Time study and Performance rating

Volvo Flygmotor

Learning objectives

• After this lecture the student will be able to …
  — Carry out a proper time study.
  — Motivate why performance rating is necessary.
  — Use a PTS for performance rating.
  — Make a fast performance rating from a visual impression.
Time study

The purpose is to determine …

Standardized work

and

Improve…
Usable time standard

- If the time standard will be used for planning and control, it is **not** sufficient to only standardize the core activities.
- Supportive activities must be studied and standardized as well:
  - Quality control procedures
  - Materials handling, including package materials
  - Set-up work
  - Planning, reporting, etc.
- On top of that is all the extra time - Allowances
  - Personal time
  - Balance losses, waiting time
  - Disturbances

Determine time standard  
(for the core method)

- Estimates
- Historical records
- Work measurement
  - Time study
  - Predetermined time systems
- Must be based on **facts** – not guesses
Productivity = M × P × U

Setting standard using Time study
(Zandin 17.2)
Equipment

| ZT 730 | ZT 865 | PC    | Pocket PC |

Projektema.se
AviX Method

Time Study Form

- R – Rating (performance)
- W – Watch time
- OT – Observed time
- NT – Normal time
Number of observations

- 10 cycles as rule of thumb.
- Plot times in histogram and determine if normal distributed.
- Use the average or median time.

Performance rating

...of people
Standard performance

Sample of 1000 people

Rating methods

- Rating of each element or for whole task?
- Analyst need talent to do consistent ratings
- Speed vs. Precision
Performance rate depends on...

- Difficulty of work task
- Precision requirement
- Environment issues (too hot, too cold etc.)
- Skill, training

Rating methods

1. Synthetic rating, i.e. using PTS
2. Speed rating
**Synthetic rating**

- Use predetermined times
  - Performance = predetermined time / observed time
- The best method!

**Speed rating**

- Trained to see the speed, use benchmarks
- Need experience
- Prerequisites
  - Experience of the type of work performed.
  - Use of predetermined (synthetic) time for benchmark of at least two elements.
  - Select operator who is close to normal performance.
  - Use mean value of three or more independent studies.
Speed Benchmarks

• 100 performance is equal to:
  
  − Dealing a deck of cards (52 cards) into 4 piles in 30 seconds.
  
  or

  − Walking 3 miles/h = 4.83 km/h = 1.34 m/s

Performance rating exercise!
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