

COVID-19 IMPACT ON MOROCCAN SMALL AND MEDIUM-SIZED ENTERPRISES: CAN LEAN PRACTICES BE AN EFFECTIVE SOLUTION FOR GETTING OUT OF CRISIS?

*Aicha FARISSI, Laila DRIOUACH, Khalid ZARBANE,
Mohamed EL OUMAMI, Zitouni BEIDOURI
High School of Technology Casablanca, Hassan II University of Casablanca*

Abstract:

The COVID-19 crisis hit the economy hard, it is a global situation of declining activity due to a highly contagious disease which has pushed the world to the brink of a deeper recession than ever. Small and medium-sized enterprises constitute 92% of the Moroccan economic fabric, they are among the organizations most seriously affected by the current pandemic. This paper examines the problems that exist before and during this crisis, in order to raise major challenges and choose the ideal approach that will strengthen the competitiveness of these companies. The analysis is based on secondary data and the literature to demonstrate the different constraints of these companies and to show the importance of lean manufacturing as the guarantor of industrial performance. The main question is how the alignment of Lean principals goes well with the desired improvement and with the constraints posed by this crisis, the primary objective of Lean is to provide the means to succeed and accelerate competitiveness. Finally, these circumstances can be a real opportunity to assist Small and Medium Moroccan companies to integrate the methods they need, and "Lean approach" is one of the best performance solutions to adopt in a post COVID-19.

Key words: COVID-19, Impact, Lean, Morocco, Small and medium enterprises (SMEs)

INTRODUCTION

The outbreak of COVID-19 (the disease caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-COV-2)) has had detrimental effects on global healthcare systems, with the ripple effect on every aspect of human life. COVID-19 as well has impacted various economic sectors: the primary sectors which include industries involved in the extraction of raw materials [47, 55, 62]. Secondary sectors involved in the production of finished products and tertiary sectors including all service provision industries [7, 18, 55]. In fact, import issues and staffing deficiencies stood out as the key concerns for businesses due to disruption to supply chains and self-isolation policies. Indeed, for many roles within a manufacturing company, 'working from home' is not a viable option [55]. Moreover, Millions of jobs will be lost, with global assessment from the International Labor Organization (ILO), five to 25 million jobs will be eradicated, and the world will lose \$860 billion to \$3.4 trillion in labor income. Health and unemployment insurance and social protection are necessary, to also support business (large, medium, small scales) to prevent job losses [21].

Small and medium enterprises (SMEs) are possibly the hardest hit in all the countries need special economic revitalization package [63]. Small and medium enterprises

are likely to be severely affected, as they tend to be more concentrated in sectors that have been directly affected by COVID-19 response measures and are typically more credit constrained than larger businesses [14, 46]. Importantly, small businesses make up the majority of companies, and are responsible for a substantial fraction of employment [39]. Lean is a whole integrating many principles, tools and techniques whose aim is reducing all sources of value chains inefficiencies and meanwhile bridging the gaps between actual performance and customer requirements [22].

In this paper, the first step is to see what is the impact of this crisis on the entire Moroccan economy? Then, analyze the situation of these companies during this crisis and compare it with the initial state (during crisis). The last step is to show how Lean will enable companies to remedy both the problems directly linked to the COVID-19 crisis and even those linked to the previous situation of these organizations.

LITERATURE REVIEW

Lean manufacturing or lean production is a systematic method for waste reduction within manufacturing production without losing productivity. Lean was initially developed by Toyota to eliminate waste and inefficiency in

its manufacturing operations [71]. This development became so successful that it is being used in manufacturing around the world. Numerous studies have dealt with the positive impacts of Lean on the industrial performance of companies [1, 5, 23, 53, 59, 61]. There are many tangible benefits associated with Lean Manufacturing. They are classified in three categories: operational, administrative and strategic [45].

Benefits in figure 1 have been observed in both Large Enterprises (LGs) and Small and Medium Enterprises (SMEs) [5, 19, 23, 45, 61] as well as in many sectors of activity and even in the service sector [20]. The benefits generated by Lean are not limited to the improvement of operational, strategic and administrative performance as the success of a Lean system depends largely on the human dimension [22]. Indeed, the Lean implementation leads to an improvement in employee motivation, in employee productivity, and in the skills and versatility of staff [5, 67]. Lean manufacturing also makes it possible to offer better working conditions, reduce stress, stimulate team spirit, engage the company in continuous improvement processes, develop employee relations with management, and encourage teamwork based on effective productivity and rigor (Fig. 1) [23].

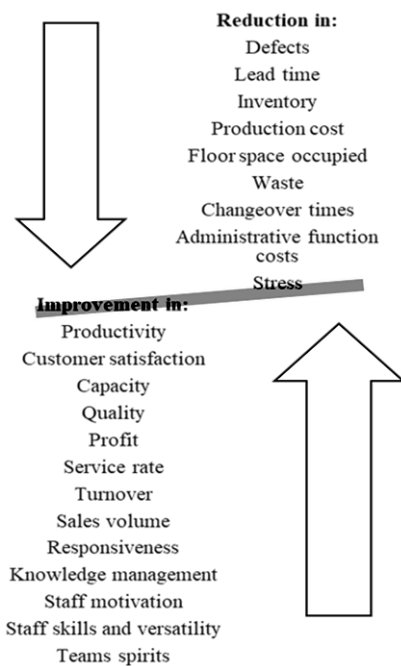


Fig. 1 Lean benefits

The current economic situation of COVID and its repercussion on performance of small companies, is ever more prompting business managers to benefit from these Lean contributions especially on employees if it is considered that the human factor is the most sensitive and most critical in this economic crisis.

METHODOLOGY

The methodology of this paper based on a three-step approach (Fig. 2). The first step consisted in answering the question on the seriousness of this pandemic on Moroccan companies. The second stage consisted in collecting

data from the literature on the initial situation of these companies in order to be able to analyze the constraints, which slow down the improvement of the level of performance. Finally, the last step consists in discussing Lean as an approach to increase efficiency, as well as social security techniques for the benefit of employees and society.

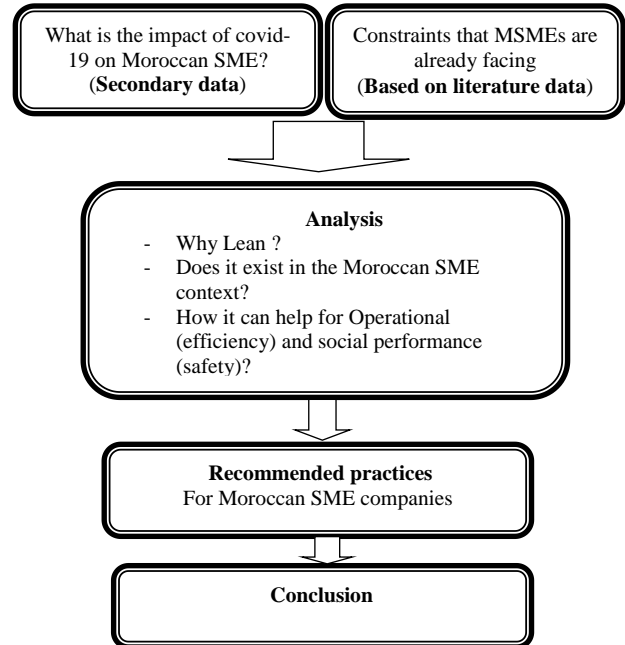


Fig. 2 Research methodology

Obviously, Moroccan economy would be adversely affected this year, because of this negative impact of the disease. For instance, based on information collected up to April 20, after a confinement period of one month, economic growth would not have exceeded + 0.7% in the first quarter of 2020, instead of + 1.9%, without the effect of COVID-19 [43]. According to the World Bank report, Because of this difficult period plus the drought, the country is expected to go into recession this year, sort of a crisis that hasn't appeared in twenty years, especially if the pandemic extend yet [69]. In addition, the baseline of the World Bank implies a decrease of 1.5% of GDP in 2020. Besides, The International Monetary Fund forecasts a 3.7% drop in GDP for 2020 and a 4.8% recovery in 2021 [2]. Coronavirus brings industrial companies in morocco to a standstill (see Figure 3). As serious consequences: disruption of the raw material supply chain with a decrease in foreign demand [69]. About 27% of companies have temporarily or permanently reduced their workforce, nearly 726,000 jobs (20% of the workforce of organized companies), excluding the financial and agricultural sectors. And 57% of the dismissed employees worked in small and medium enterprises (SMEs) [36]. According to the published results of the qualitative survey carried out by the High Commission for Planning, out of a sample of 4,000 organized Moroccan companies operating in the manufacturing industry sectors, here is in the figure below, the impact of the COVID-19 pandemic on different industrial sectors.

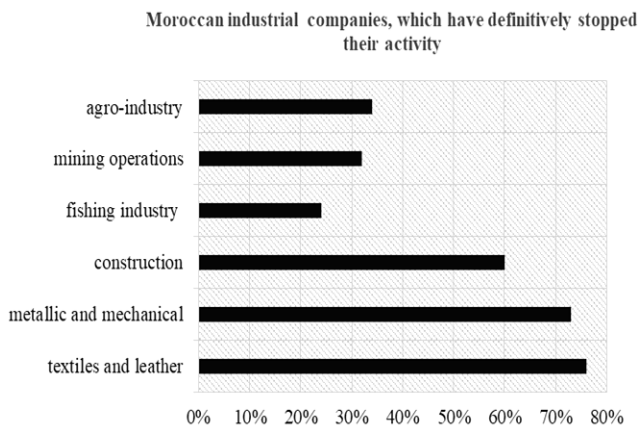


Fig. 3 Impact of COVID-19, results of a qualitative study on a sample of 4000 Moroccan companies (based on High Commission for Planning)

Moroccan Small and medium companies during the critical period of COVID-19

A study published by the High Commission for Planning [36], about the immediate impact of the COVID-19 crisis on Moroccan companies, showed that nearly 142,000 units have permanently or temporarily ceased their activities (i.e. 57% of the total number of companies). Very small companies are the most affected, representing 72% of companies in difficulty, while 26% are SMEs and only 2% of large companies (see Fig. 4).

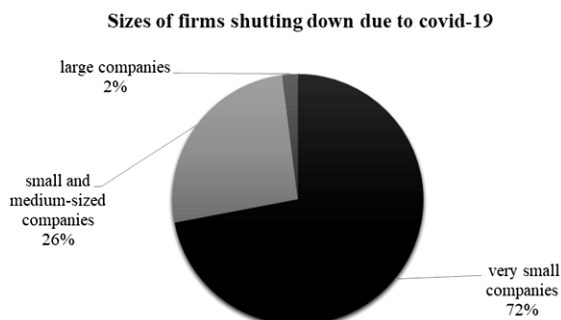


Fig. 4 Sizes of Moroccan firms shutting down due to COVID-19

It should be noted that an economic crisis does not affect all enterprises in the same way [31]. As already indicated by [66], surviving in times of crisis is a major constraint for small and medium enterprises, due to the lack of interest and protection acquired by them compared to large enterprises. In fact, SMEs are the most affected by the COVID-19 crisis because of their poor performance before the outbreak of the crisis, which influences their level performance level after the COVID-19 outbreak.

Situation of Moroccan small and medium enterprises: before COVID-19 outbreak

The number of bankruptcies of Moroccan SMEs is very high and extremely disturbing (more than 8,000 enterprises went bankrupt in 2017 and 8,439 in 2019, Very small companies are always the first to suffer from failures [41, 42]. Nevertheless, scientific researchers still do not attach importance to this subject in order to analyze the main causes of this bad situation [3]. In fact, this is a very worrying situation because the consequences are very serious, both on the economic and social axis.

Small and medium-sized companies are recognized by qualitative characteristics that can also be considered as constraints, which hinder their development, such as their small size, which does not help them cover their fixed costs [68]. Including that, they are marked by the omnipresence of the manager at all levels of the company's management [25] the centralization of decision-making [64]. Furthermore, these constraints generally associated with small enterprises can affect the level of productive capacity, and to remedy this, it will be necessary to work on intangible resources to enhance their competitiveness companies are perceived as opaque [49] by their inability to provide reliable information to the various stakeholders. As for difficulties linked to resources, there is a remarkable lack at the financial level of Moroccan Small and medium-sized companies (SMEs) [34]. For example, on the basis of a survey of 174 small and medium-sized enterprises in Morocco, monitoring and managing cash flow is the main concern of this type of companies, rather profitability, since any need would weigh heavily on financial costs (cash flow) [4, 13, 15].

Human resources, through their skills and experience, constitute the backbone of the processes of these Moroccan enterprises. But unfortunately, the managers of these firms do not make an effort to improve this cognitive capital through continuous employee training, and they do not invest in this component [51].

The High Commission for Planning (HCP) survey results in 2019 show that only 18% of SMEs benefit from coaching as part of company management. Based on same study, the training rate for skills development training is 6% for very small enterprises and 30.0% for SMEs, while it is 74.9% for large enterprises. According to the same study, lack of interest (66.7%) has constituted the main reason for reluctance to train [35].

While learning ability is a competitive advantage in turbulent times [12] and organizational learning is a pillar that ensures the survival of the organization [33, 65]. Despite all that, Moroccan small and medium enterprises (SMEs) managers do not attach any importance to organizational learning for developing competencies. Thus, as indicated by [24] in times of instability, small and medium enterprises in Morocco (SMEs) are strongly encouraged to re-view their methods and restore their strategy.

RESULTS

Based on the above, we present in (Fig. 5) below an analysis summary of Moroccan small and medium companies limitations and issues (before and during COVID-19):

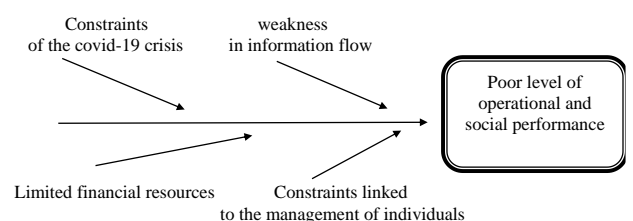


Fig. 5 Main constraints related to Moroccan small and medium companies (SMEs)

Since the main aspect of the Lean strategy is the search for continuous improvement of the entire system, products and processes [56]. Thus, we propose the Lean approach as an effective solution to these problems. Both those linked to the size characteristics, to the nature of the industry, also those imposed currently by the outbreak of the COVID-19 crisis. Mainly which are linked to

the management of the working environment, In order to minimize the movements, and maintain social distance. The table below (see Table 1) summarizes the most important challenges faced by small businesses. Here are the proposals of the most appropriate of Lean practices to overcome these difficulties.

Table 1
Based on the literature, here are some recommended practices for overcoming the challenges

Challenges	Components of challenge axes	Social/operational performance	Recommended practice	How was it mentioned in the Moroccan context?
Constraints appeared with COVID-19	Ensure social distancing in the workplace; Ensure quality (exp: hygiene); Alleviate the Quarantine stress	Lean is an approach that has shown its ability to ensure safety at the level of the working environment, an interesting commitment of the collaborators, with a better quality as well as the high profitability of the personnel [28, 50, 54, 71]	5S is an approach that involves sectioning, organizing, cleaning, standardizing and maintaining a clean and productive work environment [32]. In addition, 5S has proven to be an effective communication method, mainly at the operational workshop level [10, 57]. It ensures that production workers are actively involved in improvement and restructuring efforts, while feeling sufficiently safe in their current workplace [44, 72].	Based on the study [8] of "Amine Belhadi 2016", Through case studies of five Moroccan SMEs, which have all successfully implemented Lean, 5S is very important, it is part of the best starting practices, for the organization of the workplace.
Constraints linked to the management of individuals	Lack of skills and expertise; low level of organizational learning	Lean allows us to adopt very efficient, standardized methods and safe practices, which the same time facilitate the accomplishment of the work, and ensure in an easy way the continuous improvement of the organizations [9, 37]	<i>Human management</i> Since workforce development plays an important role in the performance of organizations, it is necessary to achieve "appropriate use of the human element" [11, 60]. According to [58] the use of highly developed and trusted personnel is the main differentiator of the Lean system.	For the implementation of the lean approach in a Moroccan context, Larteb, Haddout, and Benhadou, 2006 [48], have shown that the critical and main success factors is the human factors, either at the level of the management, or of the employees. Which means to get out of the critical moments, the development and improvement programs must be focused on the human being (awareness, learning, communication)
Constraints related to information flow	Information opacity	The lean approach makes it possible to provide information, to measure the various differences, in order to improve the processes, which can positively affect the state and the situation as well as the safety of the workplace [27, 52].	<i>Visual management</i> is described as "visual cues and guidelines to more clearly assist and guide employees to appropriate actions and locations" [29]. The key principle of visual communication is the sharing of information, which leads to share power, control and responsibility, thereby improving support and motivation [30].	Chafi, 2020 [17] showed the effectiveness of the VSM implementation for the Moroccan company, and which will allow it to eliminate the various sources of waste.
Financial constraints	Limited resources; High cost price; Lack of infrastructure; disruption of raw material (due to COVID-19)	Lean practices affects positively operational performance, and JIT adoption leads to increased inventory turnover [6, 40] numerous studies have addressed the relationship between Lean and financial performance [16, 26]. Furthermore, companies with inventory levels below the industry average tend to have higher stock returns [16, 38]	<i>Supplier relationship management practices (SCM)</i> and the implementation of JIT practices to manage inventory for reducing costs.	Velda, 2019 [70] has demonstrated that SCM practices have an important impact on financial performance in Morocco, mainly, supplier relationship management; communication; Flow Coordination and Information Sharing, which are the most significant elements for improving financial performance.

CONCLUSION

The study revealed the impacts of COVID-19 on small and medium Moroccan enterprises. Then a literature search was conducted to provide clear answers to the question raised at the beginning: how Lean Manufacturing can remedy the effects of COVID-19 on these Moroccan companies? The goal is to demonstrate how lean practices are helping employees operate safely during this critical period of the pandemic. In the end, there is the recommendation of some selected lean practices to improve performance. Here is a summary of the how these Lean tools can contribute to the prevention measures against the pandemic:

- The 5S Lean tool is the most important tool to be associated with COVID-19. 5S is the basis of the Lean approach, which allows social distancing and helps to prevent the spread of this vicious disease. Indeed, the use of 5S ensures organization, cleaning, standardization; which allows employees to be more attentive to the respect of COVID-19 protection instructions, to limit employee stress and to ensure maintaining of hygiene.
- Visual management allows the sharing of information and communication via visual tools which minimizes contact between employees and thus contributes to social distancing measures

Covid crisis allowed us to start thinking about how to transform our societies and embrace Lean culture and Lean's way of managing processes, whatever the type of process to do. For example, nations that have reached Lean culture, including China, Japan, South Korea, and some other countries, are likely to cope with the consequences of COVID-19 more easily and with less damage. For example, reducing the movement of people minimizes adverse events and sequel of COVID-19 and reduces causes leading to transmission of the infection with the person to person.

Finally, it is recommended that this study be revised by a practical case study in small manufacturing companies to demonstrate the effectiveness of our solution and to approve that the proposed Lean practices allow at the same time for efficiency and social distancing measures in COVID-19 time.

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Aicha Farissi

ORCID ID: 0000-0001-7825-8149
High School of Technology Casablanca
Hassan II University of Casablanca
Mechanical & Industrial Engineering
Laboratory Department
PO Box 8012, Oasis, Casablanca, Morocco
e-mail: aichafarissi11@gmail.com

Laila Driouach

ORCID ID: 0000-0002-4750-1393
High School of Technology Casablanca
Hassan II University of Casablanca
Mechanical & Industrial Engineering
Laboratory Department
PO Box 8012, Oasis, Casablanca, Morocco
e-mail: laila.driouach@ensem.ac.ma

Khalid Zarbane

ORCID ID: 0000-0002-6048-5279
High School of Technology Casablanca
Hassan II University of Casablanca
Mechanical & Industrial Engineering
Laboratory Department
PO Box 8012, Oasis, Casablanca, Morocco
e-mail: khalidzarbane@gmail.com

Mohamed El Oumami

ORCID ID: 0000-0003-3166-6529
High School of Technology Casablanca
Hassan II University of Casablanca
Mechanical & Industrial Engineering
Laboratory Department
PO Box 8012, Oasis, Casablanca, Morocco
e-mail: mohoumami@gmail.com

Zitouni Beidouri

ORCID ID: 0000-0002-5347-7895
High School of Technology Casablanca
Hassan II University of Casablanca
Mechanical & Industrial Engineering
Laboratory Department
PO Box 8012, Oasis, Casablanca, Morocco