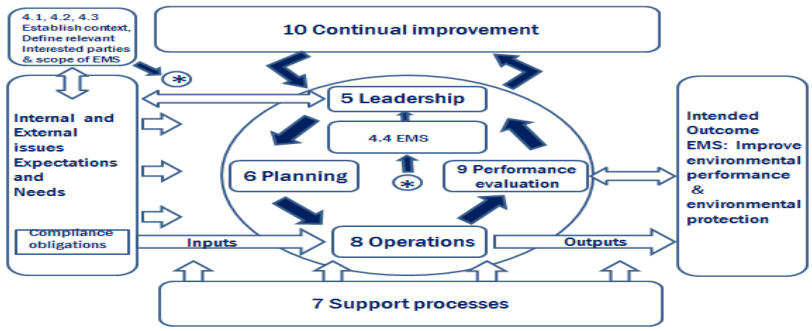


Figure 2*. Management system model of ISO 9001:2015 and ISO 14001:2015 (ISO 9001:2015)*



The High-Level Structure (HLS) of ISO 9001:2015 and ISO 14001:2015 model is shown in Figure 2 above. Pelantova and Slaichova (2017) state that this model concerns quality management systems, work safety and the environment. Organisations are now striving to integrate these, usually by lowering administration costs and improving their performance. In similar themes, Paraschievescu (2016) says the integration of QMS is a complex activity, but necessary, which involves a multidisciplinary approach, a culture of quality and accountability. The model also

indicates two levels of management which are strategic and operational ones. Clause 4.1 and 4.2 mention Understanding the context and Understanding the needs and expectations of interested parties. Following those, companies shall undertake a risk assessment of the defined context and associated stakeholders' needs and expectations. The second level of the standard deals with operational matters through the identification and evaluation of risk from an environmental aspect; establishment of environmental objectives and programs, as well as, operational control through all elements of the manufacturing site's operation.

Therefore, naturally manufacturing enterprises want to synergize their strategic issues with operation issues (Paraschievescu, 2016; Pelantova and Slaichova 2017). The questions are how to integrate the HLS and the strategic management model from Pearce and Robinson. Since companies are upgrading their certification from the old versions to the 2015 versions, they are still not solid and are not generally accepted as the good or best application models. This study then has significant value in discovering a possibility of a fully consolidated strategic management and operational management model. Referring to the existence of CSR at the top of the model, Vitolla *et al.* (2016) observe that the strategic analysis takes different connotations, depending on whether one adopts a static approach, which focuses mainly on the contents, or a dynamic approach, which focuses on the formation of the strategy and change processes. The dyanmic approach provides an explanation for the causes of success and allows one to understand how to keep the firm on, or bring it back to, a successful path. In conclusion, integration of any elements is the key of its sustainability. This includes finding a single model, whenever possible, encounteering all external demands and maximizing internal capabilities.

3. Research design and methodology

3.1 Nature of the study: A qualitative research method is the appropriate approach for addressing the research problem and answering the research questions for this study. Qualitative research is a discovery-oriented approach, which is useful in exploring, capturing and communicating an in-depth understanding of issues or phenomena that are not well understood (Johnson & Bloch, 2015 in Mbewe, 2017). This qualitative research method involves the use of open-ended questions to facilitate the acquisition of detailed information from research participants. In that respect, the research uses a qualitative approach by exploring theories and researches to establish a conceptual model on the integration of strategic management and quality & environmental management. The researcher conducts deep reviews with two lead auditors, from a global certification body, who have over 15 years' experience in auditing ISO certified companies. Other interviews are carried out with three directors who have more than 25 years' work experience . This is then followed by presenting and reviewing the model to the representatives of the automobile manufacturing companies, comprising of top management, senior managers and middle managers. As soon as the model is approved, it is implemented in the plant.

3.2 Problem statement: The sustainability of strategic quality environmental performance lies on the availability and applicability of good strategic model which integrate implementation in strategic level and operational level.

3.3 Purpose of the study: The study seeks to provide a conceptual model of integrated strategic management and operational management in automobile manufacturing enterprises, to increase their strategic performance and to implement the model.

3.4 Research questions: Research question 1: How does one define a conceptual model on integrating strategic management and operation management? Research question 2: How does one implement the conceptual model using a strategic management model as the backbone of the management system.

3.5 Assumption: There are two assumptions in conducting the study and relating to obtaining information from the research participants. The first assumption is the provision of honest responses by the organization leaders and other stakeholders during interviews. The second assumption is that information contained in the environmental reports is accurate and not misrepresented or underreported.

3.6 Interview methodology: Five experts are contacted for semi structured interviews. These were chosen from top-level management and experienced lead auditors. These experts have more than 20 years working experience and they are associated with the board of directors in the enterprises. These experts were contacted through phone calls, describing the objective of the interviews and appointments were taken. The interviews lasted between 25 to 30 minutes. Full notes were taken for the interviews.

3.7 Interview analysis: The researcher collectively analyzed the data by extracting themes from the written notes. The qualitative data were analyzed and trends in the responses were studied. This helps to identify key themes or factors from the qualitative data (Miles and Huberman, 1994 in Mbewe 2017). The themes are developed after an iterative process and this list was discussed with some experts.

4. Results

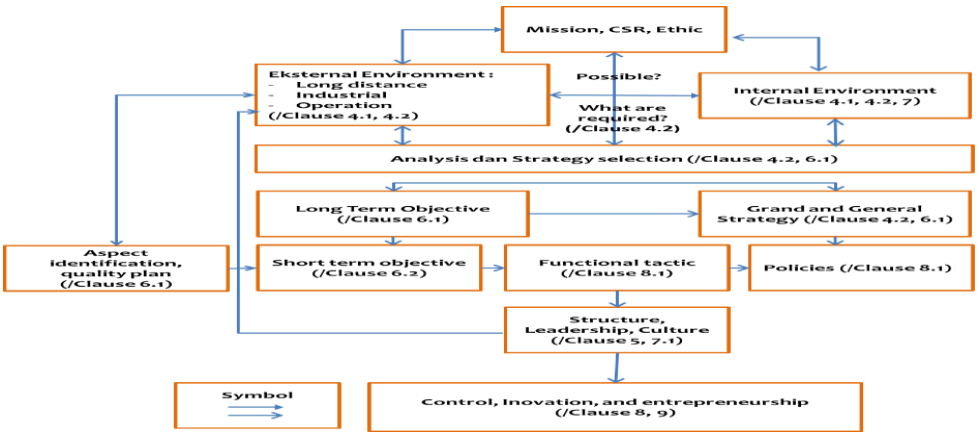
4.1 Developing a conceptual integration model: The discussion with experts led to the need of selecting one model as the 'backbone' instead of making new models, because the new one will not be recognized by users in the plant. The strategic model is selected on the basis of creating the conceptual integration model. It covers more elements in a management system from top to bottom. Strategic elements include mission, environmental and internal analysis. Operational elements covered are short term objectives, tactics, policies, structures, leadership and control. Also, a clear definition of the element is stated in this model. This implicitly requires the researcher to explore the interpretation of new clauses contained in ISO.

The conceptual model is illustrated in Figure 3 below. The model asks for collecting and defining the company missions as the beginning of the process. Interestingly, respondents and many middle managers have not really read the mission statement and contemplated it. The situation has opened eyes on how important strategic management model development is. The next action is to scan the external environment, covering long distance, industrial and operation scope, together with scanning internal capability. Generally, companies do the scan using the Porter model (Pearce and Robinson Jr. 2015) with a purpose in mind – that the best strategy is when the external turbulence matches the internal capability (Ansoff and McDonnell, 1990). The scanning introduces a new perspective to the automobile plants on the necessity to monitor their business environment. This strategic formulation is often combined with the SWOT approach.

This strategic process meets the requirement of clause 4.1 Understanding organization context and clause 4.2 Understanding needs and expectation of interested parties. Simply put, context is how the company perceives their internal capability in comparison to any external factors of long distance, industrial and operational environment. The logic for ISO users is that if we do not know our context and stakeholders' interests, one would not know what action can be taken. This can be correlated with other statements in other clauses where the organization shall undertake risk analysis. In this respect, companies can do risk assessment using familiar methods used since the implementation of ISO 14001:1996 (older version). The most popular method adopted in Indonesia today is ANZ 8374, which guides company's personnel to give scores on their perspectives on risks. The standard requires users to define their strategic and operational risks based on their site condition and group perspective. After this, each risk and opportunity is scored through two factors, which are likelihood and severity, again based on their perspective and available site facts. The ISO model gives a better method of risk assessment than the strategic management model.

The strategic model then requires the undertaking of analysis and selection of strategies for the determination of long-term objectives and grand & general strategies. The strategy selection is assisted by the SWOT method or qualitatively decided in strategic meetings referring to external and internal scanning reports. This process is mentioned in Clause 4.2 and 6.1. In the ISO model, the strategic selection process can be facilitated using the risk assessment tool, with better results, because qualitative perceptions are shifted to quantitative ones using a Likert scale. The risk assessment provides details of risks/opportunities into 5 categorizations, which are very high, high, normal, low, and very low. This eases the process of putting quality and environmental risks/opportunities into long term objectives, short term objectives or immediate action. After the strategic formulation is completed, the plant needs to implement it in the form of short-term objectives, tactics and so forth. The strategic model establishes this through detailing long-term objectives and or direct execution of the selected strategy. The ISO model, in fact, can contribute through a clause concerning environmental aspect identification and quality plan.

Figure 3. *The conceptual model of integration between strategic management and operational management*



These two operational practices basically ask the companies to register their critical process that gives value added and causes significant environmental impacts. Knowing these critical processes or significant aspects is important to define improvement through short objectives, operational/process control and emergency preparedness. The challenge is whether the short objectives, made from quality planning or environmental significant aspect identification, are the same as the ones detailing for long term objectives. The themes in this study lead to the adoption of short-term objectives, generated from long term objectives.

Operational or process controls mentioned in the ISO model are similar to functional tactics, policies, re-structuring, reengineering, strategic control and continual improvement. In this respect, ISO can give a better contribution to the implementation because this is the traditional area of ISO application. Tactic and policies can be seen in corrective action and documented through troubleshooting. Restructure and reengineering have been addressed in management within ISO practices. Even control has been granted as one of the essence clauses of the standard.

4.2 Applying the conceptual integration model: Implementation of the model involves all levels and all functions within the automobile plant because they have deadlines to meet. It follows diligently step by step what has been defined in the model. In this report, only the main steps are discussed. The implementation of the model refers to 7 (seven) steps referring to Figure 3 above as follows: (1) Step 1: analyzing the context, (2) Step 2: analyze the internal context, (3) Step 3: Analyzing Needs and Expectations in the perspective of Risk/Opportunity, (4) Step 4: Define Strategy based on the Analysis, (5) Step 5: Determine Long-term Objectives (3 years), (6) Step 6: Correlate between Risk/Opportunities and Significant aspect, and (7) Step 7: Integrating between Implementation of Long Term Objectives and Short Term Objectives.

Step 1. Analyze context on external environment: Here one should apply the PESTEL (Political, Economic, Social, Technology, Environment and Legal) framework to risk and opportunity which is categorized into 4 risks, namely, Legal (L), Operational (O), Reputation (R) and Economy (E) representing tangible and intangible impacts. The four risks or opportunities are constructed to easily understand the negative impacts and benefits that can be gained. The project team agreed to come up with 4 categories. The working group gives relevance between external factors and risks as follows:

Factors	Issues and Trend	Impact to Organization	L	O	R	E
Political	Government preference to infrastructure development will benefit for the growth of cars market	Company must prepare for increase in demands in the near future especially outside Jakarta	V	V		V
Economic	Indonesia enjoys economic growth in comparison to other region and will sustain in next 3 years	Company plan growth referring to national growth considering 85% cars/motorcycles are not exported		V		V
Social	The demographic surplus has shown increase in young family demand for LCGC cars	The product tends to low cost green car		V		V
Technology	Electrical cars have been marketed in some countries and local university has success to make prototype	Consideration to make hybrid and full electric cars		V	V	V
Ecology	Cars/ motorcycles which meet emission standard (Euro 4)	Company follow and comply to Euro 4 requirement		V		
Legal	Local government forbids ground water abstraction	Company should consume water efficiently	V	V	V	V

Step 2. Analyze context on internal factors: The main driving force of the company is its mission and vision statements, which direct the company. The analysis found three missions/visions. First, it guarantees a superior product in value to customers, which encourages the company to make cars with emission quality similar to Euro 4, so as to produce the entire automobile free from toxic and hazard substance (ROHS). Second, to be an innovative company, which is interpreted as maintaining efficient processes and continuous improvement in environmental matters. Third, obtaining

individual perfection, which requires all employees to be competent, even in environmental matters. Using strength and weakness tabulation, internal context analysis leads to the following result:

	Strength/Weakness	Impact to Company	H	O	R	E
S	The brand has been well known, although this is not associated with environmental properties	Sales target will be achieved and increased.			V	V
S	The plants have EMS ISO 14001 older version	Trust from business customer although need more effort for retailer	V	V		
S	Employee are familiar to work in system management	Able to follow the strategic management		V		V
W	Low detailed knowledge on environment	Appreciation for ones increase study on environment				
W	No special team for handling environment					
W	No strategic experience					

Step 3. Analyzing needs and expectations in the perspective of risk/opportunity: Strategic management undertakes analysis of the risk through SWOT, BSC and other models. The researcher took a statement from ISO standard to list up needs and expectations and determine an action plan to address risk. The working group come up with the usefulness of AS/NZS 4360:2004 Risk Management as the method to use for risk analysis. The matrix consists of horizontal rows representing the likelihood of the risks and vertical rows representing the severity of the risk. Personnel from departments are invited to give their perception, guided by the scoring defined as follows: Likelihood: (1) = Very low; (2) = Low; (3) Neutral; (4) = High; (5) Very High, whilst Severity: (1) = Very low; (2) = Low; (3) Neutral; (4) = High; (5) Very High.

L/S	1	2	3	4	5
1	I	L	M	M	H
2	L	M	M	H	H
3	L	M	M	H	VH
4	M	H	H	H	VH
5	M	H	H	H	VH

The resulted score gives categorization of risk/opportunity magnitudes. Obviously, the strategic team prioritized the areas which had VH and H and could ignore, for the time being, scores of I, L and M. The result of working group discussion has led to the following:

Group	Need	Expectation	Opportunity	Risk	Likeli-hood	Severity	Result	Current Risk Management	Future Risk Management
Customer	Cars/motorcycles meets quality and environmental standard	Excellent service during and post purchase	Stress on company's green process and product	None	1	4	M	Request to dealer on stressing to environmental specification (Euro 4)	Improve quality of product in terms of safety and environment
Government	Compliance to regulation	Beyond compliance performance	--	Incapable of complying regulation	2	5	M	nnual compliance evaluation and immediate follow ups	None
Association	Association ask for active involvement	The company want to a benchmark	--	Incapable of meeting association request	2	3	M	Communicate regularly on the requests	
Inves- tor	Company growth	Growth in size and income	Increase cost for environmental management	---	2	3	M	Company reports environmental performance to investor	Include environmental issues
Bank	Company lend money from bank	Continued payment in long run	--	Compliance problem that prevent banks to give loan	2	3	M	Company make regular contact with bank	
Insurance	Buying insurance	No claim due to pollution and broken facilities	Good risk management reduces risk		3	4	H	Contract between two parties	Negotiation to reduce premium
Public	Gain economic benefit from the company	Get jobs	Get employees		3	4	H	Provide jobs	Meeting all competencies
Employee	Working room follows regulation	Working room better than regulation	---	Nuisance in working room	2	4	M	Ensure working room meet environmental standard	

Step 4. Define strategy based on the analysis: Through the strategic formulae given by Ansoff and McDonnell (1990) they state that to have a winning strategy, a company has to match the internal capability with the external turbulence. The risk assessment result above has given hints that the plant needs to meet their insurance companies in

order to benefit from opportunities they have not considered before. The other stakeholders seem to have been satisfied with the performance of the company. Although, long-term objectives relate to fully complying with government regulation, a meeting with stakeholders showed that they demanded higher standards in relation to Euro 4, therefore the product being free from toxic and hazardous substances. The requirements are growing but they have not emerged as immediate requests.

Step 5 Determine long-term objectives (3 years): With that strategy, management has now defined long-term objectives as is common practice in the strategic management process. The challenge is to match the long-term objectives provided by the top to bottom approach with the long- and short-term objectives provided by bottom up approach.

Objective		Indicator	Quantitative Measure	H	O	R	E
1.	Compliance to environmental regulations	Compliance evaluation result	100%	V	V		
2.	Understanding of employees on environmental issues	Understanding level	To be determined		V		
3.	Environmentally friendly cars/motor cycles	Percentage of green parts	(a) 0 PCB (b) 0 Asbestos			V	
4.	Education to cars/motorcycles' consumers'	Number of customers to environmental advantage	(a) Number of guidance (b) Number of dealers who promote environment			V	
5.	Energy conservation	Types of electricity and fuel	5% up to 2020 (compared to 2016)	V	V		V

Step 6 Correlate between risk/opportunities and significant aspect: The ISO 14001 standard (old and new) requires companies to do intensive and comprehensive environmental aspect identification exercises for all functions within the organization, covering each single activity. This provides very valuable information in respect to operations condition and performance. Therefore, there should be a link between strategic risks/opportunities and operational risks/opportunities. Integration can be undertaken by correlating between risk and opportunity categorized as high/very high against significant environmental aspects.

	Risk list	Risk category	Linkage between significant aspect and risk/opportunity	Risk Management Long term objective	Risk Management Short term objective

Compliance to environmental regulation	The company can be partner to government in environmental matters	Legal Operation Economy	Gas emission, Toxic wastes, domestic wastes, odour, vibration and noise (codes in relevant section)	None	Comply to Toxic waste namely PP101/2014 which is not complied; Comply to industrial zone requirements on wastewater Update applicable regulation
Employees understands environmental issues	Improvement on environmental performance	Operation Economy	Gas emission, Toxic wastes, Non-toxic wastes, electricity consumption, water consumption, raw material (aspect codes: …….).	Undertaken awareness continuously	Disseminate information on EMS e.g. inform on new environmental policy, context
Green car/motorcycles	Improve competitive advantage	Reputation Operation	Release of used paints and other parts (aspect codes: ….).	Reduce use of non-green materials	1) Reduce PCB to 0% in 2020; 2) Reduce asbestos to 0% by 2020 3) Replace ODS 4) Energy consumption down 10% 5) Emission to follow Euro 4;
Educate consumers on environment	Increase environmental awareness	Reputation	Gas emission (Aspect code ….)		Develop guidance on the use of cars/motorcycles for environmental purpose, e.g. preventive maintenance Select green parts.
Energy conservation	Low production cost	Legal Operation Economy	Energy consumption in all functions/areas (aspect codes: …..).	All consumption down to 5% in all functions	Determine target to reduce electricity consumption
Economical benefit to surrounding communities	Job provisions	Economy	Non-toxic wastes aspects	None	Managing employees composition to give locals

Similar action to correlate strategic risk analysis and operational risk analysis is done for the ones categorized as low to medium risk. It is expected that a similar table will give a picture on the existing operational control.

Step 7. Integration between implementation of long-term objectives and short-term objectives: At this stage, the company enters into the risk management stage which exists in the form of long-term objectives generated from strategic management and environmental objectives generated from environmental aspects identification and evaluation. The first is a more top to bottom process and the second is a middle to up

and bottom process. Logically, they must have the same approach. Thus, the integration is done by putting short-terms objectives into long-term objectives. The integration results are presented in the following tables:

Objective 1 (O1): Objective: reduce non-compliances by 2020 and Target: identify articles related to company activity (100% compliance).

No	Action plan	PIC	08	09	10	11	12	1	2	3
1	Coordinate all function regarding regulations requirements	Semua seksi								
2	Inventory sources of toxic wastes control	Semua seksi								
3	Register articles regarding requirement	GA								
4	Ensures all relevant articles are fulfilled by the company	GA								

Objective 2: Employee understanding of environmental issues: disseminate information on environmental and EMS continuously; Target 2: understanding environment and EMS for all (100%) employees.

No	Action plans	PIC	08	09	10	11	12	1	2	3
1	Socialization of new environmental policy to relevant levels;	All section								
2	Socialize organization context to relevant levels;	All section								
3	Evaluate result of socialization by means of Genba	All section								
4	Follow up deviation of implementation in respect to organization context	All section								

Objective 3: Environmentally friendly automobiles: Reduce the use of PCB (Polychlorinated biphenyl) to 0% in 2020. Target 3: Identify PCB sources in the plant (100% area).

No	Action plan	PIC	08	09	10	11	12	1	2	3
1	Coordinate with all functions	All section								
2	Register sources of PCB	GA								
3	Inventory of PCB in detail (input-output)	GA								

4	Report in mass balance	GA

Objective 4. Delete use of asbestos substance down to 0% in 2020: Reduce asbestos use down to 0% Target: Identify sources of asbestos in the plant (100% area).

No	Action plan	PIC	08	09	10	11	12	1	2	3
1	Coordinate with all functions	Semua seksi								
2	Register sources of Asbestos	GA								
3	Inventory of Asbestos in detail (input-output)	GA								
4	Report in mass balance	GA								

Objective 5: Reduce gas emission of cars to follow Euro 4. Target: ensure all products and processes meet Euro 4.

No	Action plan	PIC	08	09	10	11	12	1	2	3	4	5	6	7	8
1	Investigation of Euro 4 fuel	Eng													
2	Communicate to other section: order, supply, warehouse	GA													
3	Implement Euro 4 gasoline	GA													
4	Evaluation car performance														

The execution of these environmental objectives are then done annually to follow time cycle. In ISO 14001 practices, monitoring is done on action plans as well as the objective which gives two impacts. The reason is that achievement should be based on good processes. Kovarova (2016) states that a quality management system helps organizations to introduce systems and order. Corporate processes are systematically managed, which significantly contribute to meeting the business objectives of a company. Having integrated the implmeneted QMS in their organisation, the resondents demonstrated effectively that they can work with it and are flexible to react to the changes faced in the present market environment.

5. Conclusion

The strategic management model can be fully integrated into an operational management system model based on ISO 9001:2015 and ISO 14001:2015. The integration is carried by selecting the strategic management model as the basis, whilst other elements of the ISO model are inserted or shared in relevant elements of the strategic management model. This conceptual model can be well implemented, expecting results to show a link between strategic plans and operational executions.

The model has succeeded in consolidating strategic management systems and operational management systems which must be expected by any corporation.

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