IM assignment - II DATE: ....

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Ans1. How do work study and measurement will be used by industrial engineers? What is the relevance of time study in industry?

Ans. Work measurement study is a general term used to describe the systematic application of industrial engineering techniques to establish the work content and time it should take to complete a task or series of tasks.

Work measurement is a productivity improvement tool before improvements can be made, the current productivity level of an organisation must be measured. This measurement is then used as a baseline to determine if improvement projects have resulted in genuine improvement.

Work measurement helps to remove non-value added areas of waste inconsistency and non-standardization that exist in the workplace environment. Work measurement studies uncover ways to make work easier, and to produce products or services more quickly and economically.

Work is measured for following reasons:
1. To discover and eliminate lost or ineffective time.
2. To establish standard times of performance measurements
3. To measure performance against realistic expectations
4. To set operating goals and objectives.

Time study is a structured process of directly observing and measuring human work using a

timing device to establish the time required for completion of the work by a qualified worker when working at a defined level of performance.

The main objective of time study is to determine by direct observation, the quantum of human work in a specified task and hence establish the standard time within which an average worker working at a normal pace should complete the task using a specified method.

Ques 2. What is 'Total Quality Management'. Mention its principles. How it can bring overall growth in the company.

Ans. Total Quality Management (TQM) is the continual process of detecting and reducing or eliminating errors in manufacturing streamlining supply chain management, improving the customer experience, and ensuring that Employees are up to speed with training. Total quality management aims to hold all parties involved in the production process accountable for the overall quality of the final product or service.

Principle: TQM is considered a customer focused process that focuses on consistently improving business operations. It strives to ensure all associated Employees work towards the common goal of improving the product or service quality, as well as improving product or service quality as well as improving the procedures that are in place for production while TQM originated in the manufacturing sector its principles can be applied to a variety of

industries with a focus on long-term change rather
than short-term change rather than short-term goals
it provides a cohesive vision for systematic change.
With this in mind, TQM is used in many industries
including but not limited to, manufacturing, banking
and finance and medicine. These techniques can be
applied to all departments within an individual
organization as well. This helps ensure all employees
are working towards the goals set forth for the
company, improving function in each area. Involved
departments can include administration, marketing
production, and employee training.
TQM oversees all activities and tasks needed to
maintain a desired overall level of excellence within
a business and its operations. This includes the
determination of a quality policy, creating and
implementing quality planning and assurance,
and quality control and quality improvement
measures.

Ans 3. Write a short notes on the following:

as Quality Control
Quality control is a process through which a
business seeks to ensure that products quality is
maintained or improved. Quality control requires
the company to create an environment in which
both management and employees strive for perfec-
tion. This is done by training personnel,
creating benchmark for product quality and
testing products to check for statistically

Significant Variation

A significant aspect of quality control is the establishment of well-defined control. These controls help standardize both production and relation to quality while limiting room for error by specifying which production activities are to be completed by which personnel reduces the chances that employees will be involved in tasks for which they do not have adequate training.

b) **Taguchi Philosophy**

The Taguchi method of quality control is an approach to engineering that emphasis the roles of research and development, and products design and development. In reducing the occurance of defects and failures in manufactured goods

- This method, developed by Japanese engineer and statician Genichi Taguchi considered design to be more important than the manufacturing process to quality control and aim to eliminate varianus in production before they can occur.

c) **Benifit of Quality Circle**

Conceptualy Quality circles can be described as a small group of employees of the same work area, doing similar work that meets voluntarily and regularly to identify, analyze and resolve work related problems

This small group with every member of the

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circle participating to the work area and also help self and mutual development in the process.

1. Through the form of QC the chronic problems of organization, whose which really create burden in work get resolved by the given root employees of Organization, whose knowledge and experience otherwise is not fully utilized.

2. With such a capable work force, any organization can easily undertake more difficult and challenging assignments for its growth and profit.

3. As the employees gain experience they take more challenging projects, in due course they undertake projects on cost reduction, material handling, quality improvement, preventing wastage, improving delivery, schedule, improving customer service, improving inspection and test methods, preventing accidents improving design and process etc.

4. Cost reduction

5. Increased productivity

6. Improved quality

7. Better communication

8. Better have keeping

9. Increased team work

10. Smooth working

11. Better mutual trust

12. Greater sense of belongingness

13. Increased safety

14. Better human relations

The quality circle concept provides an opportunity to circle members to use their vision, creativity and experience in bringing about improvements in the

work they are engaged in by converting the challenging problems into opportunities and it contributes to the development of the employees and in turn keeps the organisation as well. The concept encourages the sense of belongingness in circle members and they feel they have an important role to play in the organisation.

2) Kanban System

Kanban is an inventory control system used in just in time JIT manufacturing. It was developed by Tai Uchi Ohno, an industrial engineer at Toyota and takes its name from the coloured cards that track production and order new shipments of of parts on materials as they run our. Kanban is the Japanese word for sign, so the Kanban system simply means to use visual cues to prompt the action needed to keep a process flowing.

The Kanban system can be thought of as a signal of response system. When an item is running low at an operational station, there will be a visual cue specifying how much to order from the supply. The person using the part makes the order for the quantity indicated by the kanban & the supplier provides the exact amount requested.

-- Benchmarking --

Benchmarking is a process of measuring the performance of a company's products, services, or process against those of another business considered to be the best in the industry aka "best in class". The point of benchmarking is to identify internal. The point of benchmarking is to

identify internal opportunities for improvement. By studying companies with superior performance, breaking down what makes such superior performance possible & then comparing those processes to how your business operates, you can implement changes that will yield significant improvements.

That might mean tweaking a product's features to more closely match a competitor's offering, or changing the scope of services you offer, or installing a new customer relationship management (CRM) system to enable more personalized communication with customers.

There are two basic kinds of improvement opportunities: continuous & dramatic. Continuous improvement is incremental, involving only small adjustments to reap sizeable advance. Dramatic improvement can only come about through reengineering the whole internal work process.

In addition to helping companies became more efficient & profitable, benchmarking has other benefits, too, such as:

① Improving employee understanding of cost structures & internal processes.

② Encouraging team-building & cooperation in the interests of becoming more competitive.

③ Enhancing familiarity with key performance metrics & opportunities for improvement company-wide.

Q. what do you think are some of the biggest reasons that employees are resistant to changes?

A. Here are 12 reasons why employees resist change. yes, even if it's good for them:

① **loss of Job :** This is a major reason & the first of the 12 reasons why employees resist change in the workplace. In an organizational setting, any process, technological advancement, working smarter, cost reduction, efficiency, faster turn around times. All these mean staff & managers will resist the changes that result in their roles being eliminated or reduce. From their perspective, your changes is harmful to their ~~employees~~ position in the organization! The satisfaction that employees have with their job determines a portion of their reactions during times of changes.

② **Bad communication strategy :** This is another crucial reason why employees resist changes. This point is equally as important as that of change planning on the list of 12 reasons why employees resist change in the workplace. Why? The communication of change from the onset could make or break change because it fall under the ~~the~~ planning phase of change. The way in which any change process is communicated to employees within the organization is a critical factor in determining their reaction. If you can't communicate what, why, how, when, who & what. Success will look like or how success is going to be measured, then, expect resistance!

③ **shock & Fear of the unknown :** This is yet another crucial reason why employees resist change. Employees' responses to organization change

can range from fear of panic to enthusiastic support. During periods of change, some employees may feel the need to cling to the past because it was a more secure, predictable time. If what they did in the past worked well for them, they may resist changing their behaviour out of fear that they will not achieve as much in the future. The less the organization knows about the changes of its impact on them, the more fearful they become.

(4) loss of control: This is a key reason why employees resist change. Familiar routine help employees develop a sense of control over their work enviornment. Being asked to change the way they operate may make employees feel powerless of confused. People are more likely to understand of implement changes when they feel they have some form of control.

(5) lack of competence: This is another major reason out of the 12 reason why employee to resist change in the workplace. This is a fear that is difficult for employees to admit openly. But somet change in organization necessitates changes in skills of some people will feel that they wont be able to make the transition well. Therefore the only way for them to try of survive is to kick against the change.

(6) <u>Poor timing</u>: This is another viable reason why employees resist change at work. change must be introduced when there are no other major initiatives going on. Sometime it is not what a leader does, But it is how, when & why she or he does it that creates resistance to change! Un clear - resistance can occur because change are introduced in an inscentive manner or at an awkward time.

(7) <u>Lack of Reward</u>: There is a common business saying that managers get what they reward. Organizational employees will resist change when they do not see anything in it for them in team of rewards. Without 'WIIFM' or a reward, there is no motivation to support the change over the long run. This often means that organizational reward system must be altered to support the change that manegment want to implement. The reward does not have to always be major or costly.

(8) <u>office Politics</u>: Every organization has its own share of in-house politics. so, some employees resist change as a political strategy to "show or prove" that the change decision is wrong. They may also resist showing that the person leading the change is not up to the task. These employees are committed to seeing the change effort fail.

(9) loss of support system:- Employees already in their comfort zones working with the managers they get along with, & who are appreciating within predictable routine know their support system will back them up during challenging times. changing the organizational structure may shake this confidence in their support system. They may worry about working for new supervisor in a new team, or on unfamiliar projects because they fear that if they try & fail there will be no one there to support them.

(10) Former change Experience:- Our attitudes about change are partly determined by the way we have experienced the change in the past. For instance, if in your organization, you have handled change badly in the past, employees will have good reason for rebelling. Again in personal lives, how employees families reacted to change during their early years is going to affect the way they view change. Employees who live in the same house, shop at the same stores, visit the same social club, & drive the same routes daily throughout their formative years may have more difficulty dealing with change than people who grew up in several different ● to neighbour- hoods. In the same way those ● who become accustomed to associating with people who have the same values & ethics may find it more difficult to appreciate the diversity of todays workforce.

(11) **lack of trust & support** : out of 12 reason why employees resist change in the workplace this is yet another vital reason. Successful organizational change does not occur in a climate of mistrust. Trust, involves faith in the intentions & behaviour of others. In Organizations where there is a high degree of trust & each individual employee is treated with respect & dignity, there is less resistance to change.

(12) **Empathy & peer Pressure** : whether we are introverted or extroverted, we are still social creatures. Organizational stakeholder will resist change to protect the interests of a group, team friends & collegues. It is normal for employees to resist change to protect their co-workers. This could be pure because they sympathize with their friends because of the change that has been thrust at them. Managers too will resist change to protect their workgroups or friends. All these behaviors can sobotage the success of any change.