

for Affiliates this month in Center research:

Case Studies on Environmental Strategies

In response to changing pressures from customers, environmental groups, local communities and government regulators, many printing companies have realized that they need to integrate ecological principles into their comprehensive strategies. This month's research monograph is entitled *Formulation and Implementation of Environmental Strategies: A Comparison between U.S. and German Printing Firms* by Diana Moss and Sandra Rothenberg, Ph.D. (No. PICRM-2005-07). It takes a "case study" approach by examining the environmental strategies and outcomes of four printing companies, two American and two German.

Using public ratings and the opinions of industry experts, several companies known for proactive environmental management practices were identified for this study, of which four were ultimately selected for diversity in size and location:

- Oktoberdruck AG: a small German company with 26 employees,
- Zeitungsdruckerei Leipziger (ZDL): a large German printer with 250 employees,
- Alonzo Printing: a small firm in California with 54 employees, and
- Hickory Printing Group: a large American company with 259 employees.

Table 1. Case selection

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	United States	German
Small Firm	Alonzo Printing	Oktoberdruck
Large Firm	Hickory Printing	Leipziger Zeitungsdruckerei (ZDL)

Each of these companies has taken what printing experts and/or environmental professionals consider a leadership position with regard to environmental management in the printing industry. All four succeeded in creating a competitive edge, ranging from reducing costs to improving stakeholder relations to capturing and retaining customers. Yet the environmental strategies of the four companies differed depending on the competitive forces that each faced.

Hickory Printing Group

This large privately-help commercial lithographic printing firm was established in 1917 by Mr. and Mrs. William Reese, and today the current chairman of the board of its two North Carolina

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plants is their son, Tom Reese. In 2004 Hickory, with a total sales volume of \$40.8 million, was ranked 123rd in the Printing Impressions 400.

Tom Reese started becoming actively involved in pollution control and the promotion of public awareness of environmental conservation in the early 1950s, and served as president of the North Carolina Wildlife Federation and in other high-profile positions. Hickory Printing is environmentally conscious because Reese sees that as the correct way to do business, regardless of the financial outcome.

Over the years the company has salvaged its waste paper, recovered silver (until shifting to CTP technology in 2000), eliminated isopropyl alcohol in fountain solutions, and experimented with soy-based inks. Reese insists that the firm continuously reduce its use of chemicals and invest in technology solutions, such as a centralized purchasing system and automatic blanket washers. Its latest initiative is a community waste management program, in which Hickory collects and recycles its customers' waste paper in return for credits on their next printing orders. This has increased its customer base. Hickory has been recognized locally and nationally for its commitment to the conservation of natural resources.

Zeitungsdruckerei Leipzig (ZDL)

ZDL was established in 1992 as a large state-of-the-art plant in Leipzig/Stahmeln, Germany, specializing in web offset newspaper printing. The firm is owned by two equal partners, the media enterprises Madsack Hannover and Axel Springer AG in Berlin, who established environmental guidelines for ZDL to follow. Customers have also influenced its environmental actions.

ZDL's goal for 2005 to 2007 is to reinvest in four new web offset presses that will reduce the use of solvents and lower VOC emissions through the installation of automatic rubber blanket washing units. Because ZDL's management believes that its environmental management is synonymous with performing well, it has decided not to get certified for international quality and environmental standards (ISO 9001 and ISO 14001), but rather to continue with its informal environmental management program.

Dirk Müller, who is responsible for ZDL's environmental practices, compiles an ecological balance report every year, evaluating all material and energy flows in the facility, and compares it to specified goals. Once a year ZDL meets with other German newspaper printers to compare ecological operations ratios, and also works closely with environmental protection organizations and consulting firms. Other ZDL initiatives are related to process improvements, ranging from reducing packaging and energy consumption to recycling solvents and used inks. Today ZDL uses 96% recycled newsprint and soy-based inks.

Since ZDL began to show its commitment to environmentally-sound newspaper production, relationships with stakeholders have improved. ZDL communicates to its readers how the newspaper is produced, reporting both positive environmental experiences and the problems that the firm encounters.

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About the Center

Dedicated to the study of major business environment influences in the printing industry precipitated by new technologies and societal changes, the Printing Industry Center at RIT addresses the concerns of the printing industry through educational outreach and research initiatives.

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Oktoberdruck

This small company was founded in 1973 in Berlin, as a self-administered collective printing firm with five employees, specializing in multi-color sheetfed offset printing. Today all of the current 26 employees own proportional shares of the company and collectively determine within democratic structures how the firm operates. The firm's annual sales are DM 5.5 million (\$3.4 million in U.S. dollars).

Oktoberdruck considers environmental commitment to be its natural responsibility. The company's 1985–1986 participation in an environmental study conducted by students at the Technical University of Applied Sciences in Berlin resulted in its first major investment in implementing work safety procedures, such as installing an exhaust air unit, ventilation system, and noise protection wall. By 1999 the proportion of recycled paper it used had reached 38%, and today both vendors and manufacturers are involved in ecologically-oriented troubleshooting. Oktoberdruck was the first printing firm in the Berlin area to implement an environmental management system (EMS) and be validated by the EU Eco-Management Audit Scheme (EMAS). As current president Martina Fuchs-Bruschbeck points out, "In recent years, environmental issues have begun to be perceived as political issues."

Alonzo Printing Corporation

Alonzo is a Hayward, California (San Francisco Bay area) union shop founded in 1976 that specializes in sheetfed and web offset printing and generates about \$9 million in annual sales. In the late 1980s, Alonzo's founder Jim Duffy adopted an environmentally-friendly strategy for the company, but the economic recession of the late 1990s forced him to rethink these priorities because environmentalism had taken a back seat in the mind of his price-conscious customers. Recently, Alonzo's new marketing and communications firm, Traversant, is again helping the company to promote its former environmentally-friendly image.

Alonzo was the first printer in Alameda, California to be certified as a "Green Business." Its main environmental initiatives are the standardized use of recycled paper and soy-based inks. It was the first company to use Kenaf paper, a non-wood paper alternative, and it also recycles water, paper, office waste, and solvents. The company exceeds all regulatory compliance standards and conducts internal "eco-audits" in order to compute its water, electricity, gas, paper, ink and solvent usage.

Since Alonzo once again began pursuing an environmentally-friendly strategy, the firm has established a good relationship with its union and retained many of its customers. Traversant believes that the marketing message of Alonzo's environmental stance as a value-added service will differentiate the company from its competitors, attracting new customers.

Different Approaches

While all succeeded in creating a competitive edge from environmental initiatives, the strategies of the four companies differed depending on the competitive forces that each faced.

Both of the smaller firms are deliberate in their approach to developing their environmental strategies, using environmentally

sound products to capture and maintain a niche market. On the other hand, the large firms have a more emergent feel to their environmental strategy, and primarily focus on the continuous introduction of technological solutions and process improvements.

As can be seen in Table 2, each company took a different approach to the use of environmentally “friendly” inks and paper. While Alonzo Printing uses 100% post-consumer paper as their house stock, Oktoberdruck and ZDL increasingly offer recycled paper as a house stock, and Hickory prints on recycled paper if that is requested by the customer and the customer is willing to pay the additional cost.

Table 2. Comparison of ink and paper choices

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	Oktoberdruck	ZDL	Alonzo	Hickory
Papers	Increased use of paper with recycled content	Majority of paper is recycled paper	100% post-consumer paper as house stock	No recycled paper unless requested
Inks	Vehicles in inks are 80% vegetable oil	Uses soy-based ink	Always uses soy based ink	No vegetable oil ink

Conclusion

The case study results indicate a transition in the printing industry from initiating environmental actions ad-hoc to formulating and implementing environmental strategies. Yet, there is still potential for deliberate environmental strategies in printing firms. Before a company can formulate and implement a strategy, management should analyze all factors facing the firm and influencing the managers' perception of environmental issues. These factors include: factor conditions, the context for strategy and rivalry, demand conditions, and related and supporting industries.

Once these are analyzed, the environmental strategy needs to be supported by strong leadership. The case studies made clear that the leaders of these firms had a tremendous influence on creating cultures in which environmental issues were important. Without strong leadership, a proactive environmental strategy is not possible in the face of constant pressure to resort to more traditional means of achieving strategic success.

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[BACK TO TOP](#)

