Double-Sided Printing

One small prompt saves money and resources

PROJECT ABSTRACT

Agency Objective. Reduce cost and total paper use at a Federal Government agency by employing a simple, low-cost pop-up message, delivered when users print, to discourage single-sided printing.
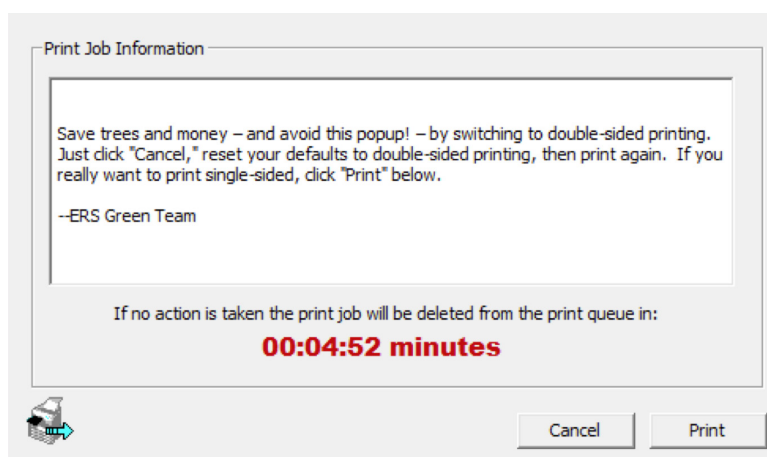
Background. Not surprisingly given its scale, the Federal Government uses a great deal of paper. A 2009 survey indicated that the average government employee printed about 30 pages per day.[74] At 2.6 million executive branch employees and 240 working days per year, that amounts to over 18 billion pages printed per year.[75] Reliable figures on the rate of duplex printing (double-sided printing) across the government do not exist, but in data for this project the baseline rate of duplex printing was 46 percent of all print jobs, implying significant scope to reduce total paper use and reduce costs through the increased use of double-sided printing.

Methods. The Department of Agriculture's (USDA) Economic Research Service (ERS), in collaboration with the Office of Evaluation Sciences (OES), tested the effectiveness of adding a small cost to printing single- rather than double-sided for its employees. Behavioral science research from other contexts suggests that even relatively minor costs associated with taking one action can be sufficient to lead individuals to take a different action.[76]

Implementation of this cost was randomized at the printer level within ERS. The small cost to printing single-sided was introduced by presenting individuals, when they attempted to print a single-sided document at a network printer in the treatment group, with a pop-up box (an image of which is displayed at right).

This pop-up required a second mouse click before single-sided printing would occur. If the individual did not click "Print" after five minutes, the print job was deleted. The text of the pop-up notified individuals that if they changed their default settings to duplex, they would not face the pop-up in the future.

Results. This simple prompt increased the likelihood of duplex printing on a given job by 5.8 percentage points ($p < 0.01$, 95% CI [4.2, 7.4]), from a baseline of 46.0 percent.

Print Job Information

Save trees and money – and avoid this popup! – by switching to double-sided printing. Just click "Cancel," reset your defaults to double-sided printing, then print again. If you really want to print single-sided, click "Print" below.

--ERS Green Team

If no action is taken the print job will be deleted from the print queue in:

00:04:52 minutes

Cancel   Print

Conclusions. These results suggest that a simple message, which could easily be scaled to any networked printer using existing software, can be an inexpensive and effective way to reduce the proportion of single-sided print jobs. Based on this result, ERS is scaling up the use of the pop-up box to all its networked printers. That individuals are responsive to this intervention suggests that stronger interventions, such as changing printer defaults to double-sided printing, could be more powerful still in this context.

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[74]From a 2009 survey conducted by Lexmark, summarized here: govexec.com/pdfs/051209rb1.pdf

[75]Figures on Federal employment taken from: opm.gov/policy-data-oversight/data-analysis-documentation/federal-employment-reports/historical-tables/total-government-employment-since-1962/

[76]Marianne Bertrand, Sendhil Mullainathan, and Eldar Shafir, "A Behavioral-EconomicsView of Poverty," *American Economic Review* 94 (2004): 419–423. Kurt Lewin, *Field Theory in Social Science,* (New York: Harper, 1951).

OES

Office of Evaluation Sciences