Making real productivity improvements and Making Workstudy work

Accurate standard times are the base of a Garment factory, but you must first specify the method very clearly before you can establish a time. One of the great worries in the industry is that old fashioned time study techniques may include timing operations in which the method of doing the operation is not clearly specified and in fact the operator is timed using a method that is not economical and that has too many extra motions that are totally unnecessary. This will mean that the time for the operation is wrong! This can be further affected by the Time Study officer's ability to "Rate" the performance of the operator. This is a technique that needs a lot of practice and experience and it also needs to be reviewed on a constant basis it is not for the amateur. Rating is also a problem since it is subjective it is "My opinion" of the speed the operator is working.

To explain rating in a little more detail, it is a system that was developed in the late 1800's and its intention is to eliminate the differences between different operators since some are naturally quick workers and others work more slowly, so the idea was to produce a time which was fair to all the company and the operator.

However in this process you also have to asses whether or not the operator is a "jerky" worker (works like a pigeon walks) and looks as if plenty of effort is being put into the job, but in fact this is an illusion, a better operator works in a smooth flow of motions and although seems to be slower is in fact much more productive, taking longer bursts of stitching and producing at a faster pace.

We obviously need to eliminate these problems, and using PMTS systems (Pre-determined Motion Time Systems) will be of considerable help in doing this. The beginning of PMTS occurred at the end of the 1940's when a group of highly qualified Industrial Engineers got together and filmed people working in various industries, since the cameras they were using took 16 pictures (frames) per second they were able to establish a time for even the smallest of human motions. This work was very thorough and detailed and once completed the engineers had set up a system that would establish the time for any human motion, this was called MTM (Method, Time Measurement) this information was given to a university who checked it all out and verified the accuracy of the data.

MTM was then "given to the world" so, if you went on an authorised course and passed the necessary exams you would be allowed to use the system. This started the establishment of MTM associations throughout the world.

The garment industry started to use these techniques and designed systems to aid the implementation of better methods and to produce accurate times for sewing and related jobs within a garment factory.
Some of the systems that have been developed are:
Master standard Data –MSD 1962
MTM 2 A more simple and quicker version of MTM1
Milliminute Data – 1966
Needle Trades Time Data 1970
Stamp System 1972
Garment Manufacturing Data 1975, GSD 1978

There are probably more systems of this nature, but the most interesting thing about them all is that you can produce a time for an operation *without using a stopwatch* and providing the study is done by someone who is properly trained to do it, it will be uniformly accurate and fair to all operators irrespective of the operation that is being performed and who is doing it. As a result of this we can take away the prospect of giving times to operators that are *loose (too much time)* or operations that are *too tight (not enough time given)* and for those of us in the production environment it means that we can judge all operators from the same base. So we can now establish which operators are performing below the standard that we are prepared to pay the wage level for, and of course we could reward those operators who are doing more than their fair share.

To use a system like this you have to be trained to recognise little parts of the operation eliminate unnecessary movements and establish the movements necessary to complete the operation. It is like using a series of "Building blocks" each block has its own time, and by adding the blocks together you can establish the proper method and the time for the operation.

When this technique is used with a computer you will be able to develop a database of standard times that will work for you well into the future, this means that you do not have to study every operation for every new style, since if you have done that same operation previously you will be able to use it again in the future.

These times and methods will now help you in the following:
- Costing – you will be able to establish a "cost per minute" which will help you enormously in the future
- Measure the performance of your Operators, Lines, factories ect.
- Establish your REAL efficiency – against a world standard
- Establish your capacity
- Do proper production planning
- Train operators more methodically
- Install incentive schemes

With the explosive growth in Garment industry in India it is essential that companies become more sophisticated in their approach, it may be easy to grow at the moment, but be assured, it won't last for ever. You need to become more efficient, more productive and unless you have the tools to do this how will you ever know where you stand?

Take a moment to look at how your operators work, and really SEE what they are doing and you will see enormous possibilities to improve how they do their work. If you set about a program to train a team to eliminate excessive movements and use the same team to implement the improved methods then you will improve your company performance and your profitability considerably.

Its is not Rocket Science, its common sense.

We have had many occasions where operational productivity has been improved by more than 50% just by elimination unnecessary movements and reducing the number of bursts of stitches the operator is doing

How do you set these things into motion?
1. Start a workstudy department
2. Train Workstudy officers and set their responsibilties.
3. Employ a qualified industrial engineer to head the department
4. Install the productivity enhancement tools
5. Start measuring what you are doing – *No measurement = No Management*
6. Set up achievable improvement targets – (we want to be XX % by July)

Some Do's and Don'ts

1. The Engineer is a very important part of the team, they have the training and the skills to isolate the priorities and direct their efforts to drive improvements. Part of this team should be an adequate number of people to run the computer systems, these people are the 'Operators' and should feed the Engineer, Management and Supervision with the information they need to effect and maintain improvements.

2. Many times the operation chosen to improve is the wrong one, what is the point of improving an operation when the operator performing it is only loaded at 60%, any improvement to that operation will only serve to make her job less productive, one has to identify the 'Bottleneck' operation to really improve productivity, and of course once a 'bottleneck' has been solved it will immediately cause another on a different operation. So the first step is to identify the *Bottleneck*

3. In order to effect real improvements we should allocate each Engineer a number of Workstudy officers, and make them responsible for the level of productivity within their department, working as an aid to Management and Supervisors by contributing their skills to the sections.

4. Management must have patience, things will not improve overnight it takes time, patience and hard work to achieve improvements, its easy to blame but much harder to persevere and make improvements happen. The commitment from the top is essential, without it you will fail.

5. Once the 'Improvement' in method has been established, the follow up to ensure that it is being *implemented properly* and that the *monitoring of the operator*, and the *Line Balance* and the *Work in Progress* is such that the operator actually has the possibility to achieve the full potential of the improvement in method.

6. Following up on poor performers by doing '*Cycle checks'*, making sure the method is being adhered to, and doing '*Production Studies'* (these are simple tools to improve the performance of operators who are not up to the required standard)

7. Operators must be told of their performance, if necessary warnings should be given, unless this sort of system has 'Teeth' it will never work, it has to be done with determination and in some cases compassion, getting to know the operators and

showing an interest in them is vitally important. WE must not consider them as 'numbers' they are people and the more we know about them the more we care about them the more they will produce for us.

8. Productivity improvements occur from the interaction of the Industrial Engineers, the Workstudy officers, the Managers, Supervisors and Operators it cannot happen in the office.

The 'Operators' are the least of our problem, Management, Supervisors and poor Planning and line balancing are all mainly responsible for the levels of productivity.

9. Above I have recommended simple methods to help operators reach their potential, but in order to get the best output from people we must show we CARE.
My observations from the few Indian factories I have seen are as follows
   - Operators do not have enough space to lay out their work properly
   - The seating provided is inadequate could you sit on a chair without a backrest for a whole day?
   - Work is passed from operator to operator with no consideration as to the additional handling this causes.
   - Shouting at the operators is commonplace.
   - Work in progress levels are too low.
   - Expensive machinery is not being used to its potential
   - Style change over time is far too long.
   - There is insufficient effort to improve how the operations are performed
   - Line balancing is poorly done
   - Work in progress is not easily visible.

If we can balance the lines, provide work, make sure that all unnecessary motions are eliminated ensure the operators feel comfortable and create a better atmosphere we are moving in the right direction. We will then be getting to the point serious improvements begin to become possible.

10. Set Targeted improvement dates and make them a part of management meetings:
For Example –Our current efficiency for the past 3 months is 40%. In 3 months time it should be 50% -This is an actual increase of 25%. In the next 3 months we want to get to 55% and so on, until you are operating at an acceptable level.
Please remember, this will only be possible if your infrastructure is sufficient to make the flow of work into the sewing department sufficient to achieve these goals.

11. Do not fall into the trap of making the Work study team 'Costing clerks' With proper organisation a proper database of standard times should be compiled, this established in such a way that the 'Clerks' can use it to develop Operation Bulletins for new styles. I see this function as part of Work Study, but it should be performed by a specific team in the Workstudy department, it is not 'Work Study'

12. Are you asking the people concerned what they think? Regular planning meetings, Supervisors meetings, are these formalised? The meetings do not have to be long and

drawn out, but we all like to have someone ask our opinion, it makes us feel part of what is happening and perhaps we would have something useful to contribute.

13. The time allowed for the interpretation of a new style into the production process is not long enough, the communication between Marketing, Planning and Work Study is not good enough, We are not allowing enough time to plan and develop new styles before having to produce them, in some cases only 1 or 2 days is allowed, leaving no time to establish the best sequence of operations and utilisation of the best equipment for the job and for the development or acquisition of folders and attachments.

14. It is essential that the HR becomes more involved on the factory floor, they must be made responsible for absenteeism and labour turnover, you cannot expect production management to handle this whilst trying to maintain production, it must be dealt with by the department whose name indicates that this is one of their major responsibilities.

So, in summary:
- Set up a workstudy team
- Get your methods and times accurate
- Monitor performance
- Improve line balancing
- Give operators the space they need to do the job
- Set target dates to get productivity improvements
- Get involved with the process, if the boss isn't committed why should I be?
- Get your HR department working to improve absenteeism and labour turn over and to help production management with this problem.
- Use modern techniques to set the above series of actions into motion
- Remember, computer systems will not run the factory management will, but good management needs information to manage.

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