

Chapter 11: Tools to Determine Operational Productivity

Key points of chapter

Another tools chapter, this one focused on industrial engineering type tools.

Answers to Study Questions

1. Operations Auditing works when there's good documentation of a job (such as clerical or piecework types), and where precision is not a big deal. Work Sampling requires a visible activity with enough volume (number of employees) doing it to justify the cost of the study. Flow Process Charts require a job that's done consistently and frequently enough to justify the study cost.
2. Workers often have trouble coming up with realistic times and frequencies; the process is somewhat intrusive; it's subject to biases; it measures what is done, not necessarily what should be done or whether it's being done effectively.
3. Difficulties in distinguishing among tasks; it's intrusive; cost and length of time (usually at least ten days required); needs adjustment for cycles; etc.

Answer to Exercise

Individual project; no common answer.

Other Materials

A blank form for Flow Process Charting is included on the next page. It can be reproduced if you'd like to give the technique a try.

Flow Process Chart

Sheet # ____ of ____

Charted by _____ Date _____

Project _____
Begins _____
Ends _____
<input type="checkbox"/> Person <input type="checkbox"/> Material _____

Details of Method <input type="checkbox"/> Present <input type="checkbox"/> Proposed	Code					Distance	Quantity	Time	Notes	Actions*
	Operation	Transport	Inspection	Delay	Storage					
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	▽			
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	▽			
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	▽			
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	▽			
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	▽			
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	▽			
7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	▽			
8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	▽			
9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	▽			
10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	▽			
11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	▽			
12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	▽			
13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	▽			
14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	▽			
15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	▽			
16	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	▽			
Totals: Number of steps ____										

*Actions: "E" for Eliminate; "C" for Combine; "I" for Improve; "M" for Modify; "R" for Rearrange; "O" for Other.