

Assembly line and line workers essay



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JIELIANG PHONE HOME CASE STUDY PROBLEM STATEMENT Jieliang (DL) is a line worker at Precision Electro-Tech's Dongguan, China manufacturing plant. During a plant walk through, Marty Cole (OEM – Global Team) witnessed Jieliang being publicly disciplined in front of her fellow line workers for not following Total Quality Control (TQC) procedures and using her own method.

ANALYSIS Precision Electro-Tech is a large contract manufacturer (CM) that produces products (i. e. , cell phones) for another company or OEM (Original Equipment Manufacturer). In the case of complex assembly tasks, if those tasks can be broken down into simple unit manufacturing steps that can be completely specified, they can be sent to low-cost countries like China where unskilled labor can be trained to follow those steps in detail. This business concept is known as “ labor arbitrage” and is the foundation of the global economy and outsourcing (Shih, Bernstein, Bilimoria, 2009). ” The above business model of CMs is a tried and true paradigm and is consistent with the lean principles of manufacturing.

While this model is widely used, particularly in outsourcing operations; the key is that each step must be clearly defined, delineated, and rigidly followed in order to maximize productivity. The advantage of the CM approach is that it allows OEMs to specify the exact steps in the manufacturing process; ostensibly, to ensure exact specifications and a high level of quality control and efficiency. The nature of the detailed step-by-step TQC procedures lends itself to a production line of unskilled or marginally skilled workers that need only know how to sequentially follow simple directions.

The implication is that these types of unyielding procedures do not encourage worker ingenuity or creativity, which some may think is exactly the point. In other words, discretion and latitude is a wonderful workplace privilege only if administered appropriately. Given language and cultural barriers, as well as varied employee skill sets, this may simply be the managerial default position (lowest common denominator) for controlling unknown variables of outsourcing and assembly line production. “ The term “ visual factory” describes how data and information are conveyed and utilized in a lean manufacturing environment (Shih, et al. 2009). ” At Precision, equipment and work processes were organized to make communication simple, obvious and seamless. Signs, status indicators and other visual cues in and around the production lines were arranged to allow for ease of communication and information flow. The strategic purpose of this type of visual system is to make floor operations transparent to all involved in production. An example is how each station had a post with color-coded lights to reflect the status and sequence of assembly. This genius of the visual system is that workers can see at a glance what has been done and what needs to be done next.

There is no need to shout across the floor when information is exchanged. Managers can see at a glance the general and specific conditions of the plant operations. The production model that many CMs, including Precision used in their factories was based on lean manufacturing principles. According to Plant Manager, Marty Cole, “ we do kaizens on the floor and involve people on the line, but we have noticed that while things steadily improve while we are on site, as soon as everyone goes home, things slip back to where they

were (Shih, et al. , 2009). ” This condition of reverting back to the status quo to some extent is human nature.

Humans are creatures of habits and are often reticent to change. I do not believe that this notion is uniquely Chinese (or American for that matter); rather, it is a universal inclination to resist the unknown or unfamiliar. But there is also another explanation. In the article, “ The Real Reason People Won’t Change”, the authors suggest, “ people have competing commitments that conflict with their own interests (Kegan, R. , Laskow, L. , p. 1 and p. 2). ” The fact that Jieliang followed her trainer’s (shortcut) method, contrary to the TQC procedures, was a case of competing commitments.

Although her rationale was not explicitly stated, several factors were in play. “ Jieliang was trained that way and trusted her fellow factory workers and believed they were capable hard workers with ambition and drive (Shih, et al. , 2009). ” She knew (perhaps subconsciously) that the TQC shortcut was more efficient and believed that it was the prudent course of action. Additionally, there was a level of enabling and complicity from the floor supervisors who believed in the old adage, one eye open and one eye closed. Jieliang’s motivation and intent is difficult to know for sure; especially given how she and her fellow workers strived to get the job done quicker, in part to have some computer play time and flash card study time. There are three players involved in this situation and each represents a role and cultural differentiation: Marty Cole, OEM-American, Yellow Hat, Supervisor-Chinese, and Jieliang, DL-Chinese. Each of these players possesses their unique personality and VABEs. Marty Cole’s observation was alarming due to his witness of public reprimand by the Yellow Hat toward Jieliang, DL. The <https://assignbuster.com/assembly-line-and-line-workers-essay/>

Yellow Hat is a position of authority and Jieliang is a line worker in a subordinate role at the manufacturing plant.

The expectation of protocol for line workers is for them to follow the procedures to the letter with no deviation or suffer the consequences. Thus, when Jieliang or any other line worker deviated from the procedures they would face public reprimand from the Yellow Hat. The behavior of the Yellow Hat is the norm by using their authority to use fear tactics for correcting behaviors not accepted. Chinese tradition demands reverence to age and authority, therefore line workers, typically teenagers or young adults, do not challenge authority.

This results in principal decision making of hierarchy coupled with Chinese adherence to conformity. Values, assumptions, beliefs and expectations (VABEs) are the baseline of perceptions from which we as individuals draw conclusions and view how others should behave. These values are taught and ingrained in us through experiential observations and the teachings of our family morals and culture. Marty Cole's observation of the Yellow Hat admonishing Jieliang (DL) for not following the Total Quality Control (TQC) step-by-step instruction sheet posted at each workstation alarmed him.

VABEs of the Chinese culture and chain of command at Precision created a climate where line workers would not challenge authority, nor would they step forward to submit ideas in the suggestion box for fear of being disciplined, even if their ideas could make significant increase in production or foster team collaboration for potential improvements. The management style at Precision is autocratic. This authoritarian style of hierarchy creates

an oppressive environment where individual motivations of line workers are not high.

This type of management would be defined as Theory X. Yellow Hat supervisors conduct business as though the line workers require constant and close supervision as if they were untrustworthy, monitoring every move, giving constant direction and discouraging them from thinking outside the box. Theory X philosophy also asserts workers' inherently dislike work and must be driven to perform. Therefore, this perspective of Theory X, " carrot and stick" approach reinforces how fear of the stick is the dominating force of extrinsic motivation.

However, intrinsically it has a reverse effect; de-motivating workers from freely expressing concerns or suggestions. Jieliang's was never asked why she modified the process or how she discovered the process improvement, instead she was in publicly reprimanded. This is an example of how Theory X management can hamper ingenuity and suppress expression of new ideas. Marty Cole found this to be widespread among the relationships between supervisors on the floor, Yellow Hats and line workers It is evident that management made all the decisions and believed that line workers lacked intelligence and intrinsic motivation.

Jieliang was reprimanded twice, once in private and then in public.

Obviously, the Yellow Hat was making an example out to of Jieliang by demeaning her actions, limiting her creativity and suppressing her intrinsic motivation to act. A main concern to be addressed is the onsite " Control Theory" mechanism that is being practiced as a result of poor

communication, stereotypes and classification. Marty Cole would like to improve productivity, however that progress is blocked by internal organizational factors.

The Direct Labor (DL) workers have suggested that the technicians and engineers be made aware of potential process improvement scenarios, however the Pink and Yellow Hats claim that the TQC change submission process takes too long. The truth is that these recommendations were not brought to the attention of the decision makers because the supervisors felt that the DLs were inferior and their ideas were invaluable. Jieliang, for example, was raised in a rural farming community and did not have a formal education above the High School level.

She, along with many of her DL coworkers, were unfairly stereotyped as being incapable of adding value to the company because of their backgrounds. The supervisors did not show any initiative towards gaining enhanced knowledge of the procedure nor had they initiated any recommendations to make it more user-friendly. Void of two-way communication at the plant, hierarchy was one-way: top to bottom. The workers' impression of leaders was that they had all the answers, were never wrong, were never to be questioned, and that they created the TQC system to make life miserable for them. The direct laborers were trapped, intimidated, and pressured. It was a controlled environment that did not allow them to have personal identities. They appreciated the opportunity to work at Precision and took it upon themselves to ensure goals were met by using their own methods, however because of their culture, fear of being disciplined for being insubordinate, or even worse, being terminated from a <https://assignbuster.com/assembly-line-and-line-workers-essay/>

company that allowed them to care for their families and make a good life for themselves, they did not feel that they had a voice in the company's future. Because of this lack in communication, a disgruntled environment existed.

Rules and requirements were set by feedback and complaints about the inefficiencies were frowned upon. Most people do not leave jobs or change career paths because of the company itself. They leave because of their experiences with the people within the company, feelings of being unappreciated, and thoughts of being outsiders. Jieliang Phone Home (C) documents' an employee survey. Common trends on page 2, Exhibit 1, suggest that the workers were motivated by training, freedom, and opportunities for advancement, neither of which seemed to be prioritized within their current work culture.

The chart on page 3 (exhibit 2) shows that 52% of the workers planned to stay with Precision between 1 – 3 years. Ironically, most workers remained in the same job for about 2 years. After a year with the company, Jieliang was very good at her task, but due to the repetitive nature of the job, she became bored. She requested workstation relocation from the line leader for cross training opportunities, only to be belittled and sent back to her area.

The TQC procedures for the Printed Circuit Board (PCB) assembly and packaging departments should be reviewed for work-in-process efficiency standards. The benefits, if effective, would be a leaner, more economical manufacturing process; the potential downside is the changes may not be substantive enough to warrant the investment in labor hours. Regulatory and

safety implications should be considered prior to modifying procedures. The kanban system needs to be reviewed to determine if parts and components allocation quantities are appropriate.

The benefit would be increased efficiency because of less time spent on reloading parts; the risk is that increased cost of inventory due to overages and volatile changes in demand. A thorough financial analysis should be conducted to review the cost effectiveness of how the company is applying the “ pull instead of push” and “ just-in-time” principles to the kanban system. The strategy will be to strike an optimum balance of lean inventory with wasted motion and time. Conduct teambuilding exercises once a quarter in an unstructured forum to allow managers and line workers to brainstorm about process improvements.

Implement exercises and training that requires creative collaboration and the open exchange of ideas. The benefits are building team morale and opening the lines of communication both vertically and horizontally. The potential downside is that it takes time away from material production of the assembly line. The company should consider leadership, management, and cross training plans for all workers to provide opportunities for broadening of employee skill sets as well as advancement to higher levels of responsibility.

DLs, IDLs, Hot Pink Hats, Yellow Hats, and Light Pink Hats, shall serve a minimum of 6 months in each position, respectively, and have the opportunity to advance dependant upon skill mastery, positive peer and management reviews, and successful completion of training requirements. The benefits would be an increase in employee proficiency as well as

establishing a managerial staff that understands frontline operations. The potential risk is that the money and training hours invested would not necessarily materialize into value added to the company.

Selected manager trainees should sign an employment contract extension to insure that the company is able to recoup its human resource investment. In order to resolve issues with the TQC; communication, enthusiasm, and morale, Precision Electro-Tech must implement three action steps toward organizational development, process and performance. First, the TQC procedures, the change submission process, and the kanban system should be revisited biannually in order to keep pace with emerging trends.

Secondly, execute quarterly collaborative forums where workers, at all levels of the hierarchy, can have open discussions on workplace topics. Lastly, once the entire team has a clear vision on; goals and goal setting, matching people to tasks, re-communicating the mission statement and management / leadership trainee programs, these programs must be executed to limit lag, excessive turnover rates and potential revenue reduction. Additionally, post execution follow up to review progress and make adjustments as needed are required.