

## **CSR and Lean Management integration impact in firms strategy**

### **Impact de la RSE et du Lean Management sur la stratégie des entreprises**

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### **Abstract:**

The present paper apprehends the linkage between lean management philosophy and CSR as two main strategic methods of performance improvement. This linkage is the analysis of aspects of concordance and discordance between both methods. Recently, more firms tend to take advantage of the outputs of lean management practices and tools at making process more efficient through cost saving, quality increasing and time reduction putting an emphasis at employees contribution and people's respect as "the social side" of lean management. This philosophy becomes the main strategy for firms to attain the customer's satisfaction through a better creation of added value. But today, CSR<sup>1</sup> has become a prominent driver for firm's market image and competitiveness. Though the main challenge remains the way firms can use CSR as a strategic factor of value creation since the economic and financial profit is the main goal of any firm's creation.

**Key words: Lean management, CSR, economic performance, social and environmental performance, strategic management.**

### **Résumé:**

Le présent article appréhende la relation entre la philosophie Lean et la RSE comme deux méthodes stratégiques d'amélioration de la performance. Ce lien est l'analyse des aspects de concordance et de discordance entre les deux méthodes. Récemment, les entreprises ont tendance à tirer avantage des ...résultats de l'application des pratiques et des outils du Lean Management favorisant l'efficience des processus à travers la réduction des coûts, amélioration de la qualité et la réduction du temps. Ceci tout en insistant sur la contribution des employés et le respect des Hommes étant le coté des social du Lean Management. Cette philosophie devient la stratégie majeure des entreprises pour atteindre la satisfaction des consommateurs à travers une meilleure création de la valeur ajoutée. Mais aujourd'hui, le déficit majeur réside dans la façon l'entreprise peut utiliser la RSE<sup>2</sup> comme facteur stratégique de création de valeur puisque les profits économique et financier sont l'objectif primordial derrière la création de toute entreprise.

**Mots clés: Lean Management, RSE, performance économique, performance sociale et environnementale, management stratégique.**

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<sup>1</sup> Corporate Social Responsibility

<sup>2</sup> Responsabilité Sociale de l'Entreprise

## Introduction:

The debate around the integration of CSR into firm's strategy has taken further attention in recent years. Although, CSR as a concept has emerged in the late 60s, but its integration into strategic management has been emphasized in the last years, as firms are more attracted to CSR practices and see how its integration in processes can enhance their performance. In another hand, Lean Management has emerged in the 90s through the Toyota Production System that found a rational way to optimize process through removing wastes at any forms and making place to more added value actions (Liker, 2007). We can grasp that both concepts, CSR and Lean Management, aim to increase firm's performance, each one using different approaches and methods. We can notice also, that each one of the concepts analyzes performance differently, for example, CSR seeks at making more revenue by integrating social and environmental actions, while Lean Management seeks more sales revenue by less wastes at any form and regardless of actions nature, whether they are social or environmental. Nevertheless, both concepts seek at enhancing performance, in Lean Management, social aspect is mainly present, while the environmental integration is more complex (Venkat, 2007). Latest research have shown that the integration of CSR into strategic management is a hard task since firms have to introduce social and environmental actions not only as symbolic behavior scheduled at specific periods in the year, but elaborating "action plans" integrated deeply as management actions to be implemented and to be assessed periodically by key performance indicators. In another hand, Lean Management has been proven as a complicated management strategy that implies major changes in firm's processes. The major problematic issue while apprehending a strategy that allies both CSR and Lean Management, for performance enhancing goals, is how to find an integration model that focuses on main similarities and strives to switch differences into opportunities. In other words, how can we conceive a dynamic model of integrated CSR and Lean Management in strategic management?

This article aims to answer the following questions:

- 1- What are the major constraints of CSR integration in strategic management?
- 2- What are the major constraints of Lean Management in strategic management?
- 3- What is the dynamic model of social Lean Management?
- 4- How can we integrate this dynamic model into strategic management?

This article is structured in order to answer these questions as the following:

1. **CSR integration in strategic management**
2. **Lean management integration in strategic management:**
3. **CSR integration models in a Lean framework**

## 1. **CSR INTEGRATION IN STRATEGIC MANAGEMENT:**

In studies related to strategic management, there has always been an emphasis in increasing sales revenues, competitiveness and reducing costs and time, while social and environmental actions have been perceived as additional costs operated by firms for regulatory compliance and hence seen as constraints. In the 90s, CSR has been perceived differently as social theories strive to give social and environmental actions a different status as “economic drivers” for firm’s economic performance. **(Friedman, 1970)** has stated with “the theory of Stakeholders” a new vision of “profit distribution”, all stakeholders are seen as part of the business profit shareholders, that is why every action should include there “consensus”. But first, we should understand what is the main scope of CSR to be able to understand how to integrate it in strategic management.

### 1.1 **Definition of CSR:**

Since the 30s, academic researchers have put more lights under the CSR theme such as **Edwin M. Dodd, Adolf A. Berle, Gardiner C. Means (1932)** and lately with **Ernst Young (1979)**. Though Howard Edwin is known to be the founder of the CSR concept in 1953 through his famous book « Social Responsibilities of the Businessman ». After publishing this book, private and public institutions have come together to emphasis on firm’s role and duty in decreasing their environmental impact. Social considerations have taken major importance since then. CSR is the declination on sustainable development principles in companies. European Commission defines CSR as « the responsibility of enterprises for their impacts on society”. Respect for applicable legislation, and for collective agreements between social partners, is a prerequisite for meeting that responsibility. To fully meet their corporate social responsibility, enterprises should have in place a process to integrate social, environmental, ethical, human rights and consumer concerns into their business operations and core strategy in close collaboration with their stakeholders, with the aim of:

- Maximizing the creation of shared value for their owners/shareholders and for their other stakeholders and society at large;
- Identifying, preventing and mitigating their possible adverse impacts. (**European Commission, 2001**).

(**Carroll, 1979**) has defined CSR as « “Corporate social responsibility encompasses the economic, legal, ethical, and discretionary (philanthropic) expectations that society has of organizations at a given point in time », he distinguished 4 types of obligations: Economic, legal, ethic and philanthropic:

***Table 1: CSR obligations***

CSR obligations	Dispositions
<b>Economic</b>	Revenue, profit, quality and security compliance (MUDAS or wastes in Lean Management )
<b>Legal</b>	Environmental and social legacy (Lean social aspect )
<b>Ethical</b>	Respect of society (Respect of People in Lean Management )
<b>Philanthropic</b>	Welfare

***Source : Carroll, 1979***

(**Wood, 1991**) adds to **Carroll’s** model three levels of CSR:

***Table 2: CSR levels***

CSR levels	Dispositions
<b>1<sup>st</sup> level: social institution</b>	Firm’s products are related to society in which they operate. Products must fulfill social considerations.
<b>2<sup>nd</sup> level: Stakeholders consideration</b>	Results must be related to stakeholders, objectives must be defined according to stakeholders.
<b>3<sup>rd</sup> level: individual managers commitment</b>	Defining sustainable development strategies for social end and environmental aspects.

***Source: (Wood, 1991)***

Both **Carroll’s** and **Wood’s** definitions of CSR have been combined to come up with one model of CSR’s definition that (**Attarça, et al, 2005**) presented as bellow:

***Table 3: Carroll's and Wood's CSR combined model***

	<b>Institutional level</b>	<b>Organizational level</b>	<b>Individual level</b>
<b>Economic responsibilities</b>	Producing goods and services, offering jobs, creating wealth for companies	Goods and services prices are rational according to production costs	ecological production, using eco-friendly technologies, promoting recycling activities
<b>Legal responsibilities</b>	Respecting law and regulation. Not using lobbying or expecting public policies	Looking forward for public policies by defending clear interests.	Taking advantage of legal instructions to innovate
<b>Ethical responsibilities</b>	practicing values and principles	providing precise and complete information to increase security	Developing information for usage and promoting it as a competitive advantage
<b>Discretionary responsibilities</b>	Citizen firm	investing in charity actions	investing in social issues

***Source : (Attarça, et al, 2005)***

### **1.2 Scopes of CSR:**

To be able to apply CSR strategy into firm's strategic management, firms have to highlight major actions that should be included into their management. There is no advantage of applying actions that wouldn't lead to specific goals. CSR actions should help firms achieve their objectives and increase their performance. The table below highlights main CSR actions as elaborated by different standards and guides:

### 1.2.1 Social scope:

OCDE, 2011	ISO 26000, 2010	GRI, 2007	Klarkson, 1995)
<ul style="list-style-type: none"> <li>• publishing information and data related to employees hiring policy, salaries, skills, work conditions, law and regulations,</li> <li>• respecting labor rights, human rights,</li> <li>• preserving accidents and damages related</li> <li>• security and health protection</li> <li>• vanishing child work</li> <li>• equal and fair treatment</li> <li>• local skills hiring</li> <li>• anti-corruption measures</li> <li>• consumers : real and updated information, private information protection, vulnerable and specific consumers needs</li> <li>• fair competition: price fixation, anti-lying marketing practices</li> <li>• fiscal contribution of companies in public finance</li> </ul>	<ul style="list-style-type: none"> <li>• Central questions in action fields related to social components :</li> <li>• Central question 1 : Organization Governance</li> <li>• Central question 2 : Human rights</li> <li>• Central question 3: Work conditions</li> <li>• Central question 4: Loyal practices</li> <li>• Central question 5: consumer related questions</li> <li>• Central question 6: Community and local development</li> </ul>	<ul style="list-style-type: none"> <li>• Labor Practices and Decent Work</li> <li>• Human Rights</li> <li>• Society</li> <li>• Product Responsibility</li> </ul>	<ul style="list-style-type: none"> <li>• Firm</li> <li>• employees</li> <li>• shareholders</li> <li>• customers</li> <li>• suppliers</li> <li>• environment</li> </ul>

### 1.2.2 Environmental scope:

OCDE, 2011	ISO 14001	ISO 26000	GRI, 2007
<ul style="list-style-type: none"> <li>• Environmental Management system implementation</li> <li>• deployment of environmental impact of companies practices and products along their life cycle in health and security conditions</li> <li>• elaborating emergency plans in order to reduce environmental impacts in health and environment</li> <li>• continuous improvement in increasing companies environmental impacts by training employees in HSQ,</li> <li>• being part of public environmental policy</li> </ul>	<ul style="list-style-type: none"> <li>• This standard elaborates guidelines about establishing an EMS for the following goals:                             <ul style="list-style-type: none"> <li>• increasing environmental performance</li> <li>• respecting compliance obligations</li> <li>• attaining environmental objectives</li> </ul> </li> <li>• This standard identifies essential specifications while elaborating an EMS such as :                             <ul style="list-style-type: none"> <li>• organizational context</li> <li>• leadership</li> <li>• Planning</li> <li>• support</li> <li>• operational activities realization</li> <li>• performance assessment</li> </ul> </li> <li>• continuous improvement</li> </ul>	<ul style="list-style-type: none"> <li>• 7 central questions, two questions are related to the environmental aspect :                             <ul style="list-style-type: none"> <li>• <b>Central question 4 : environnement</b></li> <li>• Action field 1 : pollution prevention</li> <li>• Action field 2 : sustainable resources use</li> <li>• Action field 3: climate change extinction</li> <li>• <b>Central question 6: consumers related questions</b></li> <li>• Action field 1: loyal practices in marketing, information and contracts operations</li> <li>• Action field 2: Consumers Health and security</li> <li>• Action field 3: sustainable consumption</li> <li>• Action field 4: Environment protection, biodiversity and rehabilitation of nature housing</li> <li>• Action field 5: Private data protection</li> <li>• Action field 6: essential services access</li> <li>• Action field 7: Education and awareness</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Material</li> <li>• Energy</li> <li>• Water</li> <li>• Biodiversity</li> <li>• Emissions, Effluents, Waste</li> <li>• Products and Services</li> <li>• Compliance</li> <li>• Transport</li> </ul>

### 1.3 CSR Impact on performance

After presenting scopes related to CSR, this paragraph aims to analyze the impact of social and environmental actions on performance:



Social Management can be defined as the resources and the means that can allow firms to operate a PDCA<sup>3</sup> cycle in social actions and practices that aim to satisfy internal and external stakeholders. To control the effectiveness of these social actions through the PDCA cycle, the firm has to define performance indicators that must not be restricted to social indicators, but economic and environmental if possible. But the question that firms have to be able to answer: what profit to attend? Yes, it is a question of profit, the main reason for any firm's creation (**Freeman, 1994**). Many academic researchers have been interested in demonstrating main social practices impact on financial performance while the other performance sides such as quality, productivity and time have taken less importance. We can refer to the study conducted by (**Lahmini & Ibenrissoul, 2016**) that covered firms registered in "Bourse des valeurs de Casablanca" that revealed that CSR has a positive impact in firms' performance. For (**Savaco 2015**), the best performance model by integrating CSR into strategic Management that can realize an optimum point between financial results and CSR actions is the model that responds to direct stakeholders interests (suppliers, human resources, clients...) and indirect stakeholders interests (environment and human rights). The major challenge for any firm though is to respond to goals of these two parts that can be contradictory. Consequently, firms tend to respond to stakeholders which goals are not contradictory but are not directly linked, so it becomes easy to satisfy them through a planned schedule according to priorities in time. For (**Hillman & Keim, 2001**), taking into consideration the interests of direct stakeholders such as employees, clients, suppliers and economic and social environment is a guarantee of an added value and an increasing of the firm's performance. For them, the firm has to define which social and environmental actions and practices will register better satisfaction for all stakeholders, that is what (**Porter & Cramer, 2011**) called "a shared value". For (**Fikri, 2015**), taking into consideration the impact of CSR in financial performance should be analyzed from two dimensions: time and contingency. In the time dimension, CSR is considered to be an investment that will not necessarily generate a return on investment in a short time. The "contingency dimension" takes into consideration the fact that the positive impact of CSR on Financial performance should be determined through many factors such as firm's size, sector, location; stakeholders, social system...etc

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<sup>3</sup> Plan, Do, Check and Act as the Deming continuous improvement cycle.

## 2. LEAN MANAGEMENT INTEGRATION IN STRATEGIC MANAGEMENT:

Lean Management has played a prominent role in performance increasing in TPS<sup>4</sup>. It has proven itself as a method of wastes elimination, but also as a philosophy that is based on respect of People. The linkage between CSR and Lean Management is obviously the principle of “Respect of People” that includes environmental and social actions. This section will focus on studying how the two concepts can lead to a single integrated strategy.

### 2.1 Definition of Lean Management:

The first point of operational performance of TPS was Lean manufacturing that has been initiated by the clever engineer « **Taichi Ohno** » in **1988**. He described what he meant by saying: **“All we are doing is looking at the time line, from the moment the customer gives us an order to the point when we collect the cash. And we are reducing the time line by reducing the non-value adding wastes.”**(Liker & al., 2004). Daniel Jones and James Womack are the key authors that put this concept in the hands of many researchers by publishing their famous book **‘The machine that changed the world** » in 1990. They defined this concept in their second book in 1996 as **«a way of thinking that allows companies to specify value, line up value creating actions in the best sequence, conduct these activities without interruption whenever someone requests them, and perform them more and more effectively.»** (Womack & al., 1996).

The key point of Lean Management is maintaining two elements: eliminating wastes and creating added value. We can add to these two elements what (Cruz Machado, 2008) emphasized in as the importance that lean enables “agility” otherwise, the method would be incomplete. (Christoph & Towill, 2000) defined agility as the capability of processes to respond to instant variant demands. The 7 types of wastes are the key to attend such efficiency a process are cleaned from wastes making place to more added value. The TPS listed only 7 wastes or MUDA in Japanese language that are:

- overproduction
- transport
- inventory
- waiting
- over processing
- defects

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<sup>4</sup> Toyota Production System

These wastes that are technical are not enough to make process performance unless they are applied in an environment that gives importance to employee's knowledge and skills. This is the 8<sup>th</sup> MUDA or waste. For **Craig Larman and Bas Vodde (Liker, 2004)**, installing a Lean system is about responding to customers' demands in a short time, with quality and an added value. The added value includes not only the production process but also the employees and their environment. The major challenge for the firm is to find the optimum between responding on time, insuring the quality and processing goods and products without wastes and constraints for employees and stakeholders. We should include in this reflection the fact that lean management is based on many tools that help companies reach the aimed performance with respect to the three core principles that are: eliminating wastes, respecting people and being agile. The table below presents main Lean management tools and their contribution to performance increasing:

**Table 4: Lean tools impact on economic performance**

<b>Tool/principle</b>	<b>Impact on economic performance</b>
<b>Waste elimination</b>	Cost and quality improvement
<b>Certifications and standards</b>	Compliance for a better quality
<b>JIT</b>	Inventory Cost decreasing , lead time diminution,
<b>KAIZEN</b>	Solutions designing
<b>SMED</b>	Cost decreasing,
<b>5S</b>	Increasing work conditions

**Source: Authors**

## **2.2 The link between CSR and Lean Management**

Lean Management and CSR are two methods that can be positively linked if their implementation is rational. While implementing such concepts, companies have to respond to the main questions:

- Which one should be primarily settled?
- How to make the best linkage between lean tools and principles and CSR practices?

### 2.2.1 Impact of lean management on economic performance :

According to (Lyonnet, 2011), Lean benefits can be classified into three categories:

- **Operational:** stock reduction, cost reduction, productivity increasing, Cycle time reduction (Kilpatrick, 2003).
- **Administrative:** reducing paper work, orders number (Kilpatrick, 2003).
- **Strategic:** Lean philosophy aims to increase sales revenue and market share (Baglin & Capara, 1999; (Kilpatrick, 2003).

### 2.2.2 Impact of lean management on social performance :

Lean management tools have direct impacts on overall firm's performance. Their impact goes beyond economic performance to social performance since the Lean philosophy is directly related to human resources contribution to tools and principles implementation in processes.

**Table 5: Positive impact of Lean tools on social performance**

Tool/principle	Positive Impact on social performance
Employees engagement	Finding solutions
KAIZEN	Finding solutions
Transparency to suppliers and employees	Long term commitment of suppliers, worker engagement, firm reliability, support from community and better ethic engagement

**Source: Authors**

Nevertheless, Lean can have a negative social impact too. The table below gathers the principle Lean tools and principles that can have a negative impact on social performance. For example the report (Lean Manufacturing, quelle place pour la santé et la sécurité au travail? INRS, 2013) has listed some of them:

**Table 6: Negative impact of Lean tools on social performance**

Tool/principle	Negative Impact on social performance
Waste elimination	multiple risks, multiple tasks
Eliminating unuseful moves (one of the 8 mudas)	muscles problems

<b>Work in Process</b>	neurological and auditory problems because of the machine gathering in a limited space
<b>Single Minute Exchange of Die (SMED)</b>	can lead employees to stress through frequent equipment switching, fast tasks
<b>Just in Time (JIT)</b>	stress because of time respect principle
<b>Jidoka</b>	can limit employees to innovation and creating through the strict respect of work standards
<b>Visual Management</b>	can be a source of stress because teams can fix objectives that don't suit with tools and capacities
<b>Perfection (Vinardi, 2016)</b>	this principle can lead firm to neglect employees well been

*Source: Authors*

In work conditions magazine (n°1, October 2014) « **Un Lean mal accompagné génère des RPS<sup>5</sup> : illustration autour du cas d'une cuisine centrale** » (Montreuil, 2014), some side effects are present :

- Conflicts between employees and management
- Health problems
- Work accidents
- Employees firing
- Security and moral

### **2.2.3 Impact of Lean Management on environmental performance :**

Following the global impact of Lean management on different performance aspects, Lean Management is criticized for being complex while combining the efficiency goals aimed by its tools and the environmental goals. The table bellow presents the main positive impact lean principle's on environmental performance.

<sup>5</sup> Risques Psycho-sociaux (Psycho-social risks)

***Table 7: Positive impact of Lean Management principles on environmental performance***

<b>Tool/principle</b>	<b>Positive Impact on environmental performance</b>
<b>Waste reduction</b>	Cost reduction, less consumption of material and energy
<b>Certifications and standards</b>	introduction of environmental practices

***Source: Authors***

Lean Management is a pre-requisite for any firm that aims to integrate environmental system into its strategy (Kovacova. 2013), (Machado & al., 2013). Kanban and SMED are tools that contribute to waste reduction through JIT. Waste elimination is part of environmental objectives (Lee, 2013) even though, the hypothesis that lean management can increase environmental performance is source of debate.(Venkat & al., 2006) has demonstrated in his study that JIT can generate multiple transport traffic and according to which transportation tool can contribute to increasing Carbone dioxide emissions. (Dûes & al., 2011) confirm that environmental practices and lean management are not always compatible. It is up to the firm to determine the best scenarios that can help attain positive impacts. We can assume that, as lean strives to eliminate wastes and create more “value added process”, environmental management system strives to eliminate environmental wastes to create more “eco-friendly value added process”. The environmental MUDAS can be listed as:

- air emissions
- ground degradation
- irrational Energy
- organic compounds

The table below lists the principle negative impact of lean tools and principles on environmental performance:

***Table 8: Negative impact of Lean Management tools on environmental performance***

<b>Tool/ principle</b>	<b>Negative impact on environmental performance</b>
<b>JIT</b>	Carbon dioxide emissions through multiple transport traffics
<b>SMED</b>	Multiple machines maintenance through harmful chemical material
<b>TPM</b>	Regular and multiple maintenance operations through harmful chemical material

***Source: Authors***

### **3. CSR INTEGRATION MODELS IN A LEAN FRAMEWORK:**

#### **3.1 CSR integration in the corporate strategy:**

The integration of CSR in strategic management field remains, to some extent, limited (Vitolla, 2015). The strategic CSR has become a subject of debate by (Porter & Cramer, 2006) as a strategic element to link with competitive advantage. (Lantos, 2001) has introduced the concept of strategic CSR. The shared value that focuses on creating a common value to stakeholders was an optimum strategic integration vision introduced by (Porter & Cramer, 2011). Some few researchers have come up later with more integrative vision about CSR into strategic management. (Galbreath, 2006) defined stages and steps to be followed by a firm in the integration process, and (Sharp & Zaidman, 2010) defined a process model of relationships between management, community and strategy. (Vitolla, 2015) has determined strategic scenarios to integrate CSR into corporate strategy. He stated that this integration can be rather “Altruistic” meaning that the firm can use CSR to contribute to public welfare where goals don’t coincide with the firms goals but fulfill the needs of the society regardless the impact on its economic performance. This is a strategy used by big sized firms that achieved a huge performance and settled a wide reputation for public contribution that other firms can’t handle due to social investments amounts that should be provided in such strategies and also due to the fact that firms don’t expect a return on social investment. The second scenario is the “economic” stating that the main objective of the firm’s creation is “profit maximization”, here the firm doesn’t include any CSR actions. It is mainly a reflection of startups and small companies that are in the beginning stage that needs more focus on establishment issues, CSR concerns will be considered after settling the business and gaining securing sales revenues. Another statement is “instrumental” where firms are trickier with using social or environmental matters as economic contributors to firm’s performance. CSR actions are used and planned according to specific economic goals. This is the rational use of CSR that is used by firms with any size to be an argument for CSR integration into strategic management. Finally, the “social” approach that states that social issues are like economic goals, and should be treated at the same extent as the firm’s objective is to respond to all stakeholders whether they are direct or indirect (Allen, 1992; Freeman & Mc Vea, 2001); and the economic, social and competitive aims are closely interconnected (Mc Manus, 2008; Porter & Kramer, 2011).

### 3.2 CSR integration in Lean Framework:

The strategic integration of Lean Management into firm's process can be a source of multiple adjusting and changing in the firm's operational process. The philosophy of Lean Management is not only about settling some adequate tools that can drive economic performance but mainly is about creating a systematic synergy between economic performance and employees motivation through decent work, learning and developing the sense of innovation and proposition. The main constraint while discussing whether lean management is a social performance driver or not is the experience of firms that suffer from "side effects" of implementing Lean management in a social point of view. The table bellow presents steps to follow by firms while implementing Lean process:

***Table 9: Lean implementation process steps***

Steps	Consistency
<b>1- Defining the core objectives for the lean implementation:</b>	Lean management is a philosophy that uses multiple tools and techniques to attain a systematic performance including economic profit and social satisfaction. Firms have to define earlier what objectives are intended by such an implementation. Implementing multiple tools and initiatives can make it hard for teams to follow the optimization goal since some tools as listed before can make employees strive to handle: SMED, KANBAN and JIT. Firms can begin by deciding one or two tools at a bigger extent to drive the change over the searched goal
<b>2- Defining the main operational process to make lean</b>	The production system is the main system that any lean implementation begins analyzing. Firms have to define the VSM of their process including cost, material and people. Constraints related to each element of the process VSM have to be listed and detailed in another paper work.
<b>3- Defining core lean tools:</b>	The firm has to apply only tools that help increasing process performance and can be managed and practiced by teams.
<b>4- Defining adequate Lean teams:</b>	Based on firm's policy, management commitment and future plan, lean culture can be initiated by forming a lean team in the next phase. One of the first activities about lean implementation cycles is lean training (Wan and Chen, 2009). The lean team needs to arrange and conduct different trainings about lean techniques, lean philosophy, implementation road map and necessary knowledge and skills about lean. This training provides a clear knowledge about lean's first principle which is about value determination. The lean team is usually consisted of experts and management personnel from different department and their main objective is to organize people and resources to implement lean in production process.



<p><b>5- Initiating employees to Lean change:</b></p>	<p>It is necessary before applying any tools or practices to be sure about the adhesion of employees to the lean change. Trainings related to the philosophy and its tools are prominent since the concept is not necessarily understood by all the employees. Top management is the first to be concerned by such training as they play the role of leaders of that change. The social side of Lean Management is the key to introduce and adhere employees to the lean implementation since they can perceive it as a controlling tool rather than a performance tool. The training can be more specific as the implementation goes deeper according to the needs and the financial capacities of the firms.</p>
<p><b>6- Performance assessment:</b></p>	<p>The process of performance assessment takes a major importance after settling the new system. The Lean strategy is driven according to core objectives that must be achieved if the lean installation has been successfully and rationally studied. Attaining the goals can take time and is not necessarily fulfilled in a short time. Some firms take until 5 years (<b>Harbal &amp; Kihel, 2018</b>) to account best lean practices after many adjustments and reviews. There are many lean indicators that can be used to assess firm's performance according to chosen aspects (economic, social or environmental) and according to time, cost and quality dimension (<b>Harbal &amp; Kihel, 2018</b>)</p>

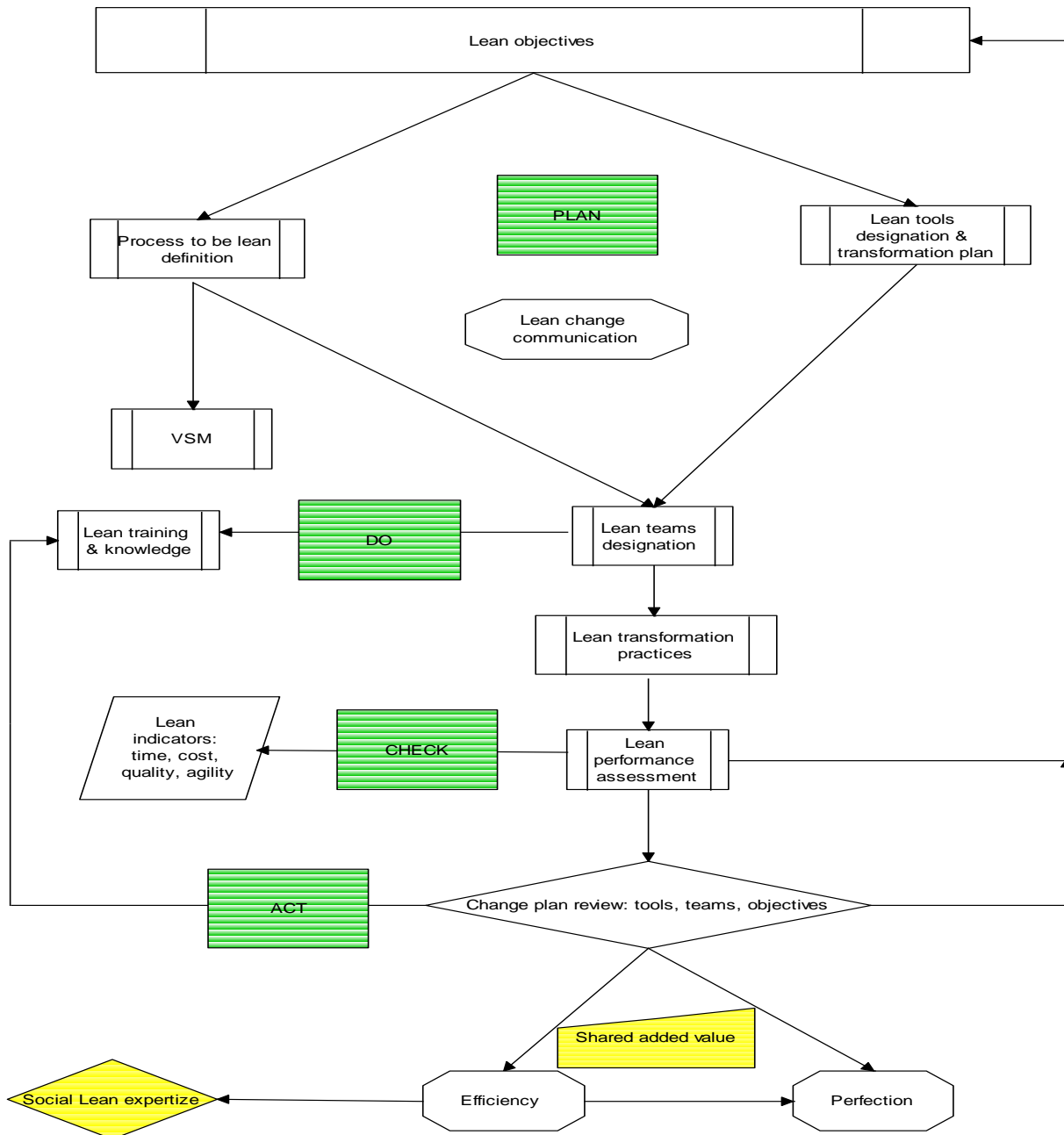
***Source: Authors based on (Azharul & al., 2013)."***

The integration of Lean management in strategic management is a question that leads to many changes and adjustment at firm's process. Firm's should start the Lean journey by determining the prior objectives that are vital to the firm's existence. Otherwise, many goals and objectives will lead to many scenarios and plans that will disturb the production process and can become the major process obstacle rather than the solution.

### **3.2.1 Lean integration model:**

The lean integration model focuses on the main strategic reflection that top management should adopt while beginning the lean installation. Tools can be chosen according to their ability to fulfill the searched performance level, but also according to firm's financial and human and material resources ability.

**Figure 1: Lean integration model**



**Source: Authors**

### 3.2.2 SCR integration in a Lean framework:

According to (Vitolla, 2015) there are three schools to integrate CSR into strategic management. We will use them to as a model for the integration into a Lean framework. The three schools can be an inspiration basic model of CSR integration into Lean framework.

***Table 10: The three schools of CSR integration into Lean framework***

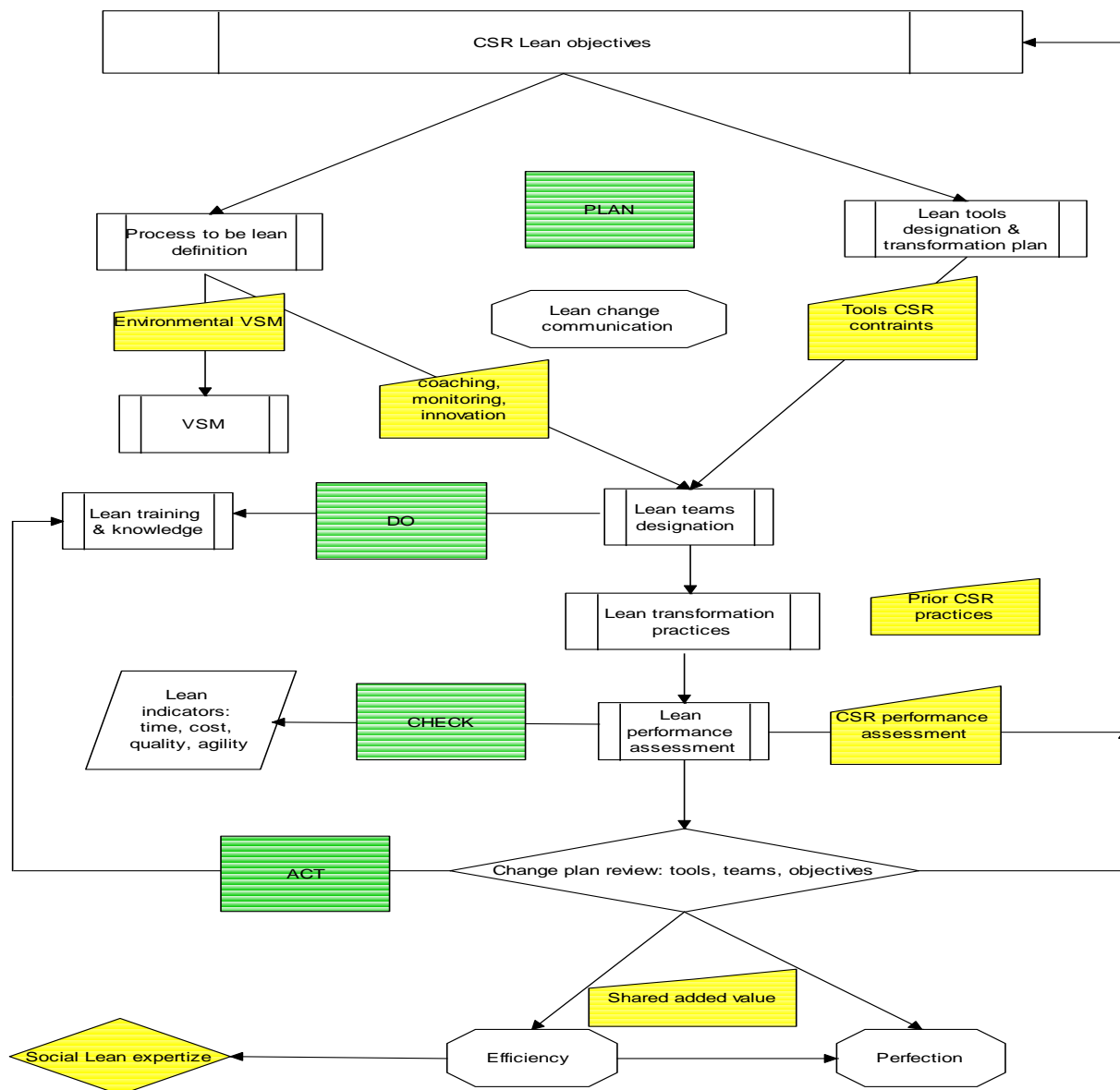
Approach	Consistency
<b>Prescriptive approach</b>	<p>In this approach, top management can formalize strategy procedures through a rational analyze of objectives and tools (<b>Andrews, 1971</b>).</p> <ul style="list-style-type: none"> <li>- The lean philosophy is the basic framework of the CSR integration.</li> <li>- The social practices are defined according to main performance goals to attend</li> <li>- The firm can boost social performance in the Lean framework through a focus on the main negative social impacts on lean tools: stress, work accidents , health problems</li> <li>- The CSR become an economic performance tool enhancer</li> <li>- Process are reviewed according to goals achievements</li> <li>-</li> </ul>
<b>Descriptive approach</b>	<ul style="list-style-type: none"> <li>- Top management deliberates reflections about main CSR strategic orientations</li> <li>- the CSR strategy is designed as a pre-draft and is the feasibility studies according to the linkage with the global strategy of the firm</li> <li>- social practices can</li> </ul>
<b>Evolutionary approach</b>	<ul style="list-style-type: none"> <li>- This approach is common to the prescriptive and descriptive approaches. The firm is more intentioned to choose practices that work well according to what stands best in the market: not any social action is integrated,</li> <li>- Firm apply a survey function according to what the market offers as a better experience: law, constraints, performance achievement</li> </ul>

***Source: (Vitolla, 2015)***

In the lean framework model, the strategic integration of CSR can lead to the second model as bellow. This model focuses on the part where CSR practices and actions should be integrated in the PDCA cycle of the Lean contribution. For example, the lean tools present a major constraint at CSR performance goal, and then it is necessarily to overcome the side effects of these tools at employee's morale, health and relationships. For example, the SMED tool can be a source of many stress and disagreements that can lead employees to many mistakes and leavings. Top management can overcome this problem by organizing many working teams

and shifting around many mixed activities some of them are hard and some are soft. Another example is the use of the VM as a tool that clears up the definition and the achievement of goals at a daily manner. It is more appropriate if goals are minimized to the most important ones, in a weekly manner for example, and shifting teams around these objectives regularly in time so teams are less tired and more re-initiating other objectives.

**Figure 2: CSR Lean framework model**



**Source: Authors**

The integration approach depends on firm's capacities and resources allowed to enable strategy to emerge or to be developed. It also necessary to integrate social and environmental

practices as investment costs for better results. However, these practices can be a real challenge therefore their integration should be based on design methods and calculations. Life Cycle Costs Analysis is a tool that enables such calculations based on goals nature. The table bellow shows the possible consensus to overcome the social and environmental negative side of Lean tools and principles:

**Table 11: Consensus to overcome social and environmental negative side of Lean tools and principles**

<b>Tools</b>	<b>Social consensus</b>	<b>Environmental consensus</b>
<b>SMED</b>	many shifting teams for less stress	paying intention to
<b>JIT</b>	many shifting teams for less stress	calculating the optimum point between transports cost and CO2 emissions
<b>KAIZEN</b>	operational stuff is the solutions runner	Finding environmental solutions for quality problems
<b>POKE YOKE</b>		defining environmental indicators and standards in a POKE YOKE system
<b>Machines less space</b>	Many shifting teams for less health problems	
<b>MUDA: over-processing</b>	allowing some unuseful process to maintain social relationships	maintain non economic value adding process that guarantee environmental performance
<b>GENSU GEMBUTSU</b>	discussing social issues: work conditions, law compliances	discussing environmental issues: more ecological process
<b>Total Quality Maintenance</b>	Optimizing maintenance shifts	applying less chemical harming products because of multiple TQM actions

**Source: Authors**

### **Conclusion:**

The CSR integration into strategic management can be a source of many studies and arrangements that firms have to analyze before undertaking them. The key for such successful integration is the definition of main performance objectives firms want to achieve through this integration. It is today not only an ethical issue that social and environmental actions and practices should be taken into consideration for humanitarian matters, but it is taking more and more space as a financial performance increasing factor. Once firms link CSR practices to financial aims, it becomes feasible to draw integration plans. Firms that have already established a lean framework are more capable of this CSR integration since they are used to long term adjustments and have gained the return on investment waiting spirit. Second, the departure from a Lean ground means that firms have a sense of employee values as a key success for any process performance increasing, but still this CSR integration is the solution of attenuating stress, health problems and security accidents that lean can stimulate through its tools and principles that make no place to defects, time and costing wastes. The integration of prior social and environmental actions in the Lean Framework is the pre-requisite for disarrangements that come as an output of the pursuit of perfection and continuous improvement. This article is considered to be a lightening paper for firms managers and operational staff to perceive rationally that CSR actions are factors for performance improvement.

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