

# **Reshaping resource management in the manufacturing companies**

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## **Abstract**

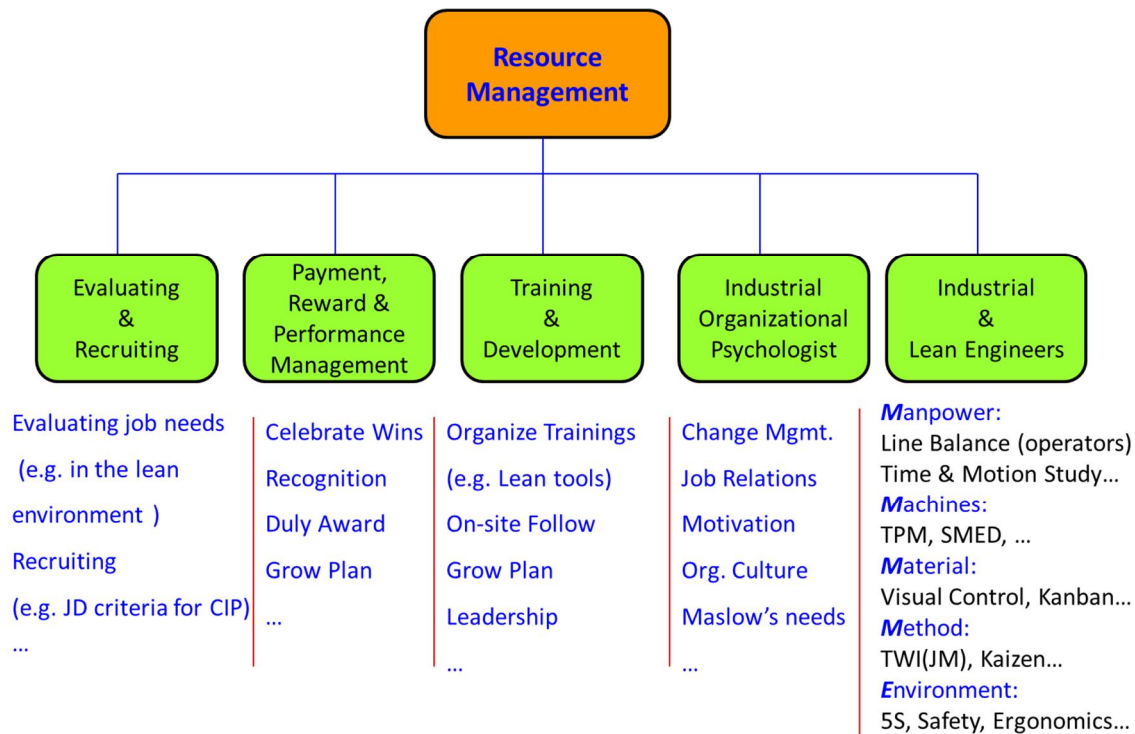
Traditionally the HR Department and Industrial Engineering are totally separated in a manufacturing focused environment. HR manages the resources of talents while IE handles all manufacturing resources within the company. This paper explores the practicability of integrating the HRM and IE for better resources management in manufacturing.

**Keywords:** HR Function, Lean Transformation, Resource Management

## **BACKGROUND INTRODUCTION**

Traditionally, HR department manages and develops people in terms of HR planning, recruiting, administration, training and development, performance and reward, employee relations, health and safety management, etc. HR is essential to promote an atmosphere in which employees can fully use their capacities and develop their potential (Armstrong 2006). Industrial Engineering (IE) focuses on design, implementation and improvement of the integrated system of people, material, information, equipment, and energy (Li 2009). In practice, it is more likely that HR and IE (or Industrial/Lean/CIP/Kaizen functions) work in separate organizations of manufacturing companies. Such setups will hinder effective communication, close cooperation and efficient resource utilization. This paper will explore the practicability and potential benefits of integrating HR and IE into one unit such as Resource Management (Fig.1) or integrating Industrial/Lean/CIP/Kaizen functions with HR - in some cases, Industrial/Lean/CIP/Kaizen engineers are under Manufacturing Engineering or Quality Department.

For the proposed new structure of Resource Management, there are five correlated functions: Evaluating and Recruiting, Payment, Reward and Performance Management, Training and Development, Industrial Psychology Application and IE/Lean Practice. Each of the functions will perform the work differently from the traditional ways of working: their work is embedded with the element of Lean/CIP thinking and they are closely connected with each other to adapt themselves to the Industrial/Lean/CIP/Kaizen environment to create a harmony industry culture in which all employees feel motivated to contribute for company improvements.



*Fig.1 the Conceptual Framework of Resource Management*

## CONCEPT DEVELOPMENT OF RESOURCE MANAGEMENT

### HR: The Catalyst in Change Management

HR could significantly contribute to drive for a successful change such as Lean Transformation in manufacturing companies. It is very important for them to develop related HR processes to support organizations achieving continuous improvement of its performance (Armstrong 2006). They could act as a change agent to facilitate the change and build the organization's capacity of change for continuous transformation (Ulrich 1998).

Lean transformation aims for creating an organization culture of continuous improvement, in which employees are motivated and developed to identify wastes and then apply lean thinking and tools to eliminate (or reduce) the wastes for business excellence. In recent years, Lean is increasingly adopted by many industries, esp. the manufacturing industry through the world. However, many lean practitioners focus much more on lean tools such as Quick Changeover and Total Productive Maintenance (TPM) than on developing the essence of Lean – people and culture. Although application of lean tools may lead to fast wins which help gaining buy-in and confidence among employees for a while, it is difficult to sustain the improvements continuously because the most important part - employees are often ignored (Peter and Found, 2008). As Like (2004) explained, "Lean is a culture, even more than a set of efficiency and improvement techniques. You depend upon the workers to reduce inventory, identify hidden problems, and fix them".

Thus, lean transformation comes along with change management - the change of industrial model, employees work behaviour, and ultimately organizational culture. However, change may scare people into inaction. HR, as the change agent, is expected to replace fear of change with

motivation of having a try by developing and introducing a change model (Ulrich 1998). A good change management model such as the 8-Step Process for Leading Change from Kotter (Carder 2015) and GE model “Change Begins by Asking Who, Why, What, and How” (Ulrich 1998) could serve as a guide and cornerstone for the journey of lean transformation. For instance, the induction section of change will provide employees from all levels the background, urgency and plan for lean transformations at an early stage. It will also help to construct a platform for communication with a bidirectional flow between the top and bottom (Li 2010). At this stage, HR experts could take a leading role in the following aspects.

Firstly, HR is like the activator in a chemical reaction that speeds up the reaction process. With the catalysing of HR experts, it is much easier to create a sense of urgency, collect the guiding team, define roles and responsibilities, develop change vision and strategy, communicate for buy-in to get all people on board, produce short wins and cultivate the culture (Carder 2015). Tracey and Jamie (2006) found that HR Department could help the lean transformation in terms of: team development as a supporting structure; communication across organizational barriers; communication on employees’ specific role; and recognition and celebration of successes.

Secondly, as the essence of lean is to develop people and culture instead of the tools and techniques, it will be necessary for HR experts to work closely with the Industrial or Lean Engineers to sweep barriers, avoid people conflicts and create a harmony atmosphere. Generally, it is easier for Industrial/Lean Engineers to handle the “hard” part in the manufacturing environment such as machines, fixtures and production lines, but it is much more difficult for them to manage the “soft” part people. In this case, HR could assist preparing a package of “dissolving and embracing” material for communication and understanding. For example, HR experts could work together with the Industrial/Lean Engineers to select some videos of case study, or invite the internal “benchmark” to share the best practices of improvements or create some opportunities of visiting other excellent factories. In a word, the main purpose of HR’s involvement is to inspire most of the employees to adopt the change, engage them in improvements and build a Lean/CIP/Kaizen culture (Li 2009).

On the other hand, there are challenges for some companies to manage those employees who do not fit in the culture of Kaizen. It needs systematic investigation and evaluation about its impact on Kaizen success to determine whether to continue or terminate the contract with them (Yokozawa and Steenhuis, 2012). HR could lead such evaluations with support from Industrial/Lean/CIP/Kaizen engineers. However, under extreme situations such as if there are some very stubborn ones of bad attitudes and performances who always spreads rumours to resist the change, it is strongly suggested that HR finds a way to kick them off because they will seriously influence team morale and destructively damage the workplace harmony, esp. during the “swing” period, when employees tend to doubt their efforts and the change direction.

## **Recruiting, Recognition and Rewarding**

In the industrial/Lean environment, it also requires the recruiting officers to clearly understand the value of their internal customers (the departments requesting for candidates), precisely evaluate the job markets, appropriately define job criteria and screen the applications, conduct telephone interviews with basic lean language and finally recruit the most suitable candidates. There is no other way to achieve this except by frequent visit of Industrial/Lean experts and the workplaces to gain the related knowledge and understanding. The traditional way of working – only staying at

office to receive requests, post job vacancies and wait for application will not be effective enough to recruit the right suitable talents.

One of HR's key tasks is to develop and manage the reward system and strategy, which should be integrated with other HR initiatives to reach the aim of motivating, engaging and growing employees. Reward management takes an approach of "total reward", which combines financial and non-financial rewards (Armstrong 2006). The recognition and reward of employees is a vital process to acknowledge their contribution and a message to the others as well. It must be timely and genuine because employees are waiting to receive a signal in the heart. It could be an oral praise by senior levels or a written acknowledgement from HR - it could be also archived by HR for later promotion reference. A good example is that the managing director and HR officer together visit the workplace where employees have made or are making the improvements and the managing director expresses his appreciations with presence of the whole team. A second good case is to publish a short introduction of the improvements/best practices by management team in internal magazines or newsletters. Another good case is the company may provide the employee with an opportunity of further training or internal job rotation.

In addition to the mental recognition, financial rewarding may also work to some employees in a certain level or in some specific national contexts. In some companies, the contributing person or team will receive a gift, a shopping voucher or special bonus for the excellent improvement achievements. In other companies, the best contributors may be awarded the opportunity of visiting other group companies either at home or abroad. To practise those ideas, HR can take the lead of setting up the system of recognition and rewarding, which will secure the driving power for continuous improvement in a long run.

## **Training and Development**

Firstly, HR training and development officer could cooperate with Industrial/Lean engineers to develop a systematic training plan both for the office managers and the workshop operators based on their current skill matrix and the industrial/lean needs. The plan should aim to grow the people: moving them from the "Comfortable Zone" to the "Stretch Zone". At the same time, it is necessary for HR to investigate and create a few growing opportunities within the company for those "ambitious" employees to challenge themselves, otherwise they may feel upset because the company doesn't provide any space for them to develop their potential. Establishing a competency evaluating system with a few different levels is one of such good examples. In some other companies, the use of "moving flags of excellence" also implies the competition for excellence.

The program *Training Within Industry* (TWI) is another good platform of training cooperation among members of Resource Management. TWI is still in wide use globally and it is regarded as the foundation to Toyota Production System (Huntzinger 2002). TWI program includes trainings on Job Relations (JR), Job Instruction (JI) and Job Methods (JM) (Robinson and Schroeder, 1993). A professional team could be established within Resource Management, which may consist of training and development officers who set up the general plan, industrial-organizational psychologists who manage Job Relation, and Industrial/Lean Engineers who focuses on Job Instructions and Job Methods (as shown in Fig. 1).

Secondly, leadership is very important at every stage of the change management (lean transformation), particularly at the starting phase and during the "it is not worth doing it" when employees become upset if they see the gains are much smaller than the pains in a certain period. Lean leadership is not the crisis-based, fire-fighting hero leadership. Lean leadership is about long-

term keeping on the established direction of continuous improvements, the patience of making changes and the motivation of employees at all levels. HR training officers and psychology experts can be actively involved in establishing the program and procedure of choosing the right leaders at the starting phase and then continuously developing them further at later stage of the lean journey (Tracey and Jamie, 2006).

## Psychology Application

Lean/CIP/Kaizen journey is highly connected with psychology application. Maurer (2012) applied psychology methods to drive for Kaizen in USA healthcare industries. He explained that Kaizen is based on employees' awareness and their eagerness for innovation. Small but increasable improvements by Kaizen tend to be more easily accepted by employees. In contrast, radical change is more likely to frighten people and make them against the change.

Psychology application could play its role throughout all stages of Lean transformation, particularly through recruiting, training programs, job satisfaction, employee motivation, and performance management. A major related type of psychology is the Industrial Organizational (I/O) Psychology which aims to improve company productivity and employees' well-being. It consists of two approaches: the industrial approach which focuses on deciding the necessary competencies of doing a job, recruiting employees with those competencies, and enhancing those competencies by training; and the organizational approach which emphasizes on building an organizational structure and culture to motivate employees and offer a safe and satisfying work environment (Aamodt 2013). Organizational psychology could be used to address emotional and motivational issues like attitudes, fairness, work stress, leadership and teams (Landy 2009). Landsbergis et.al (1999) tried to explain the impact of Lean production on worker health and psychological stress by case studies in manufacturing and health care industries.

## CONCLUSIONS

In order to optimize all the resource utilisation, construct a workplace of harmony and establish a continuous improvement culture in the manufacturing company, it is suggested to integrate HR and IE (or Industrial/Lean/CIP/Kaizen functions) into one unit, namely the department of Resource Management. This paper develops an innovative conceptual framework of connecting/extending HR's conventional role to the fields of lean transformation, industrial management and organizational psychology. The paper provides a theoretical support as well as a practical guide for manufacturing companies to reshape its organizations for better resources management.

As a following step to support the proposed conceptual framework, case studies are needed to test the theory, for example by examining the effectiveness of HR/IE/Lean/Psychology functions in the new organization and comparing HR practices across successes and failures.

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