

An Exploratory Study of the Relationship Between Lean Production and Corporate Social Responsibility in Vietnamese SMEs

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Abstract: In recent decades, along with a deeper integration into the world economy, when Vietnamese enterprises have had to respect and comply with international competitive laws, the issue of corporate social responsibility (CSR) has drawn a lot of attention and become an essential requirement for enterprises today. However, many Vietnamese small and medium sized enterprises (SMEs) are still wandering around trying to find ways to implement CSR while at the same time they have to face a number of challenges such as low productivity, out-of-date technology, and limited financial and human resources. This paper presents the concept of lean manufacturing in CSR, and points out the arguments showing that lean manufacturing can be a solution to effective and sustainable CSR implementation. An empirical research model will also be suggested to study the relationship between lean manufacturing and CSR in the context of Vietnamese SMEs.

Keywords: Lean management, corporate social responsibility, SMEs, Vietnam.

1. Introduction

Since Vietnam joined the World Trade Organization (WTO) in 2006, the country has been more open to the world economy. As a result, many foreign companies have come to do business in Vietnam while the domestic companies, who mainly are small and medium sized enterprises (SMEs), have become more involved in the global value chain by supplying raw materials and manufacturing parts, or by being contractors for multinational companies. Therefore, domestic enterprises have to operate in a more fiercely competitive market, which

put significant pressures on them in finding ways to do business in a more sustainable and socially responsible manner. In such a context, implementing corporate social responsibility (CSR) can be an important step on the way towards fostering sustainable business for Vietnamese enterprises. According to some previous studies on CSR in Vietnam, SMEs still have an ambiguous awareness of CSR. Thus, CSR implementation is merely a reactive response to the requirements of foreign business partners. CSR activities in these SMEs are unsustainable. Many SMEs are still wandering around trying to find the solution to the lack of financial resources to support their CSR activities such as donations, etc.

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In the current context of Vietnamese SMEs, in order to implement CSR, it is necessary to find a method which is not costly but still can ensure the sustainability of CSR activities. Lean production can be considered as such a method to help SMEs deal with the problem mentioned. To clarify the argument that lean production is a way to implement CSR sustainably, it is a must to explore the essence of lean production model, the concept of CSR and the relationship between them.

2. Theoretical background of lean production and corporate social responsibility (CSR)

2.1. Lean production

The concept of “lean manufacturing” or “lean production” was first introduced in 1990 in the book “The machine that changed the world” of Daniel Jones, James Womack and Daniel Roos. The authors defined “lean production” as the set of “tools” that assist in the identification and steady elimination of waste to reduce production time, and increase productivity and profit. In the lean production system, to increase production efficiency, companies focus on identifying wastes including tangible and intangible ones, then use scientific tools and methods to minimize non-value added activities in the production process [1]. According to Ohno and Taiichi (1988), there are 7 types of lean waste, including over-production, inventory, defects, over-processing, motion, transport and handling, and waiting [2].

Later an eighth waste was defined by Womack et al. (2003); it was described as manufacturing goods or services that do not meet customer demand or specifications. Many others have added the “waste of unused human talent” to the original seven wastes [3]. Another

waste of an ineffective information system was also identified [4]. To sum up, the list of lean wastes includes not only tangible but also intangible ones, and it is believed that eliminating the intangible wastes is much more complex than the tangible ones, as companies may not recognize the existence of such wastes.

Currently, the three most popular tools of waste elimination are *5S*, *Kaizen* (continuous improvement) and *Mieraku* (visual management). Beside these tools, there are several other tools in lean production such as Standard Work, Value Stream Mapping, Preventative Maintenance, Total Productive Maintenance, Changeover/setup Time, Kanban, Pacemaker, Overall Equipment Effectiveness, and etc [5].

The application of the tools mentioned helps a company to achieve its goal of cost reduction. Some companies that have applied lean production have reported results such as: average production site per machine reduced by 45 percent, wastes reduced up to 90 percent, production cycle reduced from 16 weeks to about 5 or 6 days, delivery time is shortened from 4-20 weeks to 1-4 weeks [6, 7].

In fact, applying lean production helps companies to effectively utilize available resources to improve product quality, and to shorten production time to meet the customers’ demand [6, 8]. Moreover, lean production also promotes an innovation culture, enhances the professionalism in the working environment for employees, and increases customer’s satisfaction and brand loyalty [9].

2.2. Corporate social responsibility

The CSR concept appeared for the first time in 1953 in the book “Social Responsibilities of the Businessmen” of Howard Rothmann Bowen. Bowen (1953) defined CSR as “an obligation to pursue policies to make decisions

and to follow lines of action which are compatible with the objectives and values of the society” [10]. Since that early approach, the term of CSR has been elaborated a great deal. CSR is also considered as “the continuing commitment of business to contribution to sustainable economic development, working with employees, their families, the local community and society at large to improve their quality of life, in ways that are both good for business and good for development” [11].

Recently, the CSR concept was updated by the European Commission in 2011 as “a process whereby companies integrate social, environmental and ethical issues into their

business operations and strategy in close interaction with their stakeholders, going beyond the requirements of applicable legislation and collective agreements”. This new concept shows that “a strategic approach to CSR is increasingly important to the competitiveness of enterprises, helping them to create value both for owners and shareholders... to win the trust and respect of citizens” [12].

CSR is a complex and ambiguous concept with no single conceptualization. However, the main topics of CSR as defined in ISO26000 include the following.



Figure 1: CSR issues in ISO26000.

Source: International Standard Organization, 2010, <http://iso.org>.

Within manufacturing, the ISM¹ has developed principles of social responsibility for

¹ ISM, the short name of Institute of Supply Management - the first supply chain management organization in the world, established in 1915. Through training activities, research projects and technology transfer, ISM has developed its strong impact on individuals and organizations worldwide.

its industry across seven areas. These areas include supporting communities, proactively promoting diversity, environmental responsibility, adhering to ethical standards or conduct, use of sound and transparent financial practices, protection of human rights and dignity, and safety in the work environment, as well as in products and practices [13].

Therefore, CSR activities in manufacturing often include pollution prevention, recycling of materials, waste reduction, and employee health and safety.

2.3. Relationship between lean production and CSR

Based on the review of the lean production approach and CSR concepts, it seems that there is a relationship between these two concepts. When a company applies lean production, the company may also increase production efficiency and improve working condition and minimize environmental effects at the same time, all of which contribute to CSR implementation. Therefore, companies may use lean production as a method to implement CSR. Lean production initiatives bring about CSR benefits, particularly in environmental protection and working condition improvement as discussed below:

Firstly, applying lean production leads to the reduction of material wastes and the recycling of materials. Consequently, the company is involved in waste elimination at the source rather than employing end-pipe-treatment methods. As a result, pollution of air, soil and water is reduced [14, 15].

Secondly, lean production may lead to less pollution by reducing the marginal cost of pollution reduction activities and thereby encouraging managers to invest in waste reduction [14]. Research shows that low inventory levels require workers to be cognizant of change in the production process [16]. Once the workers have developed such awareness, teaching them additional related skills in cutting waste may require less investment [14].

Thirdly, lean production may also reduce the cost of pollution reduction by reducing the cost of discovering opportunities for profitable pollution

prevention. By providing new insight into the importance of indirect and distributed costs and benefits, lean production may provide managers with new expectations of the potential costs and benefits of pollution reduction activities [14].

Fourthly, lean production decreases waiting time between stages of production process and handling waste. Thus, better working conditions mean increased employees' satisfaction as they experience more diversified jobs and become more responsible [17, 18]. On the other hand, the working accident rate will also go down thanks to a cleaner and more well-ordered working environment.

Fifthly, lean production cuts the waste caused by inappropriate thinking and working methods. This is an intangible waste which is hard to identify but is the biggest waste in a company's business. Once this type of waste is cut, employees will find a more efficient working method, and having a right attitude towards their job, they then will be more satisfied with their job, more willing to fulfill their task, and be more loyal to the company. Moreover, employees will have better mental and physical health. This is evidence that internal CSR towards employees has been conducted.

Sixthly, lean production minimizes waste due to an ineffective information system which consequently helps the company save human and intellectual resources. An effective information system will improve the company's business performance.

To sum up, lean production will enable companies to better implement CSR, particularly the environmental CSR and working condition, towards a sustainable business model as CSR is integrated into the daily operation of the company as an important part rather than as an appendage, such as charitable activities, or marketing campaigns to promote the company's brand image.

3. The real situation of Vietnamese SMEs and the imperative for CSR implementation

In Vietnam, 97 percent of registered enterprises are SMEs. Therefore, SMEs which significantly contribute to GDP and job creation are the main economic actors in many provinces and cities. According to 2011 statistics, SMEs account for 40 percent of GDP, 30 percent of the total value of industrial output, nearly 80 percent of retail sales, 64 percent of gross goods transportation value, and 100 percent of the total output value in some handicraft items [19]. The SMEs sector also creates more than 1 million jobs every year, which is equal to 50 percent of the total number of jobs, taking part in hunger eradication and poor alleviation, and ensuring social safety.

By economic sector, the percentage of SMEs in some industries is particularly high, for example, 86 percent in manufacturing, 62 percent in electricity, gas, and steam supply, 84 percent in mining and quarrying, 93 percent in repair of motor vehicles and motorcycle, 20 percent in construction materials, 15 percent in consumer products, and 10 percent in other types of products [19].

The rapid growth of SMEs in recent years, with the above-mentioned distribution by economic sector, has led to the increase of waste causing serious environmental problems such as soil pollution, water pollution, air pollution, and etc.

According to the Vietnam 2011 Environment Report, pollution caused by solid waste has become more and more serious and complex. Solid waste accounts for 13 percent to 20 percent of the total amount of waste of which 18 percent is dangerous waste. As mentioned in the report, Vietnamese enterprises are less compliant with regulations than FDI enterprises, and they invest very little in

environment protection. Consequently, this sector has caused more pollution.

Beside enterprises in the industrial zone, the number of SMEs which are dispersed in different locations in the cities is quite high. However, the solid waste of these business entities is not fully reported and treated properly, but is collected together with other types of urban waste [20].

Although there is not specific statistic data about the environmental impact of SMEs, the figures about environmental pollution in Vietnam, particularly the environmental problems caused by industrial solid waste, reveal the fact that many Vietnamese enterprises, particularly SMEs, have not successfully fulfilled their environmental social responsibilities. Environmental pollution is of many kinds, such as untreated or partially treated waste water, air pollution, or solid waste that is not managed properly. This fact in Vietnam is the same with other Asian countries, showing that environmental CSR is always the main topic for discussion [21, 22].

The main reason for the above-mentioned fact is the out-of-date production technology employed in SMEs. About 80 percent to 90 percent of the machines and technology are imported from other countries, of which 75 percent have been fully depreciated. Moreover, the owners of these SMEs are not concerned about upgrading the working environment. Production management is not professional and fails to comply with laws and regulations on labor hygiene. The SMEs often have tight production spaces so that they cannot ensure safety in the work place. Furthermore, the companies also pay very little attention to training knowledge of working safety and self-protection rules for their workers. In particular, most of the SMEs are located close to

residential areas so that solving pollution is increasingly complex and costly.

Some studies show that the implementation of CSR in Vietnamese SMEs is still at the embryonic stage and is merely a reactive response to the requirements of foreign partners [11]. This fact is largely because Vietnamese enterprises are currently not very clear about the concept of CSR. In fact, the most common corporate response to CSR issues in Vietnam is still in the form of charitable deeds and donations, rather than developing strategies of engaging with different stakeholders. Besides, many companies still neglect their social responsibilities and make profit for themselves regardless of the benefits to other stakeholders in the society. Consequently, problems about environmental pollution, employee's working environment and workplace safety, information disclosure and the like make the international reputation of Vietnamese firms questionable. CSR has become a challenge that Vietnamese companies have to face. In recent years, some cases of companies that have severely failed to fulfill their environmental CSR have been disclosed and condemned by the community. Ironically, some companies have spent billions of VND for charity activities to show the public that they are implementing CSR but they pollute the environment so that the damage for the whole society is many times higher than the amount of money they spend on charity. Some specific cases are Vedan Vietnam in Dong Nai province, Miwon Vietnam in Phu Tho province, Viet Tri Paper Company, etc [23].

Regarding labor CSR issues, Vietnamese SMEs have partially complied with the regulations of the Vietnam Labor Law. However, there are still some incomplete aspects such as insufficient living salaries, over-working time, lack of measurement of working environment as regulated, inadequate training

of work hygiene and safety and fire protection for workers, accidents at the workplace, lack of periodical healthcare service for workers, and lack of skills training for employees [24, 25].

So what is the reason for the current inactive responses of Vietnamese SMEs to CSR? According to a World Bank study of CSR practices in Vietnam, barriers and challenges to implement CSR include: limited awareness of CSR; limited productivity as the company has to follow many codes of conduct (CoCs) at the same time; lack of financial and technical resources to implement CSR standards, misunderstanding due to the difference between CoCs and Labor Law, and conflicts between domestic regulations and CoCs [26]. For the above-mentioned reasons, implementing CSR is not an easy task but a critical one for Vietnamese SMEs to get more involved in the global value chain. There are several benefits of CSR implementation. Firstly, it is shown that the responsibility of investors correlates with the social and environmental performance of an enterprise. Positive responses from investors in developed and developing countries are reported when their environmental performance is good [27]. Similarly, multinational corporations pay a lot of attention to social and environmental performance of potential partners before they make decisions. This future potential investment trend requires Vietnamese SMEs to consider CSR implementation immediately.

In the changing context of the economy, enterprises, especially SMEs are facing a lot of challenges due to the negative impacts of the economic depression. Thus, it is more important for SMEs to build and maintain their competitive advantage than ever before. One of several ways to build competitive advantage is to implement CSR to gain a good reputation for the company and therefore attract customers and expand market share. However, the difficult problem for Vietnamese SMEs is how to

implement CSR activities while they are believed to be very costly. The answer is that Vietnamese SMEs should apply the lean production model to implement CSR.

With the goal of finding solutions to effective and sustainable CSR implementation in Vietnamese SMEs, from a theoretical background, we assume that lean production can be a solution. We then aim to verify the relationship between lean production and CSR benefits. Therefore, some main research questions are raised as follow:

- (1) Which tools of lean production have been applied in Vietnamese SMEs?
- (2) Which types of wastes will be eliminated when lean production is applied in Vietnamese SMEs?
- (3) Does lean waste elimination lead to CSR benefits in Vietnamese SMEs? What are the specific benefits?

4. Research methodology

To find the answer to the research questions, in this study, we use a qualitative method to explore the potential relationship between lean production and CSR. Therefore, we conduct a series of in-depth-interviews with 10 experts in operation management and CSR, and with 30 managers in Vietnamese SMEs from the enterprises that have partially implemented lean production. Experts are from NGOs, associations and universities such as Vietnam Productivity Center (VPC), Vietnam Leather and Footwear Association (LEFASO), Vietnam Textile and Apparel Association (VITAS), Ministry of Labor-Invalids and Social Affairs (MOLISA), Vietnam General Confederation of Labor, Vietnam Chamber of

Commerce and Industry (VCCI), United Nation Industrial Development Organization (UNIDO), Vietnam Cleaner Production Center (VNCPC), Japan International Corporation Agency (JICA), VNU University of Economics and Business, and Hanoi University of Sciences and Technology. Managers that participated in our interviews are from SMEs of 5 sectors: textile, leather and shoes, electronics, seafood processing, and machinery. We choose these 5 sectors to study because they are exporting industries that are under increasing pressure to implement CSR currently. Moreover, the interviewed SMEs have applied lean production to a certain extent.

5. Findings and discussion

After analyzing the information from the in-depth-interviews, some initial findings from our qualitative study are presented as the following:

Firstly, it is interesting to find that the three most popular lean production tools that have been applied in Vietnamese SMEs are 5S, Kaizen and visual management. A hundred percent of the interviewed SME managers confirmed that their companies have applied these three tools for a couple of years.

Secondly, regarding the effectiveness of waste elimination by applying lean production tools such as 5S, Kaizen, visual management, over 90 percent of experts believe that lean waste will surely be eliminated when these tools are applied. Whereas about 80 percent of the managers confirmed that they have applied some lean production tools, mostly 5S and Kaizen, and as a result almost all lean waste was minimized (Figure 2).

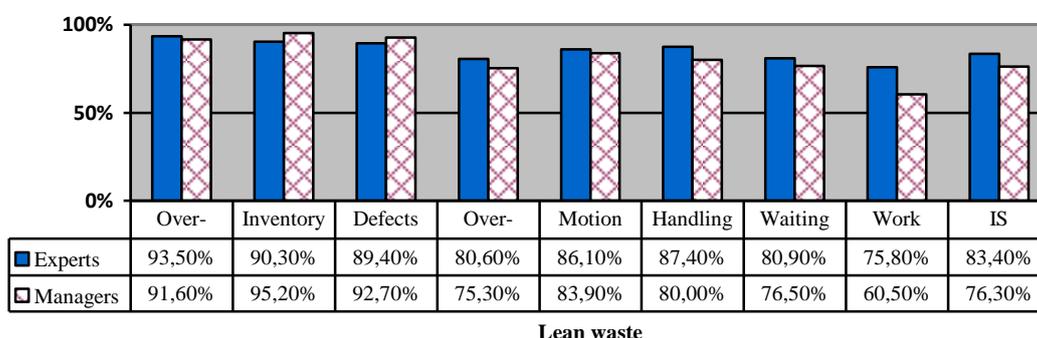


Figure 2: Lean waste elimination when applying lean production tools.

Source: Authors' analysis from in-depth interviews.

Figure 2 shows that experts and managers seem to have similar viewpoints of the types of waste that can be eliminated when companies apply lean production. For the two new lean types of waste namely waste caused by working methods or improper thinking and waste caused by inefficient information system, the interviewed managers are a little doubtful whether it is possible to eliminate these wastes by using lean production tools. The simple reason for their doubt is that in most Vietnamese SMEs, the information system is under-developed and production technology is low. Consequently, it is difficult to recognize whether this type of waste is really cut off or not. Furthermore, the waste caused by improper

working methods or thinking is very hard to be observed as it is intangible, while most Vietnamese SMEs are managed on the basis of family rules so that managers find it complex to evaluate this waste.

Thirdly, the relationship between waste elimination and CSR benefits is confirmed by both group of experts and group of managers. They reach the common agreement that when wastes are minimized, some positive results are brought about, particularly the benefits in terms of environmental protection and working conditions for employees. Based on the viewpoints of experts and managers when we interviewed, we summarize the eight CSR benefits in Table 1.

Table 1: CSR benefits from waste elimination

No.	CSR benefits	Percentage of response (%)	
		Expert	Manager
1	Reduction of accidents at workplace	96.2	95.0
2	Reduction of demand for lighting	93.1	96.4
3	Reduction of demand for energy used for air conditioning and fans...	85.3	90.0
4	Reduction of over-using chemicals in production	86.4	89.7
5	Reduction of solid waste, waste water and air emission	97.5	90.2
6	Reduction of resources used in production process	91.6	92.8
7	Reduction of possibility to be affected by work related diseases	84.3	80.1
8	Human resource development	83.7	75.9

Source: Authors' analysis from in-depth interviews.

As presented in Table 1, both experts and managers agree that most of the environmental CSR benefits result from the application of lean production tools (over 85 percent). However, only about 75 percent of respondents agree that CSR benefits related to working conditions can be achieved.

In addition to the mentioned initial findings related to the above research questions, the authors also gained some feedback on the benefits gained from lean production in Vietnamese SMEs such as:

- 90.3 percent of the managers said that production cost was significantly reduced;
- 85.4 percent of the managers asserted that their companies improved product quality and delivery time;
- 70.8 percent of the managers also reported that they attracted more customers and the customers are more loyal;
- 73.6 percent of the managers said that their companies have gained competitive advantage in the market.

With such positive results, it is quite clear that applying lean production has brought about

many CSR benefits for SMEs and consequently an improvement of performance in terms of profit, expense, brand value, market share, etc. Particularly, in the case of limited resources, we believe that applying lean production is the most appropriate way to implement CSR, as it starts with the production process of the company.

5. Suggestions for further study of the topic and research model

From the initial qualitative findings, we propose that there is a relationship between lean production and CSR. Applying lean production in SMEs may enable the companies to effectively implement CSR in terms of environmental protection and improvement of working conditions so that companies will gain both short-term and long-term benefits.

We think that there should be further empirical study in the future to test the relationship between lean production and the CSR benefits that companies can gain. Therefore, we propose a research model as in Figure 3.

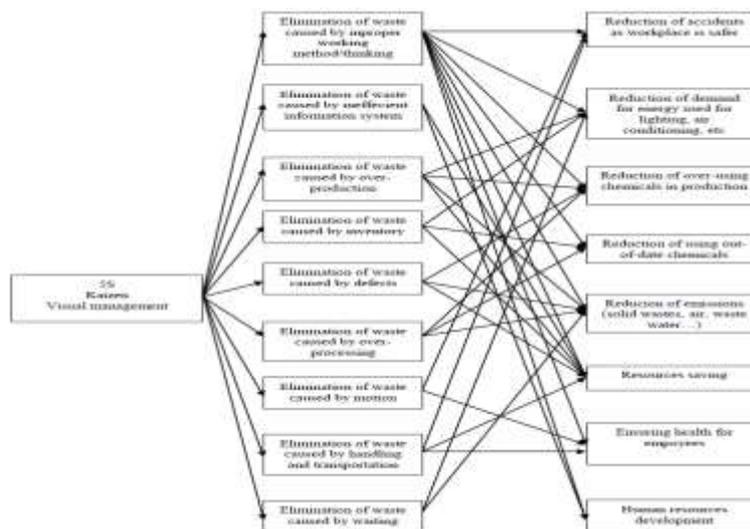


Figure 3: Research model of lean production and CSR.

Source: Proposed by the authors.

In the suggested research model, some hypotheses should be raised to test the relationship between lean production and CSR including:

H1: The enhanced application of lean production tools in Vietnamese SMEs will positively minimize tangible and intangible waste in the production process.

To test the hypothesis H1, the independent variables are “lean production tools” namely 5S, Kaizen and visual management and the dependent variables are 9 types of waste. We assume that *the more lean production tools are applied, the more waste will be reduced.*

H2: Waste elimination will positively result in CSR benefits in terms of environment and working conditions.

To test the hypothesis H2, the independent variables are “lean wastes” and dependent variables are 8 CSR benefits of which 5 are environmental CSR benefits and 3 are internal CSR benefits, namely working condition benefits. We assume that *when wastes are eliminated, CSR benefits are increased.*

By empirically testing the relationship among variables in the research model in Figure 3, we hope to clarify the practical background of using lean production as a method to promote CSR implementation in Vietnamese SMEs in the near future. We plan to conduct this empirical study with a bigger sample size and in a variety of economic sectors in big cities and provinces of Vietnam.

6. Conclusion

Nowadays, in the process of international economic integration, Vietnamese enterprises who wish to join the common playing field of the world economy and get more involved in the global value chain are unable to ignore CSR

in their list of activities. Implementing CSR has become a trend that significantly affects the business of enterprises all over the world and is utilized as a strategy to achieve sustainable development. Moreover, CSR is also a tool for enterprises to attract and retain talents, to build brand reputation and customer loyalty, etc., and most importantly, CSR helps companies to deal with risks and crisis.

Applying a lean production model is a practical and efficient method for Vietnamese SMEs to implement CSR in a sustainable manner. This model will provide SMEs with useful tools to optimize available resources without any extra capital or invisible costs, and therefore enable companies to implement CSR. By eliminating wastes, the production capacity will be enhanced gradually, the working environment is improved, and the natural environment is protected, which results in sustainable development of each enterprise, and contributes to the economic development of the whole country. Moreover, the effective CSR implementation in an enterprise will in turn promote the application of lean production model.

However, there is a need to conduct further detailed studies about factors in the proposed research model in the Vietnamese context to turn the idea of applying lean production in CSR implementation in Vietnamese SMEs into reality. The proposed research topic in this paper will provide a practical background for the relationship between lean production and CSR in the context of Vietnam. Consequently, studies of lean production in Vietnam will help to promote SMEs to use lean production as a “natural” way to improve their CSR image. It is a long term and sustainable method for Vietnamese SMEs as it does not cause extra costs for enterprises, but helps them gain competitive advantage in the recent global integration process.

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