

Performance Improvement in Apparel Factories

Background

An average apparel factory in India works at an operational efficiency of 47%, which is far lower than that of a benchmark factory which operates at an average efficiency of 55%-60%, the efficiency for a benchmark factory has been arrived at by averaging operating efficiency of competing countries. Even with in India there exist great disparity in the operating efficiencies of garment factories located in various clusters, Exhibit 1 summarises the efficiency levels of major apparel manufacturing clusters in India against benchmark factory.

Region / Cluster	Efficiency
Delhi / NCR	36% - 42%
Ludhiana	40% - 45%
Bengaluru and Chennai	40% - 45%
Tirupur	42% - 50%
Average Indian Factory	47%
Benchmark Factory(appx)	56%

Exhibit : 1 Source Technopak Analysis

Particulars	Scenario A	Scenario B
No of Machines	300	300
Man to Machine Ratio	2	2
Efficiency	47%	56%
Total Available Min./ Day	1,42,128	1,69,344
SMV of the Product	20	20
Output Per Day	7,107	8,468
Average CM Cost in USD	2	2
CM Earned Per day	14,214	16,936
Input cost @ 90% of CM cost	12,793	12,793
Profit in USD	1,421	4,143

Exhibit : 2

There exists a gap of 9% in efficiency levels between an average Indian and benchmark factory, which if bridged will result in massive increase in profits. Exhibit 2 compares two factories working at 47% and 56% efficiency, since operating at higher efficiency levels will not result in higher operating costs for the factory the profit of the factory can increase to about 300% of the previous levels.

How to approach “Performance Improvement”

Now that it has been established that improving efficiencies by small amount can result in massive gains to the bottom line of an organization, let us see how a factory should approach performance improvement. Key to sustainable performance improvement is to form a dedicated team that is working towards the common goal of performance improvement. The performance improvement can be broken down into below components.

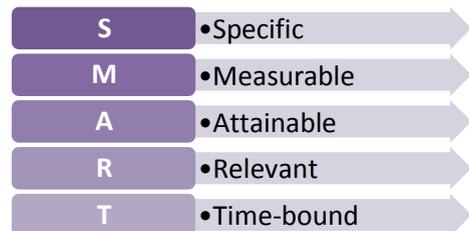
Identify key members of Performance Improvement Team

Having the right set of people working towards the performance improvement goal will define efficacy of the entire performance improvement drive. Like-minded people working towards a common goal will result in a better outcome than a team that does not get along well. It is also of utmost importance that the team’s thought process is aligned to the goals of the organization.

Identify areas of improvement and Set up Achievable Goals

Identification of the improvement potential improvement needs to be in tune with the overall organizational goal and must be further broken down into smaller goals with measureable outcomes. Key Performance Indicators (KPIs) are numeric indices that are used for gauging performance of the organisation towards the defined goals or areas of improvements. The KPI should be easily measureable must be quantified so that the team can at all times see how well are they faring against the goals that they had set out to start with.

Goal setting should be done with a high degree of caution, an easy to achieve goal will result in sub optimal improvement and team will not put in their best effort, while an unreasonably difficult goal will demotivate the team and they will not inspired two achieve it. The goal setting should follow the SMART methodology of goal setting



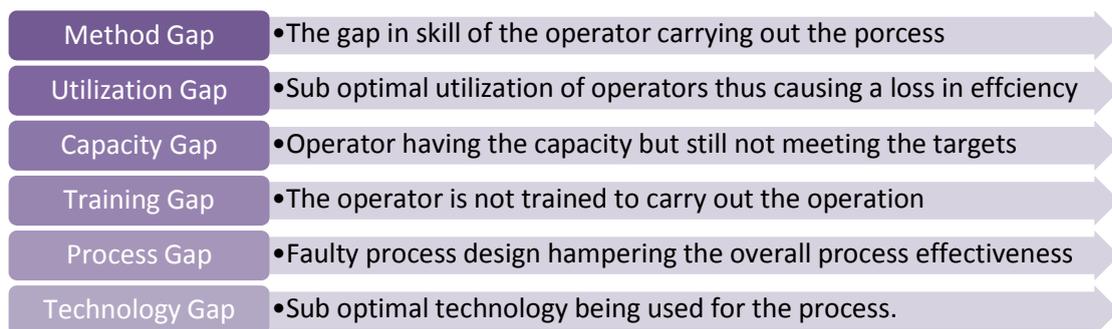
Approaching Performance Improvement:

Value Stream Mapping and Gap Analysis

Value stream mapping is a lean tool used to separate value adding activities from non-value adding activities. Value added activity is defined as any an activity that increases the market form or function of the product or service. (These are things the customer is willing to pay for.) While non-value added activity is any activity that does not add market form or function or is not necessary. (These activities should be eliminated, simplified, reduced, or integrated.)

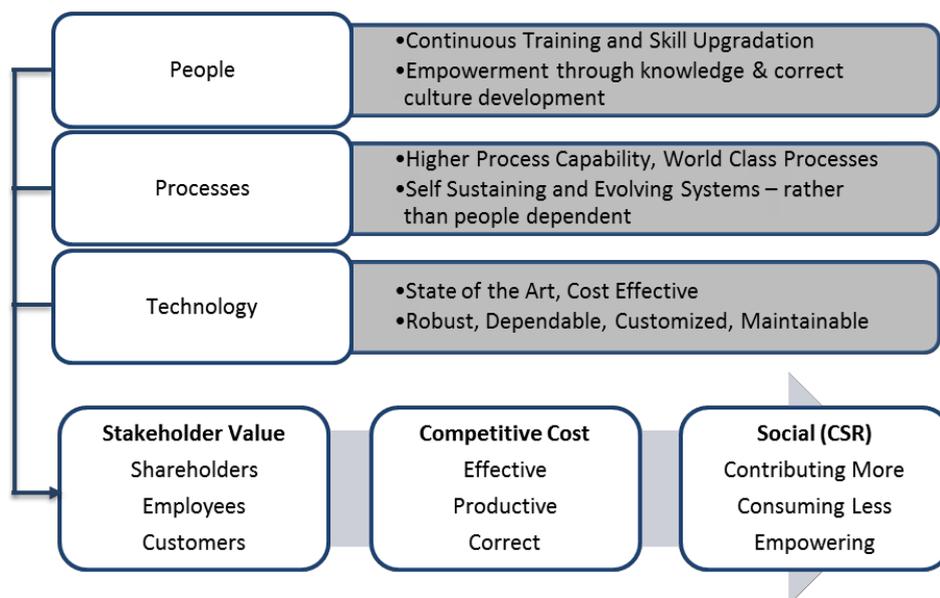
Non-value adding activities must be eliminated in order to make process more effective. The non-value adding activities are also defined as lean wastes under the 7 wastes framework.

The value adding activities are desired activities & should be improved to make it more effective. The process of carrying out improvement is by assessing the gaps in the process, the gaps can be can be grouped under following heads.



The objective of gap analysis is to identify the training needs of the people and need for process improvement. Once the training needs have been established extensive training should be carried out to train the workforce towards delivering better results. The training should not be viewed as a cost rather it should be viewed as an investment that will yield results in longer run.

Key Drivers for Process Improvement Program



Training and Motivating People

Before even starting the performance improvement program, it is of utmost importance to align people's thought process to larger organisational goals and same can be achieved by carrying out extensive culture building exercise. Once the correct culture has been built that's when we start with the job oriented training program for focussed teams. During this phase assessment of available skill set should also be carried out and in case a gap in team's composition is identified then appropriate recruitment should be carried out.

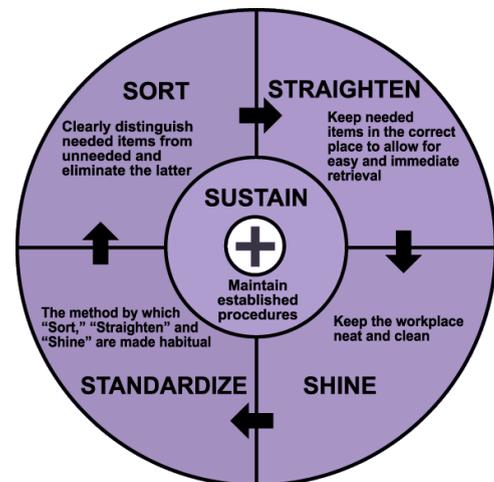
In order to maintain the requisite efforts of people toward the performance improvement goal they should be constantly motivated towards achieving these goals. Performance linked incentives should be awarded to boost the morale of the team. In addition, there are many non-monetary incentives that can also be used like displaying photographs on notice boards at prominent areas with-in the factory.

Process Improvement

There are many tools that are available in the realm of process improvement and one may get lost in the sea of information. The process improvement tools that are most relevant for any apparel factory are reduction in style start-up losses and work place management.

Reduction of Style Start-Up Losses can be carried out by following below procedure observe the current methodology separate the internal and external activities. Internal activities are those that can only be performed when the process is stopped, while External activities can be done while the previous style is still being produced, or once the next batch has started. For example, go and get the required thread, needle and folders for the operation before the previous style is finished. Convert (where possible) Internal activities into External ones (Keeping an extra machine ready with all necessary adjustments already made).Streamline the remaining internal activities, by simplifying them. Streamline the External activities, so that they are of a similar scale to the internal ones. Document the new procedure, and actions that are yet to be completed. Repeat the above process again to further improve the process.

Keeping the workplace organised reduces that is lost in finding the tools and equipment thus improving the productive time. The method of workplace organisation is by following the “5S” methodology of Sort, Straighten, Shine, Standardize and Sustain. The most obvious benefit from items being organized in such a way (i.e. that they are always readily available) is that of improved productivity. Production workers being diverted from production to look for tools, gauges, production paperwork, fasteners, and so on is the most frustrating form of lost time in any plant.



Selection of Optimum Technology

Selection of optimum technology is the key to ensure that the people in the organisation have right set of tools to work with. The technology selection should be done keeping in mind that the so called state of the art high tech machines might not be the best choice for the job as it may lead to elongated payback period thus making it unviable. On the other hand out dated equipment and machinery would mean more downtime thus resulting in reduced efficacy, also it may lead to people not having the right set of tools thus struggling to get the quality output from the process.

Work aid is one low cost choice that is available to the manufacturer and can yield major gains in productivity. There is a wide range work aids, other than folders, that is available for the manufactures to choose from like Puller feeds, manual profiles/ jigs, micro-lifters, auto label picker, elastic metering device, machine extension, etc. to name a few. Manufacturers rarely use work aids other than folders, focus on selecting right work aid for the operation can lead to reduction in cycles times and quality problems.

Keeping the equipment in good running condition is also critical to ensure the effectiveness of equipment same can be achieved by having a detailed preventive maintenance schedule. Total Productive Maintenance is a good tool in reducing machine downtime. In most production settings the operator is not viewed as a member of the maintenance team, in TPM the machine operator is trained to carry out many of the day-to-day tasks of simple maintenance and fault-finding. Cross functional teams are created that include a technical expert (often an engineer or maintenance technician) as well as operators. In this setting the operators are enabled to understand the machinery and identify potential problems, righting them before they can impact production and by so doing, decrease downtime and reduce costs of production.

Conclusion

It is imperative that manufacturing entities integrate people process and Technology for the optimisation of the manufacturing process which will result in improved performance of the manufacturing facility. India has a significant opportunity in both domestic and the export market and it becomes the responsibility of the manufacturers to take the large pie of the opportunity by improving current levels of performance to remain reliable and competitive.

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