

# SWOT Analysis for Lean Manufacturing Strategic & Implementation Issues in Small and Medium Enterprises (SMEs) in Uttar Pradesh

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**Abstract** - Nowadays, the importance of the SME field becomes more and more a real basis for establishing and developing a modern, dynamic knowledge-based economy. The experience of the Uttar Pradesh clearly demonstrates that the SME sector can make a substantial contribution to Gross Domestic Product, enhance employment opportunities and stimulate export growth. SMEs have the ability to respond flexibly in a strongly competitive market and to adapt quickly to cyclical and structural changes in the global economy. Therefore, a dynamic SME sector is needed to ensure continued economic growth, to stimulate the employment and the improvement of the living standards. The accession of UP involves a lot of challenges and opportunities for the SMEs sector. In this context, the SWOT analysis will reveal the main strong and weak points of this sector development, the threats but also the opportunities. Starting from this, there is presented the principles that will be followed for the development of this sector and the national strategy for the support and promotion of UP SMEs. The aim of this paper is to use the SWOT analysis that can be used as a decision-making aid to choose an appropriate framework according to the industry needs. Various databases were searched for research on lean implementation and the obstacles to successful lean implementation. Following this, analysis was carried out to identify the major success factors and an ideal lean implementation framework. Based on SWOT analysis it has found that every framework has its own sets of strengths and weaknesses.

**Keywords** – Lean Manufacturing, Implementation, development strategy, SWOT Analysis, Strategic Planning, SMEs, UP.

## INTRODUCTION

SWOT analysis has become one of the most useful tools in the development of business and industry, as a tool in making decisions to be good and right and one of the ways to run new programs on method and products produced by industry as its business, Process SWOT analysis requires an internal survey of strengths, weaknesses and external threats and opportunities surveys. The external part has a significant impact. On a business and industry organization, economic, political, and even life-changing institutions. The shift from industrial society to information society and from a manufacturing-oriented economy to service orientation has had a significant impact on consumer demand. Business world in industry and other business world both manufacture and service. As an initiator and innovator in designing future developments in his business. Innovative strategies are always developed to ensure that the business grows and meets the needs of its customers. As primary and secondary need. Decision makers can know the suitability of different framework. But most important is what model which suit to most of the situations. This paper developed a lean implementation model which is more generic, has overcome the most of the issues related to implementation compared to other frameworks. The lean implementation frameworks identified are not industry centric but more generic in nature. The SWOT analysis method is the right tool for finding problems from four different sides, where the application is how the power is able to take advantage of an existing opportunity, then how to overcome the weaknesses that prevent profits, then how the power is able to deal with the existing threats, and finally is how to overcome weaknesses that can make threats real or create a new threat. Interaction between the 4 factors, then make this analysis provides ease to realize the vision and mission of a company organization. To refine or complement the understanding of SWOT analysis.

**FORMULATION OF THE PROBLEM**

- What to do with SWOT analysis?
- Why is SWOT analysis good for use?
- How can SWOT analysis be used? Top margin: 0.75”

**PURPOSE AND OBJECTIVES**

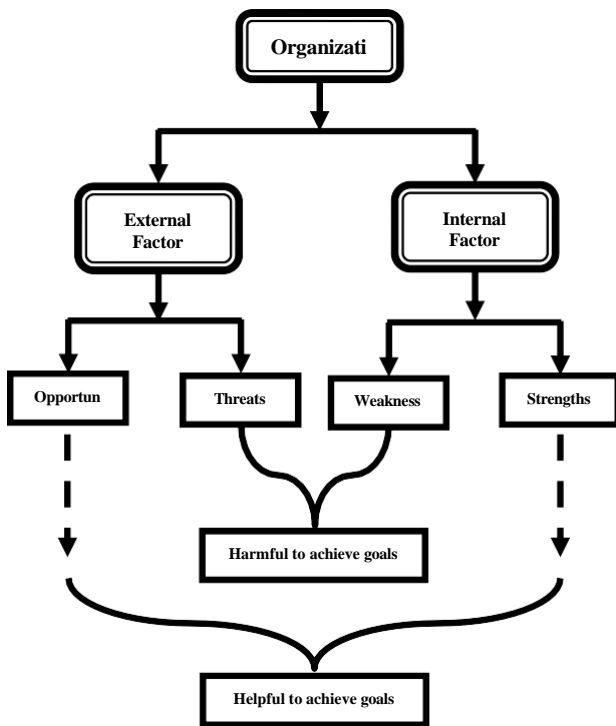
**The purpose of this release is to know the various that exist in the organization of manufacturing companies.**

- To know the process of SWOT analysis on the organization of manufacturing companies,
- To deepen in analyzing the problems in the organization of manufacturing companies, to determine the decisions in the problems that occur in the organization.
- The purpose and benefits of SWOT analysis is to integrate the 4 factors or composition precisely on how to prepare strengths, overcome weaknesses, and find opportunities and strategies against multiple threats.
- Understanding SWOT Matrix as a tool used to measure strategic factors in the organization of the company.

This matrix can clearly illustrate how external opportunities and threats facing the company can be tailored to the strengths and weaknesses it has and this matrix can generate four possible alternative strategy cells

**DISCUSSION**

The major issue of the study is to understand the use of the Lean Manufacturing strategic and implementation issues in SMEs using SWOT Analysis.



**FIGURE I SWOT ANALYSIS- INTERNAL AND EXTERNAL FACTORS ANALYSIS SYSTEMS**

After Organizational factors for lean manufacturing which is internal to the SMEs can be classified as Strengths (S) or Weaknesses (W) and those external to the SMEs can be classified as Opportunities (O) or Threats (T).

**SWOT ANALYSIS**

The SWOT Analysis provides insight of SMEs resources and capabilities regarding lean manufacturing strategic and implementation issues for the formulation and selection for effective lean manufacturing. SWOT stands for Strengths, Weaknesses, Opportunities, and Threats in SWOT Analysis. As our organization grows, we need to face various challenges, obstacles, opportunities, and new projects.

This is the best tool for handling all challenges.

**Step 01-** Select the facilitator

**Step 02-** Determine the strengths

**Step 03-** Determine the weaknesses

**Step 04-** Analysis of the opportunities

**Step 05-** Identify threats

The SWOT Analysis is a strategic planning & decision-making management technique that is used to identify Strengths, Weaknesses, Opportunities, and Threats.

This technique is widely used for any company, organization, business, product, project planning, marketing, development, market research, etc.

- Strengths are characteristics of the business (or an organization) that give it a benefit over others. In under identify the strength, positive qualities, achievement made, goals achieved, available resources and specialties.
- Weaknesses are characteristics of the business (or an organization) that give drawbacks as compared to others. In under determine the weakness, challengers to achieve the goals, any lacking relating to resources, technology, people, support required to achieve the goals, available resources and any areas need to be improved.
- Opportunities are the elements in the environment (or we can say external factors) that the business could utilize for its benefit and also can give a competitive advantage as compared to others. In under analysis opportunities, the external resource that can use to achieve the goals, current economy and market trends, futuristic technologies and stockholder’s views.
- Threats are the external factors that could cause trouble for the business. In under identify threats company

brands losing the market, competitor's situation in the market and their potential new competitors.

This tool is an excellent decision-making tool and it helps an organization achieve its goals. It is a well-defined structure to evaluate the business's or an organization's competitive position as compared to competitors. This tool is not only used for businesses or organizations but also used for development purposes such as personal development, employee development, business process management, etc.

The SWOT Analysis can be used for-

- Workshop sessions
- Brainstorming meetings
- Problem-solving
- Product evaluation
- Employee development
- Strategic planning
- Competitor evaluation
- Personal development planning
- Business Process Management
- Marketing, etc.

Internal and External Factors of SWOT Analysis-

The main objective of the SWOT analysis is to identify the relevant internal and external factors that have a direct impact on the organization's goal.

We can divide the SWOT analysis into two main groups as mentioned below-

- Internal factors - Strength and Weakness
- External factors - Opportunity and Threat

The internal factors may be strengths or weaknesses of the organization based on their impact on the organization's objectives. The positive impact leads to strength and the negative impact leads to weakness. The external factors may include macroeconomic indicators like technological change, legislation change, socio-cultural changes, political change, environmental change, changes in the marketplace or change in competitive position etc. The above-mentioned all factors can be mentioned in the 2 \* 2 matrix for easy tracking and working on that.

Guidelines for Conducting Good SWOT Analysis-

- Be realistic when performing a SWOT Analysis.
- Consider answers from the organizations and their stakeholder's points of view.
- Distinguish between where the organization is today and where it could be in the future.

How to Conduct a SWOT Analysis-

- Preparation and Driving Forces of the Organization
- Note down Strengths, Weaknesses, Opportunities, and Threats
- Clarification of SWOTs for all Team Members

- Categorization into a sub-category
- Prioritization
- Desired State & Implications to Unit
- Strategy Development
- Strategy Selection
- Implementation of the right strategies
- Documentation

As many as possible people need to take part in this analysis. We can also conduct this analysis for ourselves but it is better to include all cross-function team members into this for better effectiveness of this analysis. One of the best methods is brainstorming for conducting this analysis. We can use a flip chart, a whiteboard, or a piece of paper to note down all points, or we can store data in MS Excel, MS Word, or PowerPoint as a digital file. We can also use different software or tools for this analysis as per the organizations need.

The main four parts of this analysis are mentioned below-

- Strengths
- Weaknesses
- Opportunities
- Threats

**Strengths-**

Lean Manufacturing in SMEs develops their resources and capabilities that can be used as a basis for developing a competitive advantage. The Strengths mean that give us benefits over others or we can understand what we are doing well, also from other people's perspectives, we need to note down our strengths. During this analysis we need to be realistic.

Each of the following may be considered strengths-

- Overall Experience of an Organization
- People Skill, Experience, Knowledge, and Data
- Strong Financial Condition
- Transparency
- Reputation
- Capabilities
- Strong Relationships with all stakeholders
- Lessons learned from past experiences
- Low-cost Products and Services with Higher Quality
- Simplicity
- Strong brand recognition
- Good relationships with customers
- Flexibility
- Collaborative Efforts
- Quick responsiveness
- Competitive Advantage
- Intellectual property
- Proprietary technologies
- Granted patents

- Our USP (Unique Selling Point)
- Innovative aspects
- Geographical Location

A leading manufacturing company, points out its strengths as various patents granted, a highly talented R & D team, strong customer relationships, and a global distribution network, etc.

#### **Weaknesses-**

The absence of certain strengths may be viewed as weaknesses for lean manufacturing in SMEs. Weaknesses give drawbacks to the business or an organization. Also we can find weaknesses by asking a simple question as: ‘What the organization can improve?’ or ‘what business should avoid?’ also from other people perspectives, we need to note down our weaknesses as well.

Each of the following may be considered weaknesses-

- Lack of Skill and Experience
- Financial Crisis
- Poor Marketing
- Low Public Awareness
- Weak management
- Communication Gap across the organization
- Things our competitors do better than us
- Resource Limitations
- Unclear or Unidentified USP (Unique Selling Point)
- Disagreement on Business Strategy
- Unfocused on Goal
- No online presence
- Decision Making without an data or statistics

A Manufacturing Company, points out its weaknesses as outdated machinery, high employee attrition, inconsistent product quality, higher breakdowns, higher manufacturing cost, not meeting on- time delivery, etc.

#### **Opportunities-**

The external factor analysis may reveal certain new opportunities for profit and growth from lean manufacturing in SMEs. Opportunities are the external factors that the business could utilize for its benefit and also can give a competitive advantage as compared to others. Organization has no control over the opportunities but businesses can take positive benefit of it.

Each of the following may be considered opportunities-

- Change in lifestyle
- Market Developments
- Influential connections
- Good community response
- Support from media
- Expansion into new markets

- Development of new products or services
- Underserved markets for specific products
- Less Competition
- The emerging need for your products or services
- Press/ media coverage of our companion
- New Government Policy that gives benefits to the business
- New grants available

A retail company, identifies opportunities in online selling to various e- commerce platforms, and also found the increased consumer demand for their organic products, etc.

#### **Threats-**

Changes in the external factor analysis may also present threats for lean manufacturing in ABC Ltd. SMEs. Threats are the external factors that could cause trouble for the business. Maybe we can understand that the economic slowdown might create difficulty for business. Organization has no control over the threats but need to protect themselves from all kind of threats to the business.

Each of the following may be considered threats-

- Rising raw material and labor cost
- Security problems
- Lack of interest at the customer level
- Lack of access to an expansion of the market
- Emerging competitors
- Changing regulatory requirements
- Negative social media coverage
- Changing customer’s perception
- Competition from new entrants
- Economic downturn
- Political change
- Environment change
- Legislative change

A transport company identifies threats such as rising fuel prices, increasing competition from other low- cost transporters, driver strikes, etc.

#### **Advantages of SWOT-**

- Lead for the strategic planning.
- Build organizational strength.
- Support to identify the weakness.
- Opportunities identification and lead organization reach the opportunities.
- Support to overcome the organization’s threats.
- Help to identify the core competencies of the firm.
- Support to set the objectives during the strategic planning.

**SWOT MATRIX**

Lean Manufacturing provides better opportunities for developing a competitive advantage by identifying upcoming opportunities in a balance way. To develop strategies that take into account the SWOT profile, a matrix of these factors can be constructed. The SWOT matrix is shown below-

<b>INTERNAL</b>	<b>STRENGTHS</b> Positive characteristics and advantages of the issue, situation or technique	<b>WEAKNESSES</b> Negative characteristics and disadvantages of the issue, situation or technique
<b>EXTERNAL</b>		
<b>OPPORTUNITIES</b> Factors, situation that can benefit, enhance or improve the issue, situation or technique	<b>S-O Strategy/ Analysis</b> Using strengths to take advantage of opportunities	<b>W-O Strategy/ Analysis</b> Overcoming weaknesses by taking advantage of opportunities
<b>THREATS</b> Factors, situations that can hinder the issue, situation or technique	<b>S-T Strategy/ Analysis</b> Using strengths to avoid threats	<b>W-T Strategy/ Analysis</b> Minimize weaknesses and avoid threats

**FIGURE II SWOT MATRIX**

**S-O Strategy/ Analysis-**

S-O Strategies pursue opportunities that are a good fit to the lean manufacturing strengths.

- Establish a lean manufacturing platform which helps in streamline and improve manufacturing processes or other services in order to provide enhanced benefits for customers, while saving time and money through the elimination of waste between top management and employees at all levels.
- Encourage various lean manufacturing enablers namely five S system, continuous improvement culture, visual management system, demand management, total productive maintenance, operational standard work, quick changeover, value stream mapping, effective teams and meetings, loss time analysis, quality of people, supermarket pull system, process quality assurance, problem solving approach, daily management system, lean training and development, value flow analysis, supplier quality engagement, leadership standard work, annual business plan with smart metrics, functional expertise nurturing, self-directed work teams, autonomous maintenance, project management orientation, cellular manufacturing systems, production leveling, total quality management, customer focus, specify customer value and just in time, which may be helpful in transferring the strength of lean manufacturing into opportunity.
- Centre of attention is on developing the core ability at each level namely individual, team and SMEs level which may be helpful in increasing the market share.

- Establish a knowledge repository which prevents the repetition of mistakes and help in sharing best practices at all.
- Establish physical and technical competence which enables lean manufacturing strategy and implementation.

**W-O Strategy/ Analysis-**

W-O Strategies overcome weaknesses to pursue opportunities.

- Establish cross- functional working team which promotes the cross- fertilization of ideas and increases opportunities for innovation.
- Establish the method to contribute towards the new and innovative ideas by all which may provide a competitive edge over competitors.
- Establish lean processes so that the accessed improvement processes can be quickly embedded into the products, services and processes which in turn will help in improving the overall efficiency of the SMEs.
- Establish a mechanism to capture and reuse information.
- Make sure that lesson learnt through experiences, both failure and success are documented and stored for future use.

**S-T Strategy/ Analysis-**

S-T Strategies identify ways that the lean manufacturing can use its strengths to reduce its vulnerability to external threats.

- Industrial culture must be improved so that employees must be motivated to trust and respect each other which will support lean manufacturing and will have a positive effect on the SMEs competitiveness.
- Lean manufacturing supportive corporate strategic planning is essential. It should mainly emphasize on the issues like responsiveness, innovation, decision making, flexibility, sales, employee skills, motivation, cycle time reduction, sharing best practices etc.
- Ensure the necessary training to its employees for using lean practices facilities effectively, which helps employees to become more and more educated and lean practice friendly that led to improvement significantly in the productivity and efficiency of the SMEs thus supporting lean manufacturing strategy in true sense.

**W-T Strategy/ Analysis-**

W-T Strategies establish a protective plan to overcome the weaknesses of lean manufacturing from making it highly susceptible to external threats.

- Establish the learning and working environment which will help in lean practices creation and dissemination.
- Lean manufacturing importance must be communicated to all at every level which helps in giving a sense of purpose i.e. a vision, a mission, a strategy and core

values which will reduce the weakness of lean manufacturing and withstand the threats.

- Encourage an environment where teamwork is promoted.
- Promote the multidiscipline teams for effective lean manufacturing.
- Establish a system was rewards and recognition must be given for making a positive lean manufacturing environment.

Establish a lean practice system where individuals or teams are practiced their own lean sharing practices.

### CONCLUSION

Lean manufacturing can be implemented and sustained by people development and manufacturing process improvements. This starts with the formation of different teams for implementing of lean enablers covering all the lean elements. Structured program is essential describing their aim, procedure, potential benefits and every possible other effect of the steps taken. Full Implementation of lean is achieved through adoption of a new way of working in a continuous improvement environment, which can be achieved by strong commitment from management and people development leading to total employee's involvement.

The impact of lean manufacturing on the manufacturing industry's performance has been examined through an analysis of a real- world case study. The integration of lean enablers has been shown to increase worker productivity, decrease WIP inventory, and increase flexibility by decreasing changeover times. This enhancement has a direct financial benefit since it minimizes labor costs per part manufactured, which in turn improves financial performance. Employee morale is strengthened by their participation in improving operational results. This case study has supported the fact that benefits gained with implementation of lean have positive impact on the organizational performance in the context of Indian industry.

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