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15.963 Management Accounting and Control
Spring 2007

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15.963 Managerial Accounting and Control

Spring 2007

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Colorscope, Inc.



- What is the external environment that Colorscope currently faces?
 - Cheaper technology is lowering entry barriers.
 - Better technology is eroding quality-based competitive advantage.
 - Intense competition from
 - small stand-alones,
 - large national chains, and
 - backward (vertical) integration by large printers.

Colorscope, Inc.



- Intense price pressures, and erosion of rents (high margins).
- What has Colorscope's competitive advantage been, and why?
 - Reputation for quality - poor quality is extremely costly because
 - pre-press is the last stage at which an error can be detected,
 - mistakes in advertised price can be expensive for content provider to honor, and
 - merchandisers take great pride in their catalogs.

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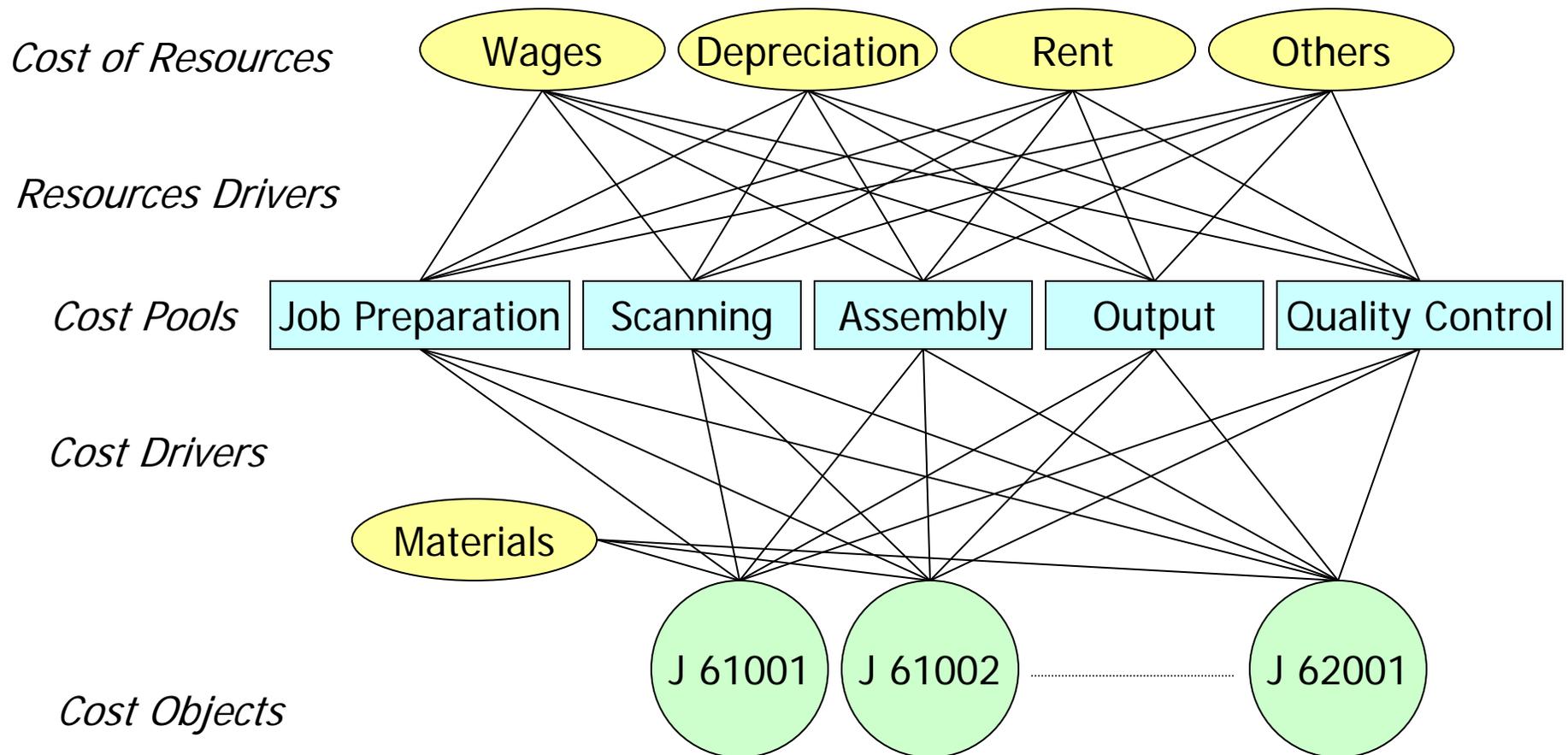
- Fast turnaround – this is very valuable to the content provider because it gives them more time to decide, for example, how much to discount which items (i.e., it gives them more time to observe their competitors actions in a fluid environment).
- **Actual** costing differs from **normal** costing in that overhead allocation rate = **actual** overhead / **actual** volume of base.
- This is **ex post** allocation rate – if actual overhead will not be known till year-end, then cost can only be determined then.

Colorscope, Inc.



- For Colorscope, we have actual, as opposed to budgeted data, so this is an illustration of actual costing.
- How many overhead cost pools are appropriate for Colorscope?
 - The five departments – prep, scanning, assembly, output, QC.
 - These are the major stages in the production process, and hours are not clocked in these departments in fixed proportions (Ex.9).
- How do we determine the amount of overhead in each overhead pool?
 - In the California Bikes example, we were given the amount of overhead in each cost pool (machining and finishing), and the only task was to assign the overhead from the cost pools to the jobs.
 - In this case, we have to **first** allocate overhead to the cost pools (the five depts), **and then** allocate overhead from the pools to the jobs.
 - This is called a two-stage allocation system.

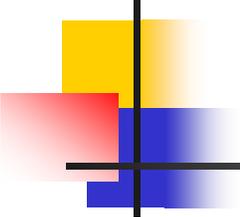
Two Stage Cost Allocation System



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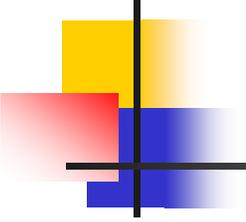


- Let us begin with the first stage allocation.
 - Wages are already tracked by dept (Ex. 11)
 - Why is labor overhead here?
 - Equipment depreciation is also tracked by dept.
 - Rent has to be allocated to the depts.
 - Using floor space as the allocation base makes sense
 - “other” overhead has to be allocated to the depts.
 - We could use labor hours as the allocation base, since this is available.



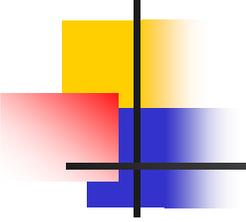
First Stage Allocation

| Description | Prep | Scanning | Assembly | Output | QC | Idle Space | Total |
|---|-------------|--------------|-------------|--------------|-------------|------------|-----------|
| Wages (from exhibit 11) | \$8,000 | \$32,000 | \$64,000 | \$10,000 | \$11,000 | | \$125,000 |
| Depreciation (from exhibit 11) | \$500 | \$25,000 | \$10,000 | \$14,000 | \$500 | | \$50,000 |
| Rent ^a (from exhibit 11) | \$2,000 | \$2,000 | \$8,000 | \$4,000 | \$1,000 | \$13,000 | \$30,000 |
| Others ^b (from exhibit 11) | \$1,311 | \$5,246 | \$10,492 | \$1,639 | \$1,311 | | \$19,999 |
| (1) Total Overhead | \$11,811 | \$64,246 | \$92,492 | \$29,639 | \$13,811 | \$13,000 | \$224,999 |
| (2) Labor Hour (from exhibit 9) | 160 | 640 | 1280 | 200 | 160 | | |
| Overhead Rate per labor hour | \$74 | \$100 | \$72 | \$148 | \$86 | | |
| (1)/(2) | | | | | | | |
| Floor Space in square feet (from exhibit 11) | 1000 | 1000 | 4000 | 2000 | 500 | 6500 | 15000 |



Second Stage Allocation

- In the second stage, we allocate from the overhead cost pools to each job.
 - Using labor hours seems reasonable.
 - Equipment depreciation is another possibility, since it is similar to machine hours.
 - Which is a better choice?
 - Cost of labor far exceeds depreciation, so labor hours will be a more important cost driver of overhead in this case.
- We have to calculate allocation rates for each dept.



Colorscope

- Now we can calculate job profitability.
 - This is just revenues - total costs = revenues – direct costs – allocated overhead.
- Examine job profitability whale curve.
- What is the cost of rework?
- What should Colorscope do about the cost/quality tradeoff?
 - Price customer initiated reworks.
 - Restructure production sequence: prep -> scanning -> QC -> assembly -> output -> QC