2. Measuring financial arrangements:

a. Efficiency of cash position equals:

$$\text{Cash (undivided profits in separate account) plus } \frac{K^{5} \text{ times accounts receivable}}{\text{Accounts payable}}$$

b. Efficiency of net profits in providing for return on investments, loans and funded debt equals:

$$\frac{\text{Accumulated net profits}}{\text{Accumulated financial interest rate charges (for investments and loans) plus funded debt due}}$$

Ratings in Development

Percentage Growth

Policies:

1. Increase sales.
2. Increase net profits (see 5).
3. Increase the value of maximum production due to additional equipment (sales phase policy 1).
4. Increase the value of maximum production due to improvement of output or the development of new products or by-products (additional equipment included).
5. Reduce the costs of manufacturing (labor, materials and overhead).

The proper value of good-will is determined by the probable net profits effected by the above policies.

1. Increase in sales equals: (measured in percentage growth)

$$\frac{\text{Sales—Sales for previous year}}{\text{Sales for previous year}}$$

2. Increase in net profits equals: (measured in percentage growth)

$$\frac{\text{Net profits—Net profits for previous year}}{\text{Net profits for previous year}}$$

3. Increase in value of maximum production at sales values due to additional equipment equals: (measured in percentage growth)[6]

$$\frac{\text{Maximum production (old and additional equipment)—Maximum production (old equipment)}}{\text{Maximum production (old equipment)}}$$

4. Increase in value of maximum production (with additional equipment added) due to improvement of products or the development of new products or by-products equals: (measured in percentage growth)

$$\frac{\text{Value of maximum production (with developed products)—Maximum production value}}{\text{Value of maximum production}}$$

5. Reduction in costs of manufacturing measured in terms of probable percentage increase in net profits equals:

$$\frac{\text{Probable net profits (with reduced costs)}^{7} \text{—Net profits / for previous period}}{\text{Net profits / for previous period}}$$

From the foregoing values and data required, it is evident that the ratings proposed require the following principles of modern industrial organization:

1. Scientific organization and careful control over production.
2. Complete cost data and accounting control.
3. Standardized production methods incorporated in time study data covering the chief operations of production.
4. Standardized policies for financial control incorporated in the budget.
5. Foremanship training to extend the management to the scene of actual production and secure the data and control over those details which vitally affect operation results.

It may be noted, accordingly, that the suggested method of rating covers all phases of modern management methods and is a continuation of the principles of scientific control which this society is endeavoring to infuse into industry.

Data Required for the Ratings

1. Capital stock issued.
2. Bonds issued.
3. Weekly sales for the period.
4. Credits issued for defective products.
5. Number of orders received.
6. Number of orders shipped according to schedule.
7. Maximum production at sales value.
8. Number of stoppages in plant due to lack of materials.
9. Number of operating hours for period.
10. Number of operation hours required for maximum production.
11. Number of manufacturing orders issued for production.
12. Collections according to terms.
13. Bad debts for the period.
14. Cost of purchases at lowest market prices.
15. Purchases of raw materials for the period.
16. Inventory of raw materials (by month).
17. Inventory of finished goods (by month).
18. Overhead charges on storage department.
19. Cost of materials wasted in production.
20. Cost of materials in spoiled production due to defective raw materials.
21. Cost of materials in maximum production.
22. Cost of materials in production.
23. Cost of direct labor for production.
24. Cost of direct labor for maximum production.
25. Indirect labor charges.
26. Cost of overhead in sales (by month).
27. Indirect labor charges, maximum production.
28. Rent charges.
29. Power charges.
30. Power charges for maximum production.
31. Insurance charges.
32. Insurance charges for maximum production.
33. Depreciation charges.
34. Other charges.
35. Cost of direct labor in sales (by month).
36. Cost of raw materials in sales (by month).
37. Profit and Loss statement by month for the period.
38. Budget for varying sales for period rated.
39. Net profits by month for the period.
40. Accumulated net profits (by month).
41. Dividends declared (by month).
42. Surplus (by month).
43. Budget for varying sales according to latest operation data.
44. Accounts payable (by month).
45. Accounts receivable (by month).
46. Cash on hand (by month).

[5] K represents the percentage loaned on accounts receivable by loaning companies.

[6] The above rating should equal increased percentage of sales to maximum production at sales value (100 per cent) measured in the Sales Ratings.

[7] Based on investigation of savings in materials, labor, and overhead charges.

An Illustrative Case

The following is a case of the application of the foregoing formulæ to the accounts of a fictitious company. Space limitations prevent our giving here the detailed computations involved in these ratings. The complete set of figures is, however, on file in the Taylor Society office and may be consulted by those interested in further study.

Sales Phase

Policy	*Rating*
1. Securing orders for maximum capacity of plant	72.80 per cent
$\frac{\$465,685.35 \text{ (Sales for period)}}{\$625,980.00 \text{ (Sales value of capacity)}}$	
2. Securing materials on time for ders with the production schedule	75.75 per cent
$\frac{\$9,130.74 \text{ (Weekly sales)}}{\$12,038.08 \text{ (Standard)}}$	
3. Securing accounts paying in accordance with terms of 2 per cent 10 days; net 30	74.50 per cent
$\frac{\$336,285.90 \text{ (Collections according to terms)}}{\$465,685.35 \text{ (Sales or standard)}}$	
4. Credit efficiency	99.02 per cent
$\frac{\$4,606.21 \text{ (Bad debts)}}{\$465,685.35 \text{ (Sales)}}$	

Purchasing Phase

1. Securing materials at lowest market prices	94.60 per cent
$\frac{\$13,530.41 \text{ (Overpaid)}}{\$250,522.28 \text{ (Purchases or standard)}}$	
2. Securing materials on time for uninterrupted production	84.03 per cent