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"Why You Should Invest In New Equipment"

How the basic economic factors of cost can be forcefully presented to sell (1) 5 Linotype Hydraquadders for outside application, and (2) a battery of 8 Comets with full TTS equipment illustrate a speech by a leading industrial engineer—good fundamental sales material for our use.

"A PROBLEM well stated is a problem half solved." That often-quoted saying by the famous engineer-inventor, Charles F. Kettering, may be adapted to our sales approach in these words: *an equipment proposal well stated is the first essential toward closing the sale.*

Here are two case studies of the need for Linotype equipment which were chosen as typical problems to illustrate a speech to several hundred master printers at the annual convention of Printing Industry of America. The theme was "Progress Through Informed Management" and the speaker was Robert E. Rossell, managing director of the Research & Engineering Council. His data on equipment costs and performance were procured from MLCO. How he presented them and how a Linotype salesman may profit by his methods form the purpose of this unit in our Sales Manual.

In reprinting Rossell's drafting of Case 1 and Case 2 we have purposely retained their typewritten style instead of using display type and boldface heads in the format of this Manual. The typewriter on the road is the salesman's principal medium of exposition. For the shaping of a proposal these are excellent examples of simple typewriter typography which may well be studied for their careful and readable arrangement of facts.

In themselves, these two cases tell their own story for a Linotyper as sales approach material. But we find further helpful philosophy in Rossell's speech. While he discusses, in addition to the composing room problems, the needs for presses and other machines, here are excerpts of his observations affecting Linotype sales activities. (The indented paragraphs in italics are our own comments to you.)

QUOTED FROM ROSSELL:

Printing presses and other expensive tools in our industry are built so well that they last and last. It is easy to postpone buying a new piece of equipment because the old one will keep on running. It usually can go another month, another year, or just as long as you want it to.

How do you know when a machine is obsolescent? One formula designed to answer this question is based on the theory that you compute the cost of the new machine by determining the cost of *not* replacing it. In other words, it is the margin by which the performance of a machine in service falls short of the performance that you would obtain from the best alternative to it. This margin can be determined by several factors—the cost of the new machine, salvage value of the old machine, superiority of product, increased output, labor costs, maintenance and repairs, supplies, floor space, and insurance.

It is comparatively easy to figure these factors on your present equipment yourself, but many of you probably don't know the cost of new equipment or even the amount of return it will give you. So, it probably would be to your advantage to contact the manufacturers of the new equipment and have their representative figure out for you how much it is costing you *not* to install a modern machine.

One large manufacturer has furnished me with two examples, based on actual records, which show some of the savings that can be expected through the introduction of advanced modern equipment in the composing room. CASE 1—has to do with the use of modern hydraulic quadders on display linecasting machines, and CASE 2—concerns body composition with linecasting machines designed for automatic keyboarding. You will note that in CASE 1 there is a savings of $3,000 per year in direct labor alone, and in CASE 2 there is a net savings of $43,300, over and above depreciation cost of the new equipment, in direct labor only.

In each case the manufacturer emphasizes that a new attachment, feature, or mode of operation is not productive in itself but only as a part of a team, and that maximum benefits will be realized only when the team is complemented by a linecasting machine of matching characteristics.

The examples are conservative in that they show the savings in direct labor only. They perhaps should be

CASE 1: USE OF MODERN HYDRAULIC QUADDERS ON DISPLAY LINECASTING MACHINES

THE JOB: To set all machine lines for display ads in a typical small daily newspaper.

NEW METHOD	VS.	OLD METHOD
Produces on display linecasting machines equipped with fully hydraulic quadders, permitting automatic quadding for flush-right, centered, or flush-left lines as needed. (A quadder is not productive in itself, but is a means for increasing productivity of a line-casting machine by freeing operator time for keyboarding. Its benefits are therefore most fully realized when installed on a modern high-performance machine which it was specifically designed to complement.)		Produces on conventional display linecasting machines, with hand quadding and centering Estimated cost of direct labor alone: $22,500 per year— (5 machines x 1500 hours per year, per machine x $3.00 per hour.)

TIME SAVINGS PER LINE: A set of time studies on composition of typical newspaper display ad lines, with and without modern hydraulic quadder equipment, showed the following time savings (Keyboarding time only):

Flush-left lines	26% of keyboarding time saved with quadder
Centered lines	42%
Flush-right lines	44%

FREQUENCY OF QUADDED LINES: Line-counts of sample batches of display ads indicated that quadded lines were following percentage of all lines:

Flush-left lines	14% of all lines in samples counted.
Centered lines	22%
Flush-right lines	2%

AGGREGATE SAVING in time through use of suitable quadders was computed thus:

Flush-left	.14 x 26% =	3.6% of all keyboarding time saved.
Centered	.22 x 42% =	9.2%
Flush-right	.02 x 44% =	0.9%
TOTAL:		13.7% - total keyboarding time saved.

CONSEQUENTLY, dollarwise savings per year, in DIRECT LABOR ALONE, is 13.7% of $22,500, or $3,000 per year.

COST OF EQUIPMENT, in round numbers: 5 modern hydraulic quadders only, $8,000.
Hence, payoff period, via direct-labor savings only is:
about 2 years 9 months — ($8,000 ÷ $3,000).

CASE 2: BODY COMPOSITION WITH LINECASTING MACHINES DESIGNED FOR AUTOMATIC KEYBOARDING

THE JOB: To set 200,000 lines per week of 8-pt. news copy, 12-pica measure (a typical daily newspaper job).

NEW METHOD	VS.	OLD METHOD
Preparation of six-unit code tape on keyboard perforators, followed by automatic production of type in linecasting machines specifically designed for rapid tape-controlled operation.		Use of manual linecasting machines, averaging 200 lines per hour, per machine.
Output for each such linecasting machine: 12 lines per minute, times a conservatively estimated 50 productive minutes per hour, or 600 lines per hour.		At a direct-labor hourly wage rate of $3.00, cost of this operation is:
Monitor, at direct wage rate of $3.00 per hour, tends three linecasting machines. Hence, his cost per 600 lines of output is $1.00.		1.5 cents per line, or $3,000 per week.
Perforator operator, at direct rate of $3.00 per hour, has average productivity (conservatively estimated) of 360 lines per hour. Hence, his cost per 600 lines of output is $5.00.		
Total cost (direct labor only) per 600 lines; $6.00; per line, 1.0 cents; per week, $2,000.		

COST SAVING due to direct labor only: Per line, 0.5 cents; per week, $1,000; per year, $52,000. Saving in direct labor is 33% of old-method cost.

COST OF EQUIPMENT FOR NEW METHOD (in round numbers):

8	linecasting machines designed for rapid tape controlled operation – fully equipped	$100,000
8	Teletypesetter operating units	20,000
15	Teletypesetter perforators with tables	28,000
	Total Initial Cost –	$148,000

If this equipment is depreciated over a 17-year period, average annual cost (interest omitted) is $8,700 per year.

NET SAVINGS due to direct labor only: $43,300 over and above depreciation cost of the equipment required.

Payoff period, through direct-labor savings: about 2 years 9 months ($148,000 ÷ $52,000).

interpreted also in the light of the self-interest of the manufacturer. Actually, numerous indirect, overhead and fringe items such as salvage value of the old machine, maintenance and repairs, supplies, floor space, insurance, and so forth, not taken into account, would tend to make even more drastic the savings that can be realized through introduction of the new methods. These are only two examples of the services that our suppliers are happy to furnish if called upon to do so.

> *The numerous indirect, overhead and fringe items must be studied and established by the Linotype salesman with the aid of the customer's plant executives. The basic showing of major savings, as set forth in Case 1 and Case 2, form a provocative first approach to the customer. Interest thus aroused should normally bring his request to his plant personnel to cooperate fully with the salesman in arriving at the "fringe items."*

These surveys are based upon actual facts, so let's give them a call. One interesting thing about these two cases is the demonstration they give as to the method of analysis. It is this sort of analysis which you should apply, whatever new equipment situation you are considering.

> *Let's repeat: the first simple statement of potential savings is the important sales bait. It may be shown, as in these cases, on a single sheet of paper. If it were accompanied by too much detail on "fringe items" then the whole proposition may appear too complicated for ready understanding. Enough to say, at first approach: "Of course these big first savings in your operating costs will be enlarged by many incidental items of economy that we can find by studying your plant conditions."*

I would like to have gone into detail with respect to the "revolutionary" equipment, methods and changes which you may encounter, but the more I study the field, the more I become convinced that you are being affected by an *evolutionary* but not a revolutionary trend. I know of no sensational development which will obsolete your equipment overnight. So far as I know, even the most advanced discoveries will integrate themselves into our general production processes more or less slowly and at a rate which will give progressive management an opportunity to keep up with the parade.

> *The above paragraph is a well-phrased reply to the customer who fears to make an equipment investment because so many new developments are being publicized today.*

Let this not be considered as a suggestion, that you sit back at your desk and not worry because the process of change may be relatively slow. It is slow but the process of change is none-the-less occurring. Briefly, this means that progressive management has got to devote time to the study of detail changes not only with respect to things which are more or less obvious now but also to the minor changes which are occurring every year in the various machines which you know. Still, the summary of what I have to say is—that we have not a technological revolution but a technological *evolution.*

I hope that my remarks today may prove helpful to you in guiding your decision about whether to invest in new materials and methods.