

# **THE IMPORTANCE OF TRAINING AND MATURE WORKFORCE IN THE IMPLEMENTATION OF JUST-IN-TIME IN AN ORGANIZATION**

By

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## **Abstract**

Just in Time (JIT) is a philosophy that is founded in the concept of eliminating waste. It requires cross-trained, multifunction employees to perform several tasks so de employee can fill in when and where needed in every cell of the production line. The ageing of staff is often associated with a decline between labor costs and productivity Human capital theory suggests that investing in of training improves work productivity over time and closes the gap between labor costs and the productivity of older workers. Although, the fact that older workers are routinely excluded from training and are adapted to the traditional system leads us to the question whether older workers are potentially less or more productive to adapt to this JIT system because of an expected physical and mental decline or due to under investment in continuing training. In this paper we present different views of the JIT implementation, the multi-skilled employee, the importance of training and the problems, stereotypes, related cases and studies and recommendations that the mature workforce confront when a company want to adopt the JIT system.

## **Introduction**

Just in Time (JIT) is a philosophy that is founded in the concept of eliminating waste. In the production industry we can see “waste” as anything that does not add value. (Reid & Sanders, 2007, p. 220) Establish that JIT philosophy in the simplest form means getting goods the right quantity at the right place and at the right time. From this last part “right time” is from the term just-in-time (JIT) comes from. It requires a complete cultural change for an organization and a shared vision of the company goals and vision for a company to leave out the traditional system and adopt JIT but once adopted it also needs these three elements to complete a JIT systems (p.224):

- Just – in – Time Manufacturing
- Total quality management
- Respect for People

Respect for people is considered central to the JIT philosophy. Employees working under JIT perform a variety of important functions and for JIT to work out they must be genuinely respected and appreciated. JIT organizations rely on all employees to work together with no barriers, great responsibility and autonomy is given to them to resolve problems and fulfill the company quality-production process. This is why the correct attitude, employee involvement and continuous improvement are needed to implement JIT. The traditional push system employees often perform their jobs in an automatic fashion. In JIT, production employees are just the opposite: Workers are actively engaged in pursuing the goals of the company. For this it relies on cross-functional workers skills, meaning the ability of workers to perform many different tasks on many different machines. When switching from a push production to a pull production workers training needs to be planned very carefully. Continuous improvement relies on the knowledge and skills of the workers closest to the operation. They are ones best suited to make improvements in their jobs (Reid & Sanders, 2007, p. 238).

But the question is ... Is the mature workforce ready for this change? Are the mature workforce multiskilled and cross- functional? Does the mature workforce have the ability to adapt to this system? Are they going to produce as well? In this paper we can find some of the answers.

## Literature Review

The JIT philosophy is originated in Japan by the 1990's and it was developing by at the Toyota Company and often credited to Taiichi Ohno a vice president of the company. Since knowing that this change was becoming in the manufacturing industry in Japan a competitive weapon with excellent results it has been adopted in all types of industries worldwide (Reid & Sanders, 2007, p. 221). Companies like General Motors, General Electric, Westinghouse, 3M, Harley Davidson, Hewlett Packard and so much more in the Unites States has started adopting JIT but most of this companies that has adopted JIT in the US are just experimenting with limited aspects of it and even they are happy with the result they are having for JIT to be fully effective it must be applied in a full and not in part but this requires much more. It requires expanded workers, role and involvement and personnel practices different from what the regular push system companies have. For knowing of if a company can implement JIT first it has to re-examine their personnel practices prior to the JIT implementation (Manoochehri, p. 294).

Mullarkey et al., established that unlike traditional forms of manufacturing where fabrication take place depending in the material available (push system) the JIT (pull system) system of manufacturing only take place when there are specific demands from external customers (Mullarkey, Jackson, & Parker, p. 62). Also White et al., established JIT as a set of management practices aimed at continuous improvement through the elimination of all wastes and full utilization of human resources (White, Ojha, & Kuo, 2010, p. 6104). Many people think JIT is an inventory reduction program or a manufacturing process, on the contrary, JIT is an all-encompassing philosophy founded in the concept of eliminating waste that is applicable to entire

organization (Reid & Sanders, 2007). However, White et al, mentions that other researchers suggest for JIT to be effective it has to be seen as a holistic organization wide set of practices to be implemented in a tandem (White, Ojha, & Kuo, 2010). They also argue that previous researchers proposed ten management practices that give a holistic view of JIT implementation in manufacturing, two of these management practices related to this theme are the group technology and the multifunctional employee. Multifunctional workers are required in a group technology because in JIT the workers assignments are changed periodically due to fluctuations in the production requirements of a cell. In a broad view of JIT its implementation has contributed to the success of many organizations worldwide. Some authors maintain that JIT implementation overrides all aspects of the organization (Reid & Sanders, 2007, p. 243).

Strong advocates of JIT mentioned by Mullarkey et al., maintain that team work, multi-skills and job rotation creates under JIT system conditions for job enlargement and while catering for employee's social needs (Mullarkey, Jackson, & Parker, p. 63). JIT also provide an environment of continual challenge which can develop the skill of the mind and increase respect for the employee.

In the other side critics of JIT believe that the focus of multi skilling in the production process can have seriously deleterious impacts in the employee and quality of work experienced by the employee. Others believe that JIT is a "highly developed form of work intensification with belies any notion of job enrichment" and that all these "qualities" under JIT are just tools of work intensification under the JIT system. According to this teamwork, job rotation, and multi-

skilling serve as intensify workload and peer pressure in the service of maximizing the output of the employee. Many of these claims are just unjustifiable generalization based almost entirely on anecdotal evidence.

### **Role of the Multi-skilled Production Employee**

Moving workers frequently from cells and work stations or departments assigned to short-term performances promoted them to learn how each part of the final product is done and the quality of the process. These improve their productivity and involvement. The absence of a flow inventory makes the role of workers more crucial. The system must depend on the workers for their multiskilled, less possible- defect performance, long overtime production hours and a high commitment (Manoochehri).

Production Employees have to be efficient and have a different attitude to toward quality.

They are required to:

- Actively engaged in improving the production process.
- Monitoring and correcting quality problems in the production process.
- Inspect their own work and the materials receive previously to start a new operation.
- As they all work as a team they become an important part to the company decision making.
- They are empowered to make production and quality decisions and contribute to solve production - quality problems.

- Responsible for quality and preventive and productive maintenance of their machines.
- Responsible for recording data, numbers, quality process control data, hours worked and equipment malfunctions and visually displaying performance data.

Under JIT, each worker depends on the previous station for a continuous supply of units to work on, but cannot begin work on a unit the person at the next station signals that another unit is needed. All workers must act as a team, then, rather than as individuals. How well each person worked within his or her group became an important factor in performance evaluations in our study company. Before JIT, performance evaluations depended primarily on technical skill.

The most important role of a production employee is to search for causes for problems in quality and production. Quality is a goal that is everybody responsibility. (Reid & Sanders, 2007).

JIT goal is to produce the demand rather than achieve smooth production runs; each worker must be cross-trained to perform several tasks so that he or she can fill in when and where needed. Performance evaluations under JIT are based partly on a worker's flexibility to accept a wide range of tasks. (Groebner & Merz, 1994, p. 28).

On JIT's integrative develop and involve workers in activities beyond the production tasks. As operators become more knowledgeable of the machine maintenance needs, they are able to make minor repairs and adjustments. The application of the multifunction employees practice enhanced the volume flexibility.

“Multifunction employees are the JIT management practice that involves formal cross-training of employees on several different machines and in several different functions (White and Ruch 1990)” (White, Ojha, & Kuo, 2010). In JIT, people are critically improving existing products/processes as well as developing new products/processes to keep the organization competitive (Hall 2008). Multifunction employees continuously improve their knowledge and skill levels that’s why they are compensated according to the skills they learn; because, they are encouraged for self-development. The job rotation scheme improves the employee’s motivation and commitment and is directly associated with self-development. Multifunction employees are much more prepared to fill in for other employees when needed and their input to problem solving and systems’ design is enhanced. By becoming more knowledgeable of other activities and functions, the employees are better prepared to find problems and suggest improvements for their activities and other activities of the organization. The multi-function employees and the reduced setup times each and collectively contribute to an organization’s ability to produce and manufacture a variety of products in different volumes (White, Ojha, & Kuo, 2010).

For developing effective workers motivation and Knowledge are two important factors. JIT offers the employee the opportunity for personal development. The extended training give workers a range of knowledge and high motivation making employee get compromise and involve in the company problems and solutions. (Manoochehri)

## The Importance of Training

It's important to know that training is not the same as learning. "Training is a communication activity that may lead to the acquisition of information and/or a change in attitudes or behavior". Training often evokes passive participation; like attendance to workshops, whereas learning requires some level of active participation, bringing about changed attitudes or behavior. "An investment in training nearly always occurs; learning is quite another matter (e.g. Stewart et al., 2010)". Training is a traditional focus of human capital theory which suggests that firms invest in skills development when they expect increased employee productivity to offset such training costs as paying an instructor, buying materials, and downtime (Snell & Dean, 1992).

Training efforts in manufacturing firms traditionally have been informal, limited and unstructured. In fact, on-the-job training (OJT), by far is the predominant method of training been used in many companies because it reflects an orientation toward immediate utilization of a general pool of labor (Snell & Dean, 1992). The advantages of OJT are: low cost, immediate productivity, minimal training time, concurrent trial period. Most beneficial when only basic skills are required. In contrast, integrated manufacturing, like JIT requires employees with wider advanced skills (Dean & Snell, 1991) which implies a need for more formal and comprehensive training. Under integrated manufacturing, it is expect more frequent and extended training periods and more structured programs to ensure multi-skill acquisition.



This learning problem can be analyzed through the ‘AMO framework’, presented by (Sterling & Boxall, 2013). This framework argues that “all employee performances are a function of ability (A), motivation (M) and the opportunity to perform (O)”. The point presented is that employee abilities and motivations are subject to a work setting, which can be more or less enabling. To execute well, employees need resources, such as information and technology, and their potential is limited by the extent to which work partners, including supervisors and co-workers, are supportive. It is now widely accepted that employee ability, motivation and opportunity are an inevitable set of mediators in any model. A shift to a more demanding production system, such as JIT system can be applicable the AMO variables: “to enhance the quality of performance outcomes, management will need to make investments in HRM that exceed those required for mass production”. Success will depend on whether workers respond positively to the application of these variables (Sterling & Boxall, 2013).

Karasek and Theorell (1990) argue that the most favorable environment to learning is the one where there are high levels of psychological demand but in which workers have the decision-making latitude that enables them to respond creatively. These are considered active jobs. Passive jobs have low decision-making latitude, low demands and low learning possibilities. Just like assembly-line work, which is rigidly constrained and prone to speed-up, is the archetype of the low-quality, ‘high-strain’ job? Karasek and Theorell (1990) argue that people who are repeatedly confronted with stressful situations in which they can exercise little control stop tackling the problem. They are less motivated to learn, and their skills may atrophy. With ‘high-strain’ jobs in which high levels of work demand and low levels of employee control seriously impede learning and create health risks (Karasek and Theorell, 1990).

The value of the model that Karasek and Theorell propose lies in the way it relates the structure and challenges of the work itself to the opportunity and motivation to learn. “In their analysis of the Third European Survey on Working Conditions (n = 21,703, across 15 EU member states), Lorenz and Valeyre (2005) find that the lean model does enhance employee autonomy and problem-solving activities, and twice as many workers agree that they are ‘learning new things at work’ under lean (Sterling & Boxall, 2013).

This simple observation leads us to analyze it so that employees can learn they need incorporate learning with the opportunities and the motivation (The O and M of the AMO Framework) which is related to the way the work is structured. Self-managing teams offer the employee an opportunity to be involved in decision-making process making them create the conditions for better learning. The type of learning that occurs in this type of system (lean manufacturing) it is rather to work when the structure is directed to exercise control in order to choose the decision that sees fit to solve a problem (Sterling & Boxall, 2013).

### **The Mature Workforce toward Training**

In the 1970s, the 78 million-strong baby boom generation, born during The Great Depression and Second World War began to enter the workforce in major numbers, replacing the much smaller cohort now they proceeded to baby boomers. The impact was both huge and invasive; the pool of available workers increased by 29 percent in a single decade. Workforce growth remained strong in the remaining decades of the 20th century as the arrival of

younger boomers continued to buttress the number of workers. Today, however, with the youngest boomers in their early 40's and the oldest boomers in their early 60's, workforce growth is coming to a virtual decline. From an increase of 29 percent in the 1970's, America's workforce will grow only 12 percent in the current decade and will increase a mere four percent in the next decade. In the next decade (2010-2020), the age 18-34 population will grow a mere three percent. (Dychtwald & David, 2007)

Workers under JIT after getting used to their new responsibilities, well trained and committed with the company goals become more efficient and develop an interest and later on and initiative to solve problems as they been given authority for it an control their own work. Once an employee is respected, feels secure, important and has become an integral part of the company decision and work process this leads him to become a lifetime and in many cases a permanent employee (Reid & Sanders, 2007).

Despite all the attention given to the technical aspects of JIT production methods, the people most affected by it – production workers and their supervisors – seem to have been largely ignored in special the mature workforce. Many articles concerning JIT don't contain much information about the importance of educating and training workers. Forgetting about the importance of workers and management commitment. That is what makes an employee loyal and long-time employee in the workplace. Implementing JIT drastically changes the work environment for workers and supervisors of all ages; their acceptance of JIT is critical to its

success. Some initial evidence in implementing JIT implied that these problems occurred because of employee resistance. (Groebner & Merz, 1994, pp. 26-27)

Skills and knowledge, as important aspects of older workers' qualifications, represent a large part of their work potential. Thanks to years of experience, workers age 50+ generally possess such knowledge and which are crucial to the development and success of any organization that what to implement JIT. Human Resources and line management strategies focusing on this group of workers and an appreciation of their knowledge and skills are rarely used. The organization either does not identify this potential at all (because it is not considered important), or its efforts are insufficient and unsystematic (Pejrova & Klimek).

As cited by (Pejrova & Klimek, p. 378) it's expected that in the next decades the number of aged people will rise significantly relative to the number of working age. By 2050, there will be only two people of working age (15-64) to support one person age 65 or over in the production area. These trends are evident in many countries. The main temporary economic consequence of ageing seems to be a loss of productivity as a consequence of a loss of capabilities related to the large scale retirement of the baby-boomers combined with a shortage of younger workers to fill the space. This temporary consequence of ageing is often referred to as brain drain or talent gap. Whereas brain drain mainly refers to the large scale retirements of the baby boomers, talent gap mainly refers to the shortage of younger workers that follows the large scale retirements.

## The Problem

Studies mentioned in (Snell & Dean, 1992) have recommended that aspects of integrated manufacturing require greater conceptual, technical, analytical, and problem-solving skills than did older manufacturing techniques. Conversely, they found that the need for physical skills may actually decrease with the implementation of integrated manufacturing. In general, these findings represent a development toward "upskilling" employees into "knowledge workers," whose responsibilities involve problem solving rather than "physical workers," whose responsibilities include only physical work. Research has suggested that skilled workers adapt better than unskilled workers to technological change and are more capable of making locative decisions. Technological change increases productivity and in doing so requires a broader variety of skills from the work force. Further, automation eliminates routine work; workers experience less close supervision and have more responsibility; work is more complex and interrelated.

Work in an integrated manufacturing environment involves a broader capacity of responsibility for decision making, problem solving, and continuous improvement. As (Snell & Dean, 1992) cited: Zipkin said: "the idea is that tighter inventories, shorter supply lines, quality displays and so forth make each worker's contributions essential." Since, under integrated manufacturing, employees have a greater impact on the finished product.

Productivity would suffer more if employees performed poorly; the economic impact of labor is higher than it is in the traditional system. The implication of these trends is that the potential contribution of employees in integrated manufacturing settings is greater than it is in

the traditional factory, which makes human capital investments more attractive to employers. This way manager will be more likely to invest in employees in an integrated manufacturing environment (Snell & Dean, 1992) .

The ageing of staff is often associated with a decline between labor costs and productivity, with the wages of older workers exceeding their productivity. Human capital theory suggests that investing in of training improves work productivity over time and closes the gap between labor costs and the productivity of older workers. Although, the fact that older workers are routinely excluded from training leads us to the question whether older workers are potentially less or more productive because of an expected physical and mental decline or due to under investment in continuing training. The link between training and productivity is very strong, because normally if workers score poorly on the performance scale, they are expected to participate in training programs to bring their productivity in line with expected levels. If the company does not react to a fall in productivity by investing in the worker, it becomes increasingly difficult to reinstate an acceptable level of performance. Continuous learning is perceived as critical to increasing the productivity of older workers because it develops new skills and improves old ones. Therefore, we predicted that managers should be more in favor of providing training for older employees with poor job performance in order to improve their productivity (Lazazzaraa, Karpinskab, & Henkens, 2013).

In line with human capital theory which study the determinants of investment in human capital and rates of return of education and training, older workers are commonly excluded from training for economic reasons. A capital is an asset that generates income and benefits over the long-term period. "Education and training are also valuable assets for companies and investing in them increases earnings, knowledge and skills." In line with this, investments in training are justified by the expectation of future benefits and a rise in worker productivity over the period up to retirement, but also by increases in motivation and job satisfaction on the part of workers (Lazazzaraa, Karpinskab, & Henkens, 2013).

Age plays an important role in determining practices regarding older workers but there is little concurrence across studies with regarding the age boundaries for the older worker category. Age becomes an issue when managers believe the period over which future benefit's from training will be too short, subscribing to the common view that productivity and return on training investments decline with age. Consequently, training for older workers is considered too expensive and the trade-off too small to justify making the investment (Lazazzaraa, Karpinskab, & Henkens, 2013).

In a case presented by (Mullarkey, Jackson, & Parker, p. 76) positive outcomes were observed in the company they studied (Company F) and one logical explanation relates to the approach taken to the introduction of JIT manufacturing techniques. In the study Company F took a highly build-up, human-centered, participatory approach to the introduction of JIT, by guaranteeing that employees were sufficiently multi-skilled and well-trained in the principles of quality control and team-working, before reducing inventory levels and introducing the JIT

system. Other companies, on the other hand have introduced JIT principles simultaneously as part as the change (fundamental and drastic change). Doing this can make employees experience greater difficulties associated with cross-training, less development appraisal, human relations, less individually wages and the greater vulnerability of the process under JIT. The successful implementation of JIT will depend essentially on the diligence of the preparatory work and without such preparation; the chance of great benefits is low”.

In addition, in other case presented by (Majchrzak, 1988) the JIT employees show off greater obstacles than the batch employees in the areas of training, computer use, scheduling, and reliance on co-workers. This is commonly related to the mature employee. These findings show that the bottom-line changes often cited in JIT success stories, such as reduced inventories and faster flow times, are not the only results that should be measured. The potential for negative effects on employees should be considered as well, or turnover and morale problems may sabotage the effectiveness of JIT implementation.

According to (Pejrova & Klimek)the majority of managers, ageing will predominantly have negative consequences:

- costs will increase
- productivity will decrease
- absenteeism will increase
- enthusiasm to change will decrease



As a consequence of the supposition that older employees are less productive, managers also assume that training older workers give way to a poor return-on-investment and therefore primarily focus on the further development of young potentials. Age negatively affects the variables that lead towards participation in training and development. According this assumption older workers tend to be offered training at a much lower rate than younger ones. Negative perceptions of older workers also depend on cultural dimensions, such as the specific country or the role and the company in which the worker is employed.

In the survey (Pejrova & Klimek) mention they exposed that younger workers do not have positive attitudes towards older workers' participation in training and development. A lack of older workers' interest in development and training is probably one of the biggest stereotypes and myths about these people. Older workers generally still want a job that challenges them and allow them to learn and develop. The organization should be aware of the fact that the lack of training and development of workers age 50 and over has an effect on their performance and work quality.

According to a 2007 survey by Manpower Inc., only 18 percent of employers in the United States have strategies in place to recruit older workers, and less than a third have implemented any retention strategies for their older workers. Despite the increasing shortage of young workers and the unprecedented growth of available mature workers, organizations continue to focus their recruiting and development efforts on the younger workers. This continued focus on the young workers will make worse the coming talent shortage. As organizations battle over an increasingly

limited pool of young workers, they will face growing recruitment costs, declining skills and productivity among available candidates and retreating retention. Moreover, as older workers exit the organization, organizational know-how, culture and relationships with customers and partners created and maintained by them will simply walk out the door. Thought leaders and organizations are waking up to the need to shift their workplaces policies to fit the new demographic realities. Key trends are rising that are making a mature workforce strategy more viable.

Salaries in the workplace are also one of the potential causes of age discrimination among the mature workforce in today's workplace. As employees get older their salaries increase. Industries no longer see the cost benefit relationship of having one older employee with a high salary as contrasting to three younger employees with lower salaries. This is especially evident in industries in which knowledge moves at an extremely fast pace, such as engineering and computer science. For example in the engineering field, mean wages for engineers range from the low \$40,000's, while for engineers with more than 10 years of experience have salaries in the mid \$80,000's (Costlow, 2005) mention in (Choi, Kleiner, & Kleiner, 2011). As a result, higher salaries have led to layoffs more likely for older employees. However, even though terminating the employment of older workers because of salary might be seen as age discrimination. The Supreme Court does not hold the same view. These is why employers will prefer to give open positions to younger employees who have lower costs, thus cutting back on salary expenses and increasing the bottom line in poor economic times.

Employers view older workers to be less adventurous in that they are more hesitant to tackle the tougher tasks. This causes the employers to rethink the purpose of having the higher paid older workers. They also perceive the younger employee to be much more concerned with keeping up with the latest production technology. They see the older employee, on the other hand, as somewhat more concerned with securing a fair share of the training budget. Managerial actions clearly favor the career development of the younger employee. All of the studies analyzed for these writing tilt to the side that funds for training and development should be allocated so that the younger employee could attend the training seminar, but many little research if found favoring company support for training all types of employees.

Even though managers may think that older workers will leave from the organization within a few years, evidence shows that older workers are probable to stay with the organization longer than younger people, who are being socialized to change jobs every three years or so (Pejrova & Klimek) cited from (Spiezia 2002). As employees in organizations progress with age, they obtain a set of knowledge in accordance to the firms' operations, structure and culture. Such knowledge can hardly be replaced when an older employee leaves the organization. However, from an organizational perspective, the problem seems to be that organizations do not know how to make sense of the potential of the older employee (Pejrova & Klimek).

A global survey presented by (Snell & Dean, 1992) of retirement and work, employers said that mature workers were just as productive and motivated as younger workers, and were even more loyal and reliable. Companies are increasingly realizing the value of mature workers.

In the United State government is beginning to adjust policies and laws to make it easier to continue employing mature workers. For example, the 2006 Pension Protection Act enables workers to continue working while receiving defined benefit pension benefits.

The Merrill Lynch New Retirement Study, conducted by Age Wave mention by (Choi, Kleiner, & Kleiner, 2011), found that four out of five boomers would like to continue working in their retirement years. The majority of mature workers are seeking to continue working in later life. Today, there is a growing rejection of traditional retirement models of withdrawal and non productivity. In an era of increasing longevity and a longer life continued with good health and vitality, mature employees say they plan to continue working to stay physically and mentally active, to stay socially connected and to be able to maintain their standard of living. Many studies consider that the age that marks the beginning of the decline in training investment is 50 years old, with a sharp drop after 60. This shift in the age limit is probably caused by the ongoing ageing process in the workforce that is leading to gradual modifications in the work life cycle. If we were to analyze the profile of an older worker who is likely to receive training, the observations are that they perform well in their job, are highly skilled, have a low absenteeism rate and are preferably under 60 years old (Lazazzaraa, Karpinskab, & Henkens, 2013). This can support (Pejrova & Klimek) that older workers have a willingness to learn from younger ones. Older workers were seemed by managers as people who did not see interest in younger workers' knowledge. However, such knowledge can be useful for older ones as they are open to as a team work learned from each other. Workers age 50 or more might be slower with information and communication technologies one of the areas which younger workers must have. This is why inter generational learning might be useful for both sides, (Pejrova & Klimek).

Also as we been seen previous research suggests that there are stereotypical views of age that depict an older person as potentially less capable compared with a younger employee, particularly for managerial positions. Older persons are seen as less able of responding creatively, efficiently to job demands, less interested in change and less capable of coping with future challenges, relatively inflexible and resistant to change. (Rosen & Jerdee, 2009) These make promotion opportunities for older people are restricted, particularly when the new positions demand creativity, mental alertness, or capacity to deal with crisis situations.

## **Recommendations and Conclusion**

As part of the recommendations companies that project significant retirement abrasion and increasing shortages of younger workers can step up older workers to help meet their future hiring needs. Steps to reorient recruiting practices toward older applicants (Dychtwald & David, 2007) include:

1. Review job promotional language with references to employee age “Older workers are more likely to be attracted to advertisements emphasizing experience, "knowledge" and "expertise" and to interpret those stressing "energy," "willingness to learn" and "high ambition" as implicitly targeting younger workers.”

2. Evaluate job promotion channels - Recruiting older workers sometimes requires the use through nontraditional channels or creative partnerships with professional societies or other unions or groups with memberships that these older employees are part of may like to be part off.
  
3. Review interviewing and hiring practices - Some hiring managers may implicitly favor younger job applicants or may be making uncomfortable hiring older subordinates. Build a reputation as a company that favors both; the young as the mature employee. "Bill Albright, director of quality of life and benefits at MITRE Corporation, said that his company's reputation for valuing older workers and pioneering flexible work styles is their "biggest draw for older, highly experienced workers." He said, "This gives us a tremendous advantage over other companies who are unable to access the talent we can" (Dychtwald & David, 2007, pp. 328-330).

If your firm wants to promote flex retirement, so they can bring young workforce without discriminating with the older workforce implementing a formal program is generally the best approach. Informal arrangements are a better choice when the plan is to offer phased retirement only to selected individuals just like part-time contracts. Companies may convince valued older workers to delay retirement by offering them flex retirement options or flex working hours that provide them with greater work style flexibility and more control over their time. So they can help in the train of new, young employees showing them what the experienced has teach them that any training can teach. Making the way easier to the company and to the new workforce. Examples include: temporary work, reduced hours or schedules, consulting assignments,

telecommuting, job sharing, mentoring positions and other special positions and assignments that would be attractive to key mature employees. These programs can help you meet several important business goals like giving access to older employees to introduce to the new industry, client knowledge and facilitates succession planning while avoiding the costs of keeping those employees on full time.

Companies, which actively have working older employees to work under often much younger managers should have a separate program to train these managers on how to manage older workers (diversity training). Instead, that is incorporated into their regular training. According to Stephen Wing, director of government programs at CVS, "You need to train managers, whose average age is in the mid-30s, to work effectively with people of all ages. The National Council on the Aging helped us to identify key issues in managing and motivating older employees."

Mature workers are often ignored for training and learning because managers feel employees potentially nearing retirement are not merit investing additional training. "A recent U.S. Bureau of Labor Statistics study found that workers 55 years and older receive only 23 hours of training each year, in contrast to more than 57 annual hours of training for those aged 45 to 54 years. However, turnover among older workers is actually lower than that of younger workers." Few companies develop or maintain training that is specifically designed for older workers. "At first we trained older employees separately, but we found that's not the best way" said CVS' Wing. Putting younger and older people together in a class or in a cell, they can learn from one another. Younger people help older employees become familiar with computers and technology, and

older workers share their vast experience and expertise. Putting them together in a class also helps to eliminate stereotyping (Dychtwald & David, 2007).

(Choi, Kleiner, & Kleiner, 2011) also recommend like said in the top “the successful implementation of JIT will depend essentially on the diligence of the preparatory work”. Therefore, in order to successfully manage the older employees under this system, employers need to first change the culture and environment of the workplace to alleviate some of the hardships that older workers might face while working into their late years.

- The first area that needs to be focus on is the way the executives and managers view ageism in the workplace. If it is a subject that is conventional and traditional, then older employees will suffer as they will be left behind in the company’s goals and plans. Thus, in order for a company to successfully integrate older employees, the managers must first set the right attitude.
- The second step in assisting older employers to adapt and maintain up to date with their skills would be to communicate with them. By doing so, managers are able to find out how the employees feel about working at an older age and what changes might need to be made to accommodate them. Communication is in this step are more important now as older employees having different goals and needs. So, if managers have stereotypes on what they believe the older employees can accomplish, while the employees have another view, then a breakdown can occur and both parties will be at a loss. An open dialogue will help managers to find out how facility older employees are in their environment. As companies grows and change, new employees from diverse backgrounds will be placed



and common procedures may become more difficult, which would make the older employees less useful and less associated with the company.

- The third step in the procedure is to educate the entire company in having an aging and more diverse workforce. This can be done in a variety of ways, including training programs and diversity workshops. By having all managers, supervisors and employees attend these sessions, the entire company will be more educated on the benefits of having older workers present. With such training, age discrimination can decrease as managers will have a better understanding of when they are discriminating based on age. With the elimination of stereotypes, managers will also be able to make better decisions.
- The fourth and final step in the procedure to integrate older employees into the lean manufacturing workforce is to commit to the older employees. Companies should be flexible with the schedules of the older employees, continue to educate and train them, as well as work out the healthcare and pension benefits. It would be beneficial for employees to be flexible with the hours that older employees work. Also, educating and training employees will help to retain the employees and possibly attract other qualified employees. Having a training program is beneficial for both; employee and the company because trained and up to date employees will make fewer mistakes and have better judgment in certain areas of work. Pension plans and Healthcare benefits will also have to change to account for employees working past retirement. They will need to be changed as employees will be working longer with different medical requirements. Also, pension programs will need to be tailored to account for employees retiring at a later age.

If these procedures are followed, older employees in the workplace may be more at ease working and the threat of age discrimination in the workplace could decrease.

In conclusion, the picture that emerges from this study is that many companies are stereotype and generally not very likely to train older workers, especially those most in need of training: workers who perform poorly or not what is expected. Even though life- long learning and training are assumed to enhance older workers productivity and motivation, this study shows well prepared to implement JIT in a workplace were are young and mature employees. Recommendation suggests considering training more as a retention practice – a kind of reward for those who are working toward the excellence of quality and improvement for the company.

In this study we've been analyzing the impact of JIT on the mature employee employees. We have described the overall impacts of JIT on the multi skilled employees young and mature in the company. However, as with all major organizational changes there many types from different ages in all the departments like quality control inspectors and test engineer but for many manual assemblers (were in many companies is where the mayor mature workforce is), the opportunity to become more skilled in a wider variety of operations is very positively if they follow the recommendation cited here and the before cited references.

If we have a continuous training for new employees these employees can become an efficient and productive mature employee. Together with the experience of the years of service can become a loyal and valuable to the company employee who can serve as an example for younger employees.

Employees that are cross-trained can adapt to line imbalances or respond to differences in processing requirements. No matter among co-workers was thus very high. Each team's have to focus on a particular product line resulted in a high degree of employee accountability for product quality.

Improved training programs, modified information systems, and a better interface between marketing and operations will ultimately alleviate the problems employees face under the JIT system. These results indicate that successful JIT implementation requires a long time. Not all obstacles can be anticipated at the outset, and problems must be worked out over time (Brown & Mitchell, 1991).

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