
Commentary

Monetary And Ethical Costs of Poster Presentations

Poster presentations have become more and more popular at ecological meetings. Only 10 years ago, they used to be printed on regular sheets of paper and supplemented by photographs. At present, posters are plotted on a single large sheet of glossy paper. Such posters, although shiny and attractive, bring high monetary costs. At first glance, it may not seem that such a plotted poster would be particularly expensive, but when all ingredients—such as time spent, large plotting machines, inks, papers, several trial runs—are examined, the cost becomes exorbitant. If this were the only way to disseminate our ecological research to the larger community, then it would be an unavoidable cost. However, if it were possible to convey exactly the same information at 3% of the cost, surely we would have the responsibility to do so in order to minimize ethical costs.

Two kinds of posters

Posters are usually produced on large plotters, which cost thousands of dollars. Without any loss of information, the same text (with the same font size: 24 points for text and higher for headings), graphics, and photos can be printed on 15–20 pages of regular (8.5 x 11 inch) paper using an inkjet printer, which costs below \$100 (for example, the cost of HP DeskJet 3520 Color Inkjet printer is \$28.88). These two kinds of posters are referred to as plotted (Fig. 1) and printed (Fig. 2).



Fig 1. Plotted poster.



Fig 2. Printed poster.

Expenses for plotted poster

The cost was calculated for an average poster size (36 x 48 inches) using MS PowerPoint (ArcGIS takes about 10% more time and Adobe PhotoShop 50% more time than PowerPoint). The time required to prepare

one poster does not cover writing the text, preparing graphics, and taking photos. It is restricted to the work specific for poster preparation such as general arrangement, placement of borders and captions, various alignments, selection of fonts and colors, and trial prints. These trial full-size posters are printed on draft (bond) paper. Paper quality for the final poster is semigloss or gloss. PowerPoint keeps records of the time spent (click File, Properties, Statistics). The time needed to print trial posters (about 1 hour per trial) is added to that time.

The total time was estimated by surveying the actual experience of six professors and four research specialists at the School of Forest Resources, University of Arkansas (Table 1). Graduate students were not included in the survey because most of them are not experienced, and the time required to prepare a quality poster varies wildly.

Table 1. Time spent for the preparation of plotted poster.

Years	Experience Posters	Trial posters	Poster time, hours
Professors			
6	5	2	12
2	3	4.5	20
5	15	2.5	15
8	10	1	10
20	200	3	25
10	30	1	15
Average			
8.5	43.8	2.3	16.2
Research specialists			
4	3	1	30
2	16	3.5	30
5	15	1	10
1	7	2.5	15
Average			
3.0	10.2	2.0	21.2

The cost per hour was calculated from average annual salary (\$55,000 for professors and \$28,000 for research specialists), hours per year (1808), fringe benefits (25.9%), and indirect costs (36.8%) at the School. The cost per hour is \$52.39 for professors and \$26.67 for research specialists. The average cost of paper (including two trials) and ink is \$55 per poster. This is substantially lower than at other nonprofit organizations. For example, the University of Wisconsin Digital Publishing and Printing Service (<http://www.wisc.edu/printing/colorcopy.html>) charges \$7.60 per square foot plus \$ 11.00 per impression. The total cost of a plotted poster is \$903.72 for professors and \$620.40 for research specialists (Table 2).

Table 2. Monetary costs of plotted and printed posters. Salary per hour: \$52.39 for professor and \$26.67 for research specialist

Position	Plotted poster			Printed poster			Ratio
	time	supplies	total	time	supplies	total	
Professor	848.72	55.00	903.72	26.20	0.79	26.99	33.5
Research specialist	565.40	55.00	620.40	13.34	0.79	14.13	43.9

Expenses for printed poster

It is assumed that the information of a 36 x 48 inch plotted poster can be presented on 20 regular (8.5 x 11 inches) pages, including five photos. One photo is full page size, four others, half a page. Printing three color pages of photos costs $\$21 \times 3/220 = \0.29 on regular paper using an inkjet printer. (This cost is calculated for Epson Color Ink Cartridge Part #: T027201, Page Yield: 220 Pages, priced at \$20.99.) Printing 17 pages of text and black and white graphics using HP 14d Black Ink Cartridge (Part #: C5011DN High-yield cartridge Ink, Duty Cycle 830 pages. Price: \$18.99) on Standard 20-lb. paper (such as Hammermill Copyplus Paper for \$2.99 per 500 page ream) costs \$0.50. It is estimated that it takes 0.5 hour to set fonts, insert photo headings, print, and tape pages into rows for the convenience of transportation and mounting. The total cost of a printed poster is \$26.99 for professors and \$14.13 for research specialists (Table 2).

Thus, printed posters are 30–40 times less expensive than plotted posters, which contain identical information in practically identical form.

Ethical costs of poster presentations

The ethical cost of the plotted poster includes the damage to our image as stewards of the environment. But where does the damage come from? Isn't it true that plotted posters, being more attractive to the public, better communicate our research and thus contribute to the environmental cause, rather than hurt it? It is possible to argue that since we are trying to sell the environmental cause to the public and to politicians, we should not be ashamed to learn the art of influencing people from professional salespersons.

However, the goal of salespersons is to sell so as to maximize profit. And although we, too, would like to get the maximum support for our research, for us the money is the means, not the end. Our goal is to minimize environmental destruction, a chief cause of which is overconsumption. We can reduce the consumption and the damage it causes by spending less. These considerations show that the means, such as expensive plotted posters, conflict with our goal. It is curious to see studies on saving nature and reducing waste reported in the form of a wasteful plotted poster. We easily perceive the hypocrisy of Arnold Schwarzenegger opposing off-shore oil drilling while driving his gas-guzzling Hummer, but we are sometimes less sensitive about our own hypocrisy.

Imitating salespeople in flashy presentations while dealing with each other at scientific conferences may not be the best way for ecologists. To have a moral right to preach preservation of resources, we need to reduce our own waste and rethink squandering our resources on shiny posters.

Acknowledgments

We appreciate the help of the following colleagues who shared their expertise in poster preparation: Jeff Earl, Robert Ficklin, Paul Freeman, James Hartshorn, Rebecca Montgomery, Sayeed Mehmood, Chris Stuhlinger, Lynne Thompson, Mickie Warwick, Bob Weih, and Don White.

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