CREATING EMPLOYMENT IN SOME INDIAN INDUSTRIES BY REDUCING THE WORKING SHIFT TIMING

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ABSTRACT-
A new programme, called ‘Skill India’, was launched in March 2015. The main goal of “Skill India” is to create opportunities and scope for the creation of the new talents of the Indian youth and also to identify new sectors for skill development. This programme targets of providing training and skill development to 500 million youth of our country by 2020, covering entire India. Now as the time is passing and we are getting new skilled labour we have a new problem of providing job to this skilled youth. The Start Up programme is set to meet such requirements but it is not enough to fulfil the job requirements of the skilled human power. Also, this is not very easy to set a new industry in a short span of time. So in this paper, I have tried to provide a new solution for increasing job opportunities in the existing industry. I tried to increase one more shift i.e. from existing 3 shifts to 4 shifts per day by reducing the working hours from 8 to 6. I got very exciting results which can be recommended for other industries also.

1. INTRODUCTION-
In India a new programme, ‘Skill India’, is being launched in 2015 with an objective as a multi-skill programme [1]. The objective of this programme is to create new jobs and to identify new sectors for skill development [2]. The different objectives of the ‘Skill India’ programme are as under-

- To train the young guns of India so that they can get employment.
- To provide support and guidance for all jobs.
- To generate new areas as scope of occupation
- To arrange training programmes of international standard.

‘Skill India’, Programme of Indian Government observed the urgent need of time that not a single person
must have to be unemployed. So the government is looking to boost this project with full support. With this advance approach the government can definitely move ahead towards its targeted results.

1.1 PROBLEM FORMULATION
But now the question arrives that "How we can be able to utilize the strength of such a great number of skilled people"? This can be done by number of ways-

1. **By opening new industries or organizations (Start Up)** - This option seems to be very good but for that purpose number of barriers exists-
   - Land
   - Huge Capital and Market for Finished Products
   - Specialized Training and Need of highly skilled people

Also the results will be achieved after a long span of time. We also have a large history of Bankruptcy of Firms. So this could not be an immediate solution for providing the instant solution of unemployment problem.

2. **By sending skilled people to other countries where demand of such people is more**-
   This is also not very easy as the family conditions and migration rules are not so easy to grasp easily.

3. **By adjusting them into the exiting industries or organizations**-
   This option seems to be very good as this can help in increasing the employment and production at immediate time.

So we have to find some suitable option for adjusting these skilled people in the existing industries. This can be done by –

   1. Expansion of existing plants
   2. Increasing the Working shifts

So the Problem is how to create jobs for these people?

For this problem we can propose one solution—"**REDUCING THE WORKING SHIFT FROM 8 HOURS TO 6 HOURS**".

1.2 OBJECTIVES OF THE STUDY

- To create job opportunities for the increasing number of skilled persons through Skill India Programme.
- Finding feasibility of increasing the number of shifts in the existing industries.

1.3 LITERATURE REVIEW

A six-hour workday will increase the personal time.

The deputy mayor of Gothenburg tested 30-hour week for staff at a nursing home with 68 employees. The results showed that the employees felt healthier, that there was less absenteeism and patients were better cared for, the Dutch daily newspaper Trouw reported Wednesday. This change, however, did not add to various types of extra costs. The nursing home had to employ an additional 17 extra staff. Daniel Bernmar,
who is managing the municipality’s elderly care, told Bloomberg, “It’s far too expensive to carry out a general shortening of working hours within a reasonable time frame.”

Marion Collewet at el. [3] in their research studied the effects of working hours per day on productivity in the Netherlands. He studied the sample of 332 people and collected the data regarding—

a. information on the number of daily working hours, and

b. Workers individual performance.

He observed the decreasing returns to hours for workers with shorter tenure.

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**Time use on an average work day for employed persons ages 25 to 54 with children**

![Diagram](image)

**Figure 1** - Use of Time by employee in 24 hours

Filimundus introduced a six-hour workday last year by reducing the number of staff meetings and asking employees not to spend office time on personal tasks such as social media. Feldt said this led to higher energy levels among employees, better teamwork and fewer workplace conflicts, as staffers were less fatigued and grumpy about being at work.

According to Roland (Paulsen University of Lund), "Productivity has doubled since the 1970s, so technically we even have the potential for a four-hour working day".

After all, Greeks work some of the longest hours of any EU country, but their productivity, or output per hour, is particularly low – and that hasn’t also worked out terribly well for them.

At Toyota’s service centre on the country’s west coast of Sweden, shifts were reduced for mechanics and with this implementation the company reported a swift increase in profit, and this profit rise, motivated the company to permanently adopt the idea of reduced working hours.

Anttila T. et al. [5] found in their research that 6-hour shifts, in comparison to other forms of working time reductions, had the strongest impact on the decrease in conflict arising from work and affecting family.

Steve Langerud, the workplace consultant based in Grinnell, Iowa [8] also agreed to the points that shorter working hour leads to “Quality of life, stress reduction, and engagement in our work”. Large number of people working from home may help prevent burnout, but it also shows that workers are always connected.
to their jobs. According to John Pencavel an economist at Stanford University (A 2014 study), longer working hours always do not necessarily yield more output.

Smith L. et al. [10] in their study found that, 12 hour shifts leads to less stress levels, better physical well-being, improved durations and improvements in family relations. The disadvantages included the fatigue and safety.

2. METHODOLOGY

2.1. Selection of proper place for implementation of reduced working hour plan -
This study has been performed to find the effects of reducing the working shift hours from 8 to 6 hour. For this purpose selection of an organization is required where we can implement our project rules.

So we selected the - Kalaam Powder Coating (Delhi). The industry has been chosen as it is situated in the Delhi NCR region. The industry is involved in electroplating of the different parts. This is a company which is working on 8 hours shift with fixed production rates in 8 hours. So we have one limitation with this research that we have collected data for fixed production rate in 8 hours.

2.2 Defining the current performance and Data collection -

The first task in this section was to define the current performance of the industry Reports from the production and operation department would be gathered. The second task was to identify a process map of the production process. The purpose of a process map was to understand the sequence of activities from the beginning through the end of the process.

Then the production related complete Data will be gathered. The following Production factors were considered-

1. Cost of production (Transportation, Maintenance, Power and water utilization cost).

2. Employee’s ability- (Health Working level Family relations and Employment).

2.3 Data analysis

The method used for different calculations has two components -

• The interview with workers and management for change in workplace environment.

• Analytical approach to calculation of overall labour effectiveness.

3 EXPERIMENTAL WORK

3.1 Place of Experimental work -- We have tried a number of firms and after a lot of struggle the owner of the Kalaam Powder Coating allows us to make study for this project. So we chose Kalaam Powder Coating (Delhi). The industry has been chosen as it is situated in the Delhi NCR region.
### 3.2. Interview with Workers and Management –

#### Table 1- Questionnaire for Different level people of Organization

| A. For Labourers-- |  |
|--------------------|---|
| **Questions** | **Answers** |
| • Are you happy with this change? | Yes, I am so glad with this change. |
| • How other co-workers are reacting after this? | Now all workers just focusing on their individual goal of production & no unnecessarily talk happening among us which was usual after lunch period due to which we wasted our time. |
| • How has this change affected your work life balance, is it improved? | Yes, it’s improved & now I am giving more time to my family. |
| • Do you feel more productive? | Yes, I am feeling more productive nowadays. |
| • Would you appreciate more changes like this? | Definitely, I will appreciate this type of changes which provide benefit like this. |
| • Would you still work for fewer hours if salary is reduced according to it? | Sorry, not at all. |
| • What is negative about this change? | From labour prospective, I don’t think there is any negativity in this change. |
| • How upper level employees are behaving with you? | They all are happy from us because after this change we are not wasting our time in useless talks & activity. |
| • Is it stressful to do same amount of work in fewer hours? | No, I don’t think so because whenever I thought that if I complete my task of a day within six hour then I got 2 hours for myself. So ultimately this thought makes me more enthusiastic towards my task. |
| • What is the best thing about this change according to you? | Getting two hours each day for myself within same salary. |

| b. For Managers-- |  |
|--------------------|---|
| • Do you appreciate this change? | Yes, I appreciate this change. |
| • Is it easy or hard to keep up with production rate under less available hours? | For me, it is difficult to manage the no of workers & the production rate details due to increase of one shift in a day. |
| • How work environment has affected? | No of workers increases & the only working environment u can see everywhere. |
- How productivity increased of an individual?  
  Productivity is same of an individual worker but saving of 2 hours is appreciable which is used to make one more shift timing.

- Which part of the management has positively affected?  
  Getting no time to waste due to work load.

- Which part of management has negatively affected?  
  Work load increases enormously for a management team.

- How workers are behaving after this change?  
  More energetic after the change.

- How work life balance of an individual has improved?  
  More works, more tiredness. Otherwise everything is fine.

- How did this change affect you?  
  Made me busier in office hours.

- What is the best thing about this change according to you?  
  Productivity has increased due to more shifts.

c. For Owners

- How these changes affect the productivity of the company?  
  In working session it makes profit for me otherwise in off-session this methodology is not suitable.

- How work environment can be improved?  
  The determination towards the production goals of the company from all individual will improve the environment.

- Is there any change in the rate of production?  
  Yes, rate of production has increased but the individual rate production of worker is same as before.

- Is it okay to pay same amount of money for less working hours?  
  Yes, the worker is completing the same task in less hours. So that’s their rights.

- How economy of the company has affected by this change?  
  In working session it has proved marvellous economy change but in off-session this method provides me loss due to salary of workers.

- What do you say is it positive or negative change?  
  It’s not totally positive or negative change, it just depends on the demand of work. According to that we have to take decision of change.

- Would you appreciate any change like this in future?  
  Yes, I would appreciate this type of change until it makes profit for me.

- Does this change having affects as you expected?  
  According to my experience I was known what changes will occur by this methodology.

- How management level of the company has changed?  
  Work load has been increased on management department.
• What is best thing about this change according to you?
The consistency of workers which is maintained for totally 6 hours towards their work is outstanding.

3.3 Calculation of Overall Labour Effectiveness (OLE)

A. Measuring availability Calculation:
Availability = Time operators are working productively / Time scheduled

B. Measuring performance Calculation:
Performance = Actual output of the operators / the expected output (or labour standard)

C. Measuring quality Calculation:
Quality = Saleable parts / Total parts produced

Effective use of Overall Labour Effectiveness discloses the information that determines root-cause analysis, the points for corrective actions and the trends that can be used to diagnose more subtle problems.

Calculation: OLE = Availability x Performance x Quality

4. RESULT AND DISCUSSION-
Overall labour effectiveness for 8 vs. 6 hours at Kalaam Powder Coating (Delhi)-

Measuring availability

| Shift Hours | Manpower | Unscheduled downtime (mints.) | Availability (%) |
|-------------|----------|-------------------------------|-----------------|
| 8           | 5        | 60                            | 87.23           |
| 6           | 5        | 40                            | 91.48           |

Measuring performance

| Shift Hours | Manpower | Unscheduled downtime (mints) | cycle time (mint) | Total Part | Performance (%) |
|-------------|----------|-------------------------------|-------------------|------------|-----------------|
| 8           | 5        | 60                            | 30                | 13         | 90              |
| 6           | 5        | 40                            | 30                | 10.5       | 93.75           |

Measuring quality
Table 4 - Measuring quality

| Shift Hours | Manpower | Target Production | Actual Production | Quality (%) |
|-------------|----------|-------------------|-------------------|-------------|
| 8           | 5        | 20                | 18                | 96.55       |
| 6           | 5        | 16                | 15                | 98.98       |

Overall labour effectiveness for 8 hours

\[ \text{OLE} = \text{Availability} \times \text{Performance} \times \text{Quality} \]

\[= 87.23 \% \times 90 \% \times 96.55 \% = 75.79 \% \]

Overall labour effectiveness for 6 hours

\[ \text{OLE} = \text{Availability} \times \text{Performance} \times \text{Quality} \]

\[= 91.48 \% \times 93.75 \% \times 98.98 \% = 84.88 \% \]

Figure 2 - Comparison between 8 hours work shift and 6 hours work shift

5. CONCLUSION

Due to availability of skilled manpower, the question arrives that “How we can be able to utilize the strength of such a great number of skilled people”?

For the solution of the aforesaid problem we suggested the following solution- “By adjusting them into
“the exiting industries or organizations”. This can be done by –

1. Expansion of existing plants
2. Increasing the Working shifts.

But in such short span of time, the expansion of existing industries is not possible. So we opted for the second solution i.e. “REDUCING THE WORKING SHIFT FROM 8 HOURS TO 6 HOURS”.

After implementing the solution in “Kalam Powder Coating” and thorough analysis of the data collected, we found the following effects on different factors of production-

A. Effects of reducing working hours for the individual’s health--

1. Reducing working hours leads to low level of stress, depression.
2. By reducing working hours, workers may have more free time for themselves. They can use this time to recover themselves and to eliminate fatigue.
3. Less Occupational injuries- After long working the workers get tired & become less conscious about risk prevention. In shorter working hours, they will be more energetic and concentrated on their work.

B. Effects of reducing working hours on the Work Life Balance --
If we reduce the working hours, Individuals will be spending more time with their families and they can improve their mental health. Also Individuals will feel happy in such harmonious relationship and will be more relaxed.

C. Effects of reducing working hours on Productivity of the Industry --
The study shows that if we will optimize our resources we can produce the same quantity and quality products as that in 6 hours shift instead of 8 hours shift. So this can lead to an improvement in the production and ultimately more orders can be fulfilled within the same time. So this will proved to be an effective tool for improving the productivity of the industry.

D. Effects of reducing working hours on growth of Country –
This research can help the country also in the following aspects-
1. Improved productivity and hence improved GDP.
2. Improved employment opportunities for the skilled youth.
3. Also we can help the transport service of the country by altering the timing of duty shift which ultimately allow us to use the transport system with more flexibility.

So we can treat is as an important aspect/ solution to increase the employment and to consume the products of Skill India in the exiting industries up to certain quantity which ultimately lowers down the unemployment rate and we can achieve the real goal of Skill India initiative.
6. SCOPE

This study can be used to –

- Bring more employment in peak time.
- More shifts can be devised.
- Can also reduce traffic problem by alternating the shift timings as per 4 shifts per day.

REFERENCE

1. Skill Development in India, 2015, A FICCI Report.
2. Phukan R. S., December 25, 2014, “Skill India Programme - Objectives, Features, Advantages, Differences and more”.
3. Marion Collewet et al., 2017, “Working Hours and Productivity”, IZA – Institute of Labour Economics, Discussion paper series.
4. Bosch Gerhard et al. 2001, “Working-Time Reduction and Employment: Experiences in Europe and Economic Policy Recommendations”, *Cambridge Journal of Economics*, V-25, pp 209-243.
5. Anttila, T. E. et al., 2005, “Experiments of reduced working hours in Finland: Impact on work–family interaction and the importance of the socio-cultural setting”, Journal of Community, Work & Family, V-8, Issue 2. pp 187-209.
6. Bruck C. S et al., 2002, “The relation between work–family conflict and job satisfaction: A finer-grained analysis”, Journal of Vocational Behaviour, V-60, pp 336-353.
7. Fagan C. et al., 2012, “The influence of working time arrangements on work-life integration or balance: A review of the international evidence”, Geneva, Switzerland: International Labour Office.
8. Margherita A., et al. 2009, “Reconciliation between work, private and family life in the European Union”, Eurostat, Luxembourg: Office for Official Publications of the European Communities.
9. Voydanoff P., 2005, “Work demands and work-to-family and family-to-work conflict: Direct and indirect relationships”, Journal of Family Issues, V-26, pp 707-726.
10. Smith L. et al., 1998, “Work shift duration: a review comparing eight hour and 12 hour shift systems”, Occupation Environment Med; V-55, pp 217–229.