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IMPLEMENTATION OF 5S

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ABSTRACT

5S has to be built any campanies or organization which goals continuous improvement of working place It includes everyone in the organization from the top level to bottom . Its name from the use of five Japanese words: "Seiri" meaning Sort, "Seiso" which implies Shining or Cleanliness, "Seiketsu" which means Standardize, "Seiton" meaning Set in Order, and "Shitsuke" which implies Sustaining.

The study focused Implementing 5S is not only set up a more efficient workspace to support, but it is also assumed to help in building a culture that will ease the implementation, sustainability and improvements

***Keywords**: 5s, implementation, improvement*

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Introduction

5S is a component of Lean Manufacturing. One of the fundamental steps to begin a successful Lean initiative is implementing 5S (Cooper, Keif, & Macro, 2007). Defined as the 5S System, the 5S concept was created by Hiroyuki Hirano (Lanigan, 2004) and it emphasizes neatness, cleanliness, simplification, and safety compliance throughout the organization is important for high perfonnance in a work place (Cooper et at., 2007). 5S stands for five Japanese terms: Seiri, Seiton, Seiso, Seiketsu and Shitsuke that are used as a platform for developing an integrated management system (Bamber, Sharp & Hides, 2000). For the sake of consistency these words, all starting with the letter S have been transliterated in English and an attempt has been made to find the appropriate'S' tenn in English (Ho, Cicmil, & Fung, 1995).

Typical examples of 5S activities are: "throwing away rubbish" or "individual cleaning responsibility", simple, self-explanatory activities which everyone should be doing in order to have a total-quality environment in their workplace (Ho et at., 1995).

1- Implementing the 5S Methodology for the Graphic Communications Management Laboratory at the University of Wisconsin-Stout by Shyam Maharjan

Recently there have been some issues in the economic condition of the printing and packaging industries (Cooper et at., 2007). As in any business, lowering the costs rather than

increasing the prices is a better way to increase profits. Over the past five years, more printers and packaging converters are looking to adopt Lean practices. According to Cooper et at., (2007), while Lean is a good fit for the printing industry, it is not an easy fit. This is because it requires an open mind that not only applies a tool but also stresses on issues such as principles of empowerment, training, long-term goals and a focus exclusively on customer value. Automation has provided a lot of relief to printers in that it has reduced the make-ready times and set-up times. Set up reduction can dramatically affect the company's bottom line by differentiating its process from its competitors and by directly converting the saved time into sellable hours (Cooper et at., 2007). 5S, the systemeatic organization of the workplace is completely valid in a print shop. Practices like Single Minute Exchange of Dies (SMED) can be easily applied to printing andjust-in-time (JIT) can be effectively used as a tool for inventory reduction. Three fundamental things to keep in mind while developing a 5S program are (Cooper et ai., 2007):

5S means sort, set in order, shine, standardize, and sustain which derives its name from the five Japanese words Seiri, Seiton, Seiso, Seiketsu, and Shitsuke. The process is a structured program to achieve, and most importantly, maintain overall cleanliness, eliminate waste, and achieve standardization in the workplace according to short-term and long-term scheduled efforts.

The GeM lab 130 at UW-Stout provides workspace for instructors and students in the graphic communications management courses. The lab was an inefficient workplace because of unnecessary items and unorganized equipment. After implementing 5S in GeM lab 130, a wellorganized,safer, more efficient, and cleaner workplace was achieved. It is expected to boost the morale of the students and instructors, promoting a sense of pride in their work and

ownership of their new 5S responsibilities. This chapter will review the purpose and limitations of this study. The conclusions and recommendations for continuous improvement of the lab over the current situation will also be covered.

The purpose of the research was to implement 5S methodology in this lab and make suggestions for continuous improvement for unorganized and chaotic areas. The desired results and benefits the GeM lab layout gained were to organize, label, and store efficiently all needed tools, equipment, and materials. It was also important to fully utilize all available space in the lab, and improve the flow from printing to drying and reclaiming the frames in the washout booth areas. Future labs would be able to reference this study to evaluate decisively the advantages of implementing 5 S methodologies. Furthermore, this study shows the potential of 5S methodology as a Lean Manufacturing tool. Another impOliant purpose of this study was to focus on continuous improvement actions. These implementation results pertain to the GeM lab 130 ofUW-Stout only during a period of time from September 2010 to January 2011. This study and project could also be extended to other areas of the GeM lab or other work areas on campus. Other universities could possibly reference this study for their own initiatives but the safety-conscious environment and level of cooperation here at the UW-Stout may not be considered to be equivalent always. The limitations of this study were: • The study and results of 5S methodology were specific to GeM lab 130 only. • This research exercise for this lab may have been limited by its current layout, processes, and lab flow patterns, which may be improved upon in the same workspace environment in successive 5S attempts.

• The proposal as to what the 5S methodology was capable of doing, may not be accepted as actionable information from the viewpoint of a new researcher in a different lab or workspace elsewhere.

The specific recommendations may not be completely relevant as pieces of equipment may be taken out or added in, which would change the process being conducted in the lab. Different needs would necessitate different 5S results. This highlights an area that will have practical applications now, and through sustaining efforts, will improve.

• There are currently four lab assistants who assist the students routinely. Consolidate daily activities, such as cleaning procedures, by ordering cleaning supplies. Make targets to be cleaned, such as storage areas, equipment, and surroundings, and give responsibilities to each lab assistant for their areas in certain processes with certain methods. This will facilitate better cleaning areas, the right tools and equipment in the right place and maintain the order of necessary items such ink, paper, tape, and screenframes.

• There are currently 400 screen frames stored in eight different racks inthe lab. The required frames for an average use in the lab were determined to be 200 frames. A reduction to 200 screen frames from 400 is needed to eliminate the clutter and space wasted.

• The quantity of supplies purchased and carried in the lab should be adjusted and controlled. Some items presently have inventory levels above the levels required for two weeks' usage and also above the minimum order quantities. For this lab to be more organized and better, inventory amounts must be carefully analyzed and controlled. The quantity ordered at anyone-time buying whether it is ink, paper, tape, or chemicals should be reduced. The maximum and minimum stock levels should be clear at a glance.

• Adding wheels on the two remaining worktables will make flexible space for one more garment printer in the lab. This will add space for traffic in busy areas and will also provide a moving counter next to the dryer.

• Instructors will have to establish 5S training and discipline users in habits to avoid disorganization, and preventive cleaning through regular inspection of the workplace. It is important for lab users to understand all the weak points of the lab, focus on efforts to improve them, and develop strengths to sustain the effort. Instructors should motivate and encourage students and all the lab users to make continuous improvement to their workplace on a day-to-day basis. Thus, the literature review emphasized that management support plays a strong role even though this was an exploratory study of a 5S implementation. The recommendations made to further improve the work place were summarized along with the changes made in the current lab. The recommended changes will make the lab run effectively and efficiently. This will result in lower traffic management issues due to a more organized work place, less material handling, and more efficient lab use.

2-5S implementation in Wan Cheng Industry Manufacturing Factory in Taiwan by HungLin, Chi

Wan Cheng Company is a traditional industry manufacturing company and using a lot of handle controlled machines. Wan Cheng Company also uses CNC machines and these use more coolant and produce scraps than hand controlled machine. Due to this, Wan Cheng Company's working environment is dirty and not well organized. Due to the poor working conditions, Wan Cheng decided to implement 5S to make workplace improvements. Wan Cheng is now doing 5S. The results show that Wan Cheng Company is seeing the many

improvements between before and after running 5S and is willing to keep doing 5S daily. It was a difficult time in Wan Cheng Company to do 5S at the beginning, because no one knew anything about 5S. Originating in Japan, 5S is the manner to help the company to have a better working environment and better efficiency. It stands for 5 different characters, seiri, seiton, seiso, seiketsu, and shitsuke, which in English means to sort, set in order, shine, standardize, and sustain. The purpose of this study was to enhance Wan Cheng manufacturing company's working environment and process flow in order to meet customer's demand.

The average time consuming looking for and retrieving drills was reduced by 38%, and the time for mills was reduced by 49%. These reductions were a direct result of the 5S implementation. This time reduction will allow for additional productive time for employees to work meeting customer demand, being more efficient, and productive. This study is only for people who are willing to get involved in the company and help the company have better working environment and efficient process flow by using 5S. After everyone was educated on 5S, Wan Cheng manufacturing company is walking on the road to lean.. From very beginning of running 5S, Wan Cheng was dealing with difficulty since a lot of things needed to be changed and this required more time than expected. However, after 5S was implemented, the data was collected by using an excel spreadsheet and it showed the evidence that 5S did help the company improve. Wan Cheng Company did get a good result from the 5S method.

Originally, Wan Cheng Company thought 5S could only improve the result in the working environment, but it proved also to help the company to gain better efficiency. Sort helped Wan Cheng Company to decide between used and not used items, in addition, the company got more space from that. Set in order did improve the time that personnel in the

company used to not need to search for tools. Shine made the working environment look better than the previous situation. Standardized and sustain are working for keeping all steps going forward.

Wan Cheng manufacturing company is now working on 5S, and hope they can go further on lean journey in the future.The recommendations are that more can be done with implementation with 5S in Wan Cheng manufacturing company. Not only in making rearranging inside of the factory, but also any office department. Wan Cheng should use this first step of process improvement to being the lean transformation throughout the company.

CONCULUSION

5S methodology needs to become an established practice in the different sector. Any problems that may occur regarding the sustaining of 5S should be addressed through proper training and participation. Understanding 5S and building a culture helps to develop 5S into a management strategy. Taking 5S to higher level is only possible when the benefits of 5S can be fully valued and this can only be done by involving the whole team. Teamwork will be another valuable lesson learned by the students for their professional life.

5S in order to help the organization to have a better working environment and improve the process flow .5S provided the concept for how to rearrange the workplace, and distinguish the tools. In order to achieve such results, it will require a high level of commitment from management at not just championing this cause, but also to motivate people and have a high level of human involvement. This is extremely important in order for this initiative to succeed and yield the desired results.

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