

for Affiliates this month in Center research:

## Successful Business Models for Digital Printing

Four different business models related to successful digital color print services are examined in the recent RIT Printing Industry Center report, "Digital Printing Success Models: Validation Study (2004)" (PICRM-2004-06). The four models, originally identified in a 2003 Center report ("Investing in Digital Color...the Bottom Line"), reflect different levels of investment in equipment, infrastructure, and human resources. Since the 2003 exploratory study was limited in scope, a more in-depth study was designed to provide more reliable estimates of the investments for each model, and to add business performance measures.

The 2004 study confirms the four typical business models we had found for success in variable data printing (from the lowest level of investment to the highest):

- Level 1: Quick Print Model
- Level 2: Commercial Short-Run Model
- Level 3: Internet On-Demand Model
- Level 4: Full Service/Fully Customized Model.

### General Statistics on Respondents

On average, the sample of firms responding to the survey had been in business for 35.5 years. Almost one-third of the firms had under \$3 million in revenues, and another third had over \$10 million in revenues. Just over half of their overall digital printing was monochrome, and a somewhat lower percentage (44.8%) of variable data printing was monochrome. Most of our respondents bought their first variable data presses between 1998 and 2002. Table 1 shows the costs for all of the investments in getting started with variable data printing (using a 5% trimmed mean calculation).

**Table 1. Investment Costs for Implementing Variable Data Printing**

Investment	5% Trimmed Mean	Median
Initial press investment	\$282,516	\$250,000
Initial software investment	\$17,370	\$2,000
Additional hardware investment	\$11,429	\$5,000

### Center Spotlight

Join the Web Cast:

**The New Medium of Print: Material Communication in the Internet Age**

Presented by Frank Cost, Associate Dean and Professor, RIT

2/24/2005  
11:00 a.m. - 12:30 p.m.

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One of the Center researchers, Dr. Twyla Cummings, is an organizer for the following seminar and invites you to participate!

**R&E Council of NAPL  
47th Binding, Finishing and Distribution Critical Trends Seminar  
"Finishing for Profitability NOW!"**

April 5-6, 2005  
Chicago

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### The e review

The eReview is a monthly publication of the Printing Industry Center at RIT for registered Affiliate companies. Articles are also published in the quarterly printed publication *PrintReview*.

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<b>Total additional software investment</b>	\$14,429	\$0
<b>Total network/telecom /Internet investment</b>	\$6,484	\$0
<b>Database investment</b>	\$1,820	\$0
<b>Other investment</b>	\$716	\$0
<b>Total infrastructure investment</b>	\$416,250*	\$358,500

\*Total infrastructure investment is not the total of the figures in the column due to the 5% trimmed mean calculation.

Retaining customers and building loyalty were the goals of 53% of the variable data jobs, and seeking new customers typified 39% of them. Nearly half of the firms we surveyed target specific vertical industries in selling variable data print services. The key challenge to selling variable data printing is the need to communicate the value of personalization to their customers. They also noted other challenges such as clients not having a retention or customer relationship strategy (83% said this), and clients having poor data quality (81%).

### Cluster Analysis

Our cluster analysis of digital print providers was based on the degree to which their variable data revenues were from versioning, mail merge, personalization, transaction printing, Internet on-demand, and fully customized applications. The four-cluster solution verified the findings of our 2003 study, and is described in Table 2.

**Table 2. Cluster Analysis Summary**

[click to view table full size](#)

Major Applications	Cluster 1 (n=26)	Cluster 2 (n=67)	Cluster 3 (n=46)	Cluster 4 (n=31)
Versioning	4%	66%	0%	100%
Mail merge	19%	85%	59%	88%
Personalized	46%	82%	43%	32%
Transaction	11%	10%	4%	6%
Internet on-demand	65%	41%	0%	0%
Fully customized	42%	51%	4%	2%
Descriptive Characteristics	Cluster 1 (n=26)	Cluster 2 (n=67)	Cluster 3 (n=46)	Cluster 4 (n=31)
Employee size (5% of trimmed mean)	70	118	51	51
Percent growth in revenues	13.2%	16.3%	11.8%	9.1%
Percent revenue from variable data printing	22%	31%	8%	19%
Percent of IT employees to production employees	16%	25%	7%	5%
Capital Equipment Investments (5% trimmed mean)	Cluster 1 (n=26)	Cluster 2 (n=67)	Cluster 3 (n=46)	Cluster 4 (n=31)
Total	\$520,735	\$908,833	\$202,097	\$309,805
Initial press investment	\$349,402	\$419,370	\$171,075	\$269,498
Percent of press investment to total investment	69%	46%	85%	87%

All four of the models identified had a substantial 12-month increase in revenue. We can conclude that there are *many* ways of achieving business success using digital printing technology, depending on the size of the business and its traditional strengths with the current client base.

- **Level 1: Quick Print Model**

With the lowest amount of revenue from variable data printing (8%), firms in this category also had the lowest

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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.

Support for the Center comes from:

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investment of the four clusters. A majority of firms in the quick-print category also own offset equipment, so the quick print nomenclature may be somewhat misleading. The quick print name refers only to their digital applications.

- **Level 2: Commercial Short-Run Model**

While resembling the quick print model in terms of number of employees and ratio of IT employees to production employees, this group had more revenue from variable data printing jobs (19%), due primarily to the major printing application of versioning (reported by 100% of the respondents in this cluster). Based on the long-term history of the commercial short-run firms, there was likely to be significant infrastructure already in place for finishing, fulfillment, and distribution. This reduced the need for additional infrastructure investments, so that the primary capital equipment investment for this level was associated with the cost of the digital press equipment (87% of the original investment).

There were a number of similarities between the Internet On-Demand (IOD, Level 3) respondents and the Full Service/Fully Customized (FS/FC, Level 4) firms. Both had a large proportion of IT employees; both had a large proportion of revenues coming from variable data printing; and both had a high percent growth in revenues. However, they differed in their approaches to providing personalized communications.

- **Level 3: Internet On-Demand Model**

The IOD model uses a “push” strategy, which means that a higher percentage of jobs are designed to seek customers. For example, a web-based template allows the local sales channel partner to leverage its knowledge about market characteristics. The end user can add localized information (data) to an existing web-based template to create customized marketing materials in small runs and on-demand. The technology ensures that brand integrity and corporate messaging are not compromised.

- **Level 4: Full Service/Fully Customized Model**

The FS/FC printer has built a software infrastructure that is based on a “pull” model that is initiated with the customer’s inquiry to the web site or call center. Using variable text, pictures, graphics, and barcodes, a dynamic document is created in which the entire layout varies with the preferences captured from previous interaction(s) with the customer. Software rules customize the content. For example, if the recipient is female and over 30 years of age, insert paragraph 1 and graphic 3; if the recipient is male and less than 45 years of age, insert paragraph 12 and image 5. The result is a document designed for the individual recipient. These FS/FC printers have invested in a high-speed digital color print technology as well as the infrastructure to provide electronic distribution.

Both IOD and FS/FC printers can perform digital document supply chain management. The service provider creates value by helping corporate clients increase the efficiency of their supply

chain and deliver printed materials more cost-effectively, thereby reducing inventory and loss to obsolescence.

Only 8% of the digital printers in our study reported that transaction printing was a major part of their digital printing applications, and another 38% said it was a minor part. Perhaps because much transaction printing occurs in-house, our sample of independent print services providers did not include more transaction printers.

As more printers see a way for digital printing to fit into their existing businesses, we anticipate that the demand for digital printing equipment and supplies will continue to increase in the next few years.

### **2004 Research Monographs:**

To read about this research in detail, download the monograph from: <http://print.rit.edu/pubs/picrm200406.pdf>

Other research publications of the Center are available at:  
[http://print.rit.edu/research/index\\_byyr.html](http://print.rit.edu/research/index_byyr.html)

### **Next Month:**

We will examine the state of fulfillment, finishing, and distribution in the industry.

