

**COMPANY  
PROFILE**

**Dartmouth Printing Company:  
Methods, procedures, and discipline help  
DPC maintain control**

The history of printing in Hanover, NH at what ultimately became Dartmouth Printing Company has its origins dating back to 1778 with the printing of college publications and newspapers. Although the company has changed hands several times over the years, it was the decision of two former employees that led to the success the company enjoys today. In 1978, Dave Hewitt (27 yrs. with the company) and Stuart (Mike)V. Smith, Jr. (33 yrs. with the company) decided to acquire DPC from South Shore Publishing Company. As former employees themselves they knew what it meant to the employees to have leadership that would keep the company going and growing. As owners, they took on the role of decision makers and were

prepared to make significant investments in equipment. They were certain about the future of their primary product, short run publications using heat-set webs.

Growing pains were not unknown to Dartmouth Printing. The company went through a difficult period several years ago. Dave Hewitt says, it was attributable to management's slow response to declining overall economic conditions which brought with it excess capacity, and falling prices. Management failed to realize how far prices would go down, and how significant the erosion of customer loyalty would be during this period. The situation was turned around through rigorous application of process improvement efforts (aka Total Quality Management) with the goal of reducing costs while increasing the level of product and service quality. During this period the effort was started, which continues today, to achieve a cultural change within the company through the application of the teaching

Mike Smith  
President

Dave Hewitt  
Exec. Vice President

and principles of Dr. W. Edwards Deming, one of the earliest proponents of what is now known as TQM.

What they've done might very well be the envy of many managers of printing companies. They have isolated the elements of management and manufacturing that intrude on success and profitability, and built a structure that aggressively seeks interpretation, resolution and continuance in an enviable way. As we toured

the facility with Dave Hewitt (in charge of operations), we felt a growing sense of pride and accomplishment, not only on the part of Dave Hewitt, but even more on the part of the employees. Mr. Hewitt rarely spoke in the first person except in the context of "we." Although management has designed the road map to success, it is very evident that the employees have been given the authority to drive it. Dartmouth is the epitome of teamwork. It is a company that has motivated its employees to seek problem resolution and to work together in maximizing productivity and customer satisfaction. Here's a look at some of the components that drive Dartmouth's success.

**COMMUNICATIONS** There is an ongoing effort to continuously post information for all employees to read and evaluate. It is not one page of announcements; it is volumes of information that speak to all aspects of manufacturing. The bulletin boards seek to communicate

**OVERVIEW**

YEAR	SALES	NO. OF EMPL.	SALES PER EMPL.	PROFITABLE
1970	\$ 6.1 million	163	\$ 37,423	yes
1996	\$25 million	250	\$100,000	yes
<b>No. of facilities</b>	2	<b>Locations:</b>	Hanover, NH 100M sq ft Manchester, NH (12 employees-litho-prep, division)	
<b>PRIMARY PRODUCT:</b>		Short run, magazine/publication printing		
<b>No. of Titles per month:</b>		100	<b>No. of active titles</b>	250
<b>Largest product:</b>		130M/250 pgs.	<b>Normal minimum run:</b>	7,000

in graphic form such measurements as reduction of hours for performing certain tasks; increased productivity for departments; and schedules for upcoming shifts. Reports that are computer generated maintain consistency for better employee understanding.

**WORK SCHEDULES** Dartmouth runs all production departments twenty four hours per day, five days per week. In addition, the Imagesetting and Prepress departments are staffed on a seven day basis using a variety of workweek options, including 12 hours per day, 3 days per week, to cover the weekends. In other production areas, overtime coverage is scheduled for individuals and crews a year in advance allowing a department to go up to seven days per week with short notice.

As business increases, they are considering expanding the web press schedules to six days a week, utilizing four crews on each press.

*Bulletin boards are prime sources of information and MSDS manuals are readily available.*

*Dave Hewitt reminisces with Bob Sharkey (left), who after 38 years with DPC, is retiring this summer.*

## **INCENTIVES TO IMPROVE**

The procedure for submitting ideas for new or changed methods, new products, and better ways of doing things, is heavily structured by policies and procedures. It is all geared to do two things: Firstly, it provides financial rewards for the originators; and second, it ensures a process for making sure that if the proposed change has desired payback, it will be fully evaluated, and implemented.

When an employee gets an idea on how to do something different, and wants to submit it for implementation, it is necessary to complete a "Process

Improvement Proposal."

The form requires a description of the current process and the proposed, as well as the anticipated benefits from its implementation. In addition, it is also required that the individual indicate how the results will be measured. Certain employees are designated as 'resources' to help in the completion of the form. The document is then submitted to an Evaluation Committee that is responsible for making the recommendation for implementation, and weighing the costs of change and ongoing service, against the gains in the use of a new product or service.

In just over two years of operation, the suggestion plan has successfully produced annual savings amounting to \$170,000. Fifty per cent of the first years savings go to the employees. The focus of the program is geared to "improve the

*Tom Splett (left) 1st pressman on second shift, reviews a proof with Dick Melanson, shift supervisor, 2nd shift*

process and profitability."

**SALES GROWTH** There are several ways a company can grow its sales. It can expand the number of customers in its primary product line. It can create new products outside of its niche, or it can create new products that can be sold to its existing customers. While DPC continues to expand its sales force and aggressively look for new titles to print, they are also working at doing more business with their current customers. This method provides a sound route to maximizing profitability while making it more difficult for competing companies to gain access to the same customers. Certainly, the fewer the vendors the less opportunity there is for competing companies to gain entry to existing customers. And, at the same time, using existing sales personnel means these people have the opportunity to make more money, which helps to keep them happy.

What can you sell to existing customers of short run publications? One significant area of growth has been adding the color separation and film output volume from customers who previously supplied film for their publications. In addition to basic imagesetting services, Dartmouth also offers archiving and CD ROM creation as services for existing customers. In the pressroom, there has been an increased effort to print the cards or order forms which appear in many of the titles produced in Hanover. This work typically utilizes the sheetfed press area, as opposed to the webs, and has the additional advantage of providing assurance that the card or form will run well during the binding process. In the binding/mail-

ing part of the process, Dartmouth now produces the mail labels/lists for over 100 of their customers. In many cases, Dartmouth's experience with postal regulations has enabled them to increase customers' postal discounts as the result of better sorting or the addition of bar codes. This "list processing" business now generates more than \$100,000 of revenue annually. As an additional benefit, if the mailing labels/lists are produced inhouse, there's a much better chance they will meet specifications and run well on the mailers.

**ENSURING CUSTOMER SATISFACTION** Paying someone to tell you how much your customers like your services or how much they don't, would seem to be something you could do yourself. But then you may not get the greatest objectivity, which is one of the reasons Dartmouth Printing Company uses a third party to report on customer satisfaction. Using a third party also helps to ensure getting the most complete information.

ensure the continuance of the customer base.

Testimony to how serious the company is in making use of the report is the fact that a copy of the report is provided to each of its departments and is posted on the bulletin boards for all employees to review.

Inspired by the teachings of Dr. Deming the process of growing the level of quality and ensuring its continuance are an ongoing pursuit.

**PREPRESS** It is interesting to note that the prepress operations at DPC are one-third PC based and two-thirds MAC. The PC side makes it easier to work with a number of corporate customers whose company operating systems are PC based, and not aligned with the graphic capabilities of MAC equipment. In an effort to sell these prepress services to more of their customers, DPC provides a variety of aids aimed at reducing the perceived distance between them and their customers. Customer service reps in Imagesetting and in Customer Service have full email capabilities via the internet. Dartmouth provides and installs free of charge, a BBS (Bulletin Board Service) for any customer wishing to send or receive files electronically. Color separations are typically supplied in low resolution versions so customers' systems do not get bogged down with large files. Low 'res' versions are automatically swapped with high 'res' during final output. And increasingly, digital proofs produced on a Fuji First Look system are replacing the well-known analog proofs made from film.

*Bob Upton, second shift bindery operator talks with Gregg Jenks of the first shift, as they enable continuously running shifts.*

Dartmouth is successfully using digital proofs on press as well as with their customers for color approval.

Is everything digital? Not quite. An integral part of publications is the advertising material which appears in numerous titles printed at a number of printing plants. To date, advertisers (particularly national advertisers) and their ad agencies remain committed to film as an inexpensive medium on which large amounts of data can be stored and shipped easily. In addition, film, as opposed to digital files, reduces the opportunity for variation in the final printed product. This is particularly relevant when the same image is to be reproduced a number of times in different locations on varying types of equipment. This "advertising film factor" is a major reason Dartmouth Printing

*Customer Report on services provided by Dartmouth Printing Company*

The results are produced in a series of bar graphs that makes it easier for employees to understand how the customer rates the services DPC has provided. The key issue throughout the report is how the expectations of the customer compare with what they got. Repeatedly, the reports rate DPC as "above expectations" or "far above expectations." The document also reports on ways the company can increase services to further

*Buhr's Enveloper is key to facilitating flexibility in mailings*

believes that their operation must continue to offer traditional "litho prep" prepress services for their publication customers. Digital may be here, but film still has not left the scene.

serts including diskettes and CD's and card or insert "blow-in" capabilities. In December 1996, ink jetting and selective feeding were added to the line. These new features allow DPC to expand the complexity of the services offered, so that personalization of mailing pieces is possible, as well as the inclusion of different material for different subscribers within the same mailing. DPC believes their efforts to provide list processing services for their customers, ties in with the offering of increasingly complex mailing services.

employs a nurse who spends twelve hours a week in the plant reviewing work practices, following up on accident reports, and providing instruction in such areas as proper body mechanics. The combined result of all these efforts has been a reduction in Workers Compensation Insurance premiums of more than \$20,000 annually.

*Jacqui Begor benefits from the raised platform that enables loading at a more natural height.*

**ENVIRONMENTAL** Conservation has a pay back that is being realized by DPC. The reduction of electrical bills lessens this operating expense and reinforces the belief, company wide, that if you work *on* the environment, the environment will work *for* you. This Spring, DPC will be starting a major project, costing over \$500,000 to upgrade their heating, ventilation, and cooling systems. As part of that project, Granite State Electric will contribute over \$70,000 as incentives for Dartmouth to incorporate the highest efficiency equipment in the new systems. Once in place, the new systems will not only provide more cost effective means to heat and cool workplaces, but will also provide the 24 hour per day need for chilled water, that the heatset web printing process requires.

**BINDERY AND MAILING** In an effort to not only meet, but to anticipate the needs of their customers, in 1996 Dartmouth Printing installed one of the first Buhrs "Envelope" mail lines in the U. S. The new line is equipped with multiple pockets and both polywrap and kraft wrap (sealed on all four sides) capabilities. This equipment allows for the mailing of multiple pieces, additions of out-

*Another example of the use of bulletin boards throughout the plant*

**EMPLOYEE HEALTH** As we toured the Finishing department, a bell sounded. It was the wrong time for a shift break and Dave Hewitt explained. Every hour the employees are required to do a series of stretching exercises specifically designed to counteract the natural strains placed on the body from the heavy, repetitive operations involved in the binding and mailing processes. In addition to exercises, significant effort has been expended to utilize workplace aids, such as lift trucks for skids of signatures on binding lines, which reduce strain and the chance of accidents. Dartmouth also

**IN SUMMARY** Practicing what you preach is easier said than done. Dartmouth Printing is very certain about a procedure before they execute implementation. And, more importantly, once a procedure is set, they make certain that the proper disciplines are there to continue the process, according to plan. In today's fast-changing world, these disciplines are necessary in order to maintain effective control over all operations. Dartmouth works hard at it.