


RIT Printing Industry Center  
An Allied Health Foundation Center

## New Skills – Is the Printing Industry Prepared?

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New Skills—Is the Printing Industry Prepared? 7/5/2007 2




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New Skills—Is the Printing Industry Prepared? 7/5/2007 4



"A group of important people, including the Institute's President, Mark Ellingson, Director of the School of Printing, Byron Culver, Faculty member Ernest Hafner and an official from the American Typefounders Co. Louis Del Vecchio. They are admiring the output of a printing machine."

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New Skills—Is the Printing Industry Prepared? 7/5/2007 5

## Graphic Communications Industry

- Third largest manufacturing Industry in the US
- Variety of challenging occupations which demand expertise or understanding of art/design, color, computers, electronics, engineering, language, management/business, mathematics, mechanics, manufacturing, photography, science, or other professional and technical background. (Lee Weir, Graphic Communications Professor)

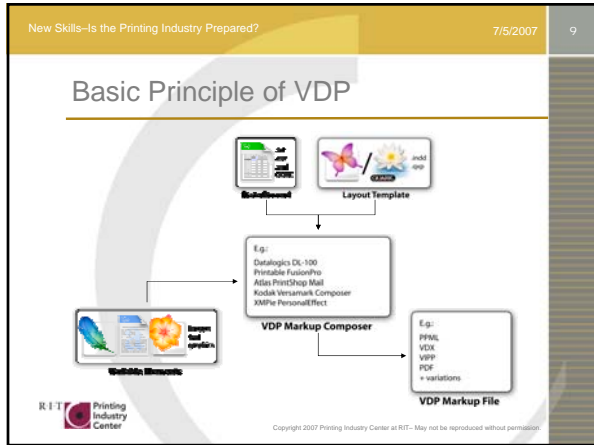
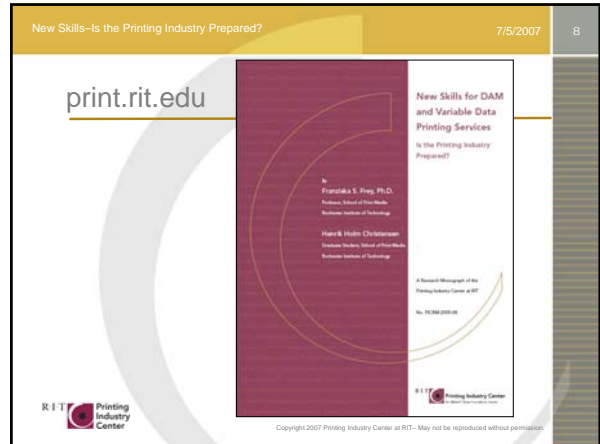
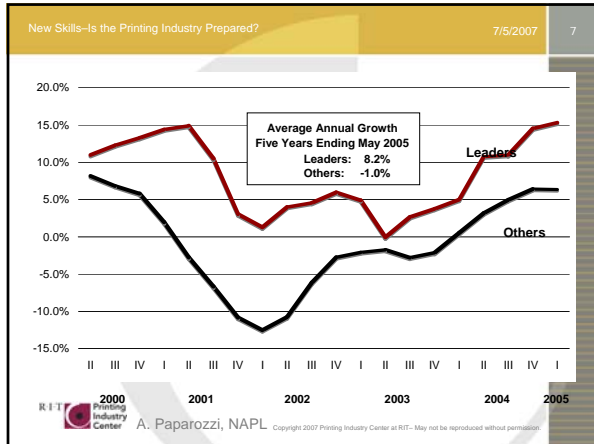
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## Labor Force Being Redefined

IT Cold Fusion Web Programmers	Digital Services Manager
Digital Content Managers	Internal Technology Specialist
Fulfillment Specialists	Technology Business Development Mgr.
Mailing Specialist	Technical Specialist Systems Manager
Web Programmers	Digital Workflow Specialist
Client Development Manager	Information Systems Manager
Database Management Specialists	Systems Network Administrator
Marketing Director	Systems Engineer
Help Desk Administrator	Systems Developer

A. Paparozzi, NAPL  
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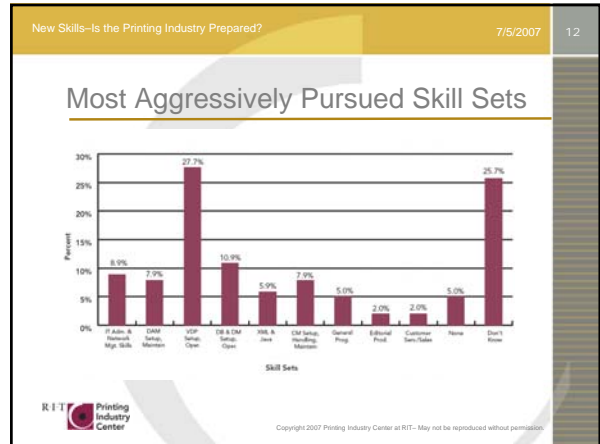
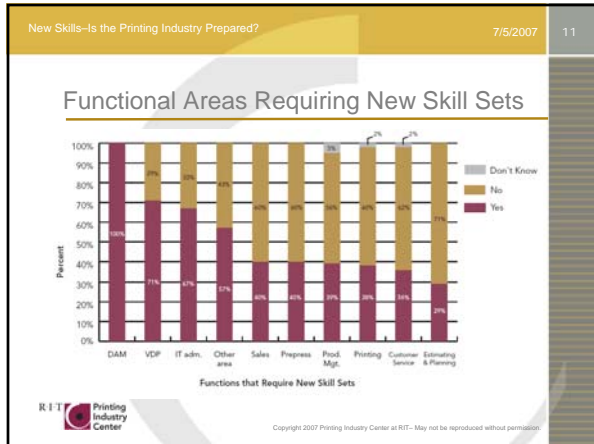


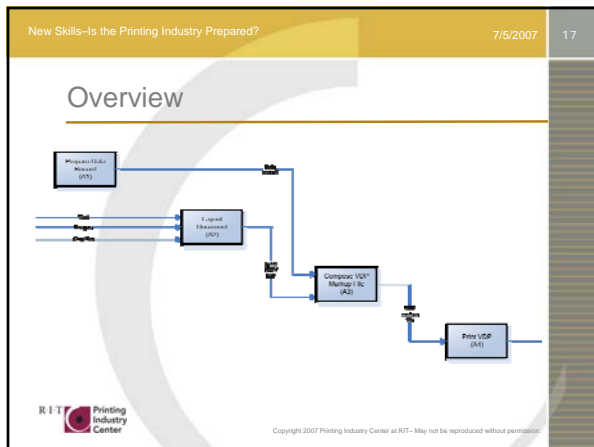
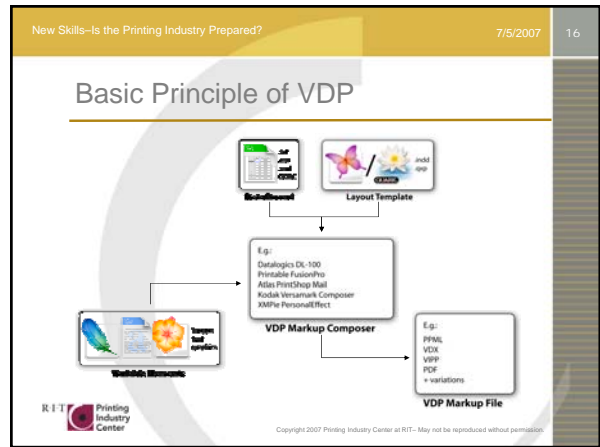
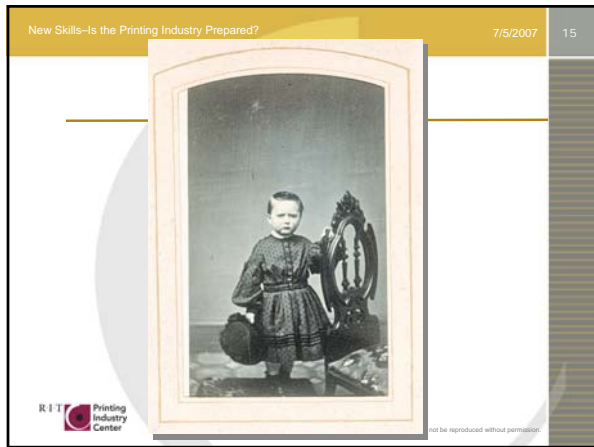
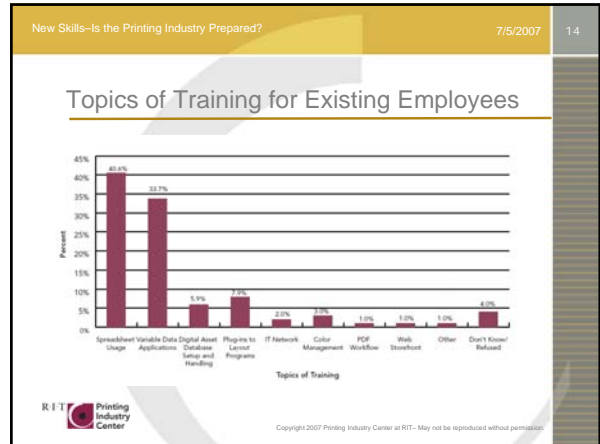
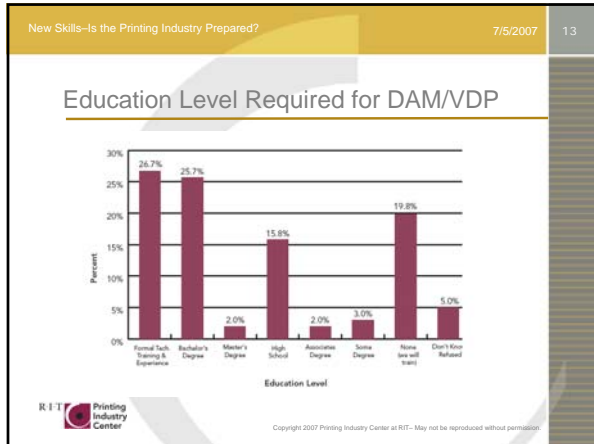
New Skills—Is the Printing Industry Prepared? 7/5/2007 10

### What is Digital Asset Management?

- DAM is a term for the various ways companies manage their digital data; involves the organization, storage and retrieval of all digital files a customer uses for its business, including images, text, and formatted pages.

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- New Skills—Is the Printing Industry Prepared? 7/5/2007 18
- ### Data Record Preparation
- Processes in this stage:
    - Access data storage
      - Connection with database
    - Retrieve and export data records
    - Define business logic
    - Clean and format data
    - Export the data record
  - May deviate slightly if data is retrieved on-the-fly while printing
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## Data Record Preparation

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## Data Record Preparation

Workflow components in this stage:

- Database Management System(s) (DBMS)
- SQL query editor or a system SQL command line
- Business logic - VDP conceptualization
- Data logic: Scripting languages, e.g., JavaScript, VBScript, Perl, C-shell, etc.
- Computer operating system

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## Compose VDP Markup File

Processes in this stage:

- Define the data source
- Define the variable objects
- Build data logic
- Preview & adjust variable layout
- Compose VDP markup file

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## VDP Levels of Sophistication

- Versioning
- Mail merge
- Personalized printing
- Transaction printing
- Internet on-demand
- Fully customized communications

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## Internet On-Demand

Description:

- Internet is used to distribute templates of a document for another author to add personalized content; e.g., name of a local dealer in corporate template.

Typical characteristic:

- Workflow requiring complex system integration.

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## Fully Customized Communications

Description:

- Sophisticated publishing technique where all elements on each printed piece are dynamic or variable. Unique content for each recipient.

Typical characteristic:

- Detailed CRM database deployed. DAM systems is often applied for structured storage of content elements.
- Workflow requiring complex system integration.

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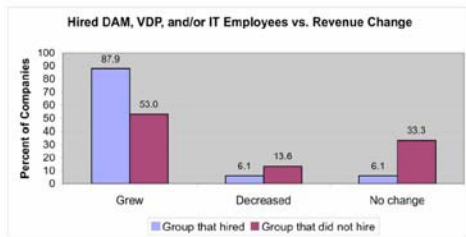
## A VDP Press Sheet...



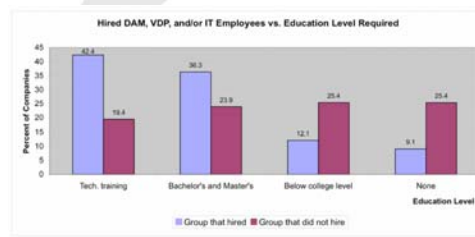
## Skill Sets Needed for Various Levels of VDP Production

Level	Description	Characteristics	VDP skills
<b>Internet on-demand</b>	The Internet is used to distribute templates of a document so that another author can add personalized content. This might include the name of the local dealer, to be placed in a document template that is managed by a corporate manufacturer.	Workflow requiring complex system integration.	Extensive VDP layout and software skills necessary. Extensive Java or C++ programming skills needed for systems integration. Some DBMS, SQL query, and scripting language skills necessary.
<b>Fully customized communications</b>	A sophisticated publishing technique where all elements on each printed piece, from brochures to newsletters, are dynamic or variable. This enables organizations to create unique content for each person.	Detailed CRM database used for recipient information. DAM system is often applied for structured storage of content elements. Workflow requiring complex system integration.	Extensive VDP layout and software skills necessary. Extensive DBMS, SQL query, and scripting language skills necessary. Extensive Java or C++ programming skills needed for systems integration.

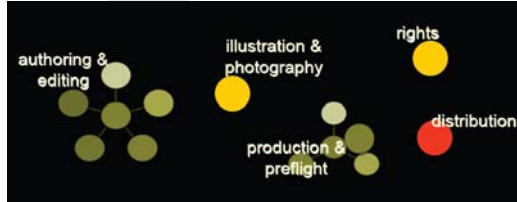
## Hired vs. Revenue Change



## Hired vs. Education Level Required

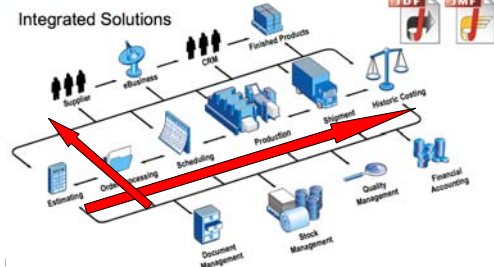



## Islands of Automation



Source: Thad McIlroy, Arcadia House

## JDF Used to Connect Islands of Automation



## Automation

- Full digitization
- Full commitment from everybody
- All the hardware
- All the software
- Standards: full support for the standards that enable automation

## Why Full Automation Now?

- The Graphic Arts have been moving slowly from a craft to an automated industry
- The printing press is now in the loop
- XML offers an automation opportunity for document originators

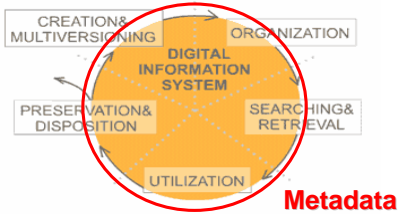
## Cross-Media

- Over 50% of all content must be delivered through multiple channels today
- Over 50% of all content is initially developed for electronic delivery first
- Use of DAM systems is a must

## Two Main Types of Usage for DAM

- Archiving
- Workflow
  - Integrated digital workflows
  - Upstream and downstream processes need to be transparent
- Or any mixture of the two

## Life Cycle of Objects



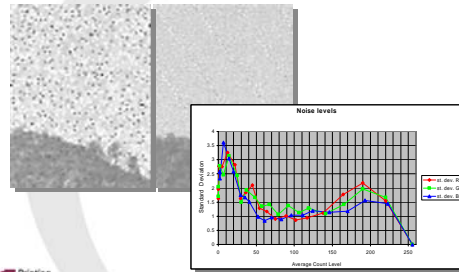
Source: *Introduction to Metadata*, [http://www.getty.edu/research/conducting\\_research/standards/intrometadata/](http://www.getty.edu/research/conducting_research/standards/intrometadata/)

## www.niso.org



Photo courtesy RIT Archives Photography Collection

## Image Performance Assessment—Noise



## Mapping Technical Metadata

	NISO Z39.70	TIFF 6.0 / TIFF EP	DIG 35	EXIF 2.2
Basic Image Parameters	30	16	8	13
Image Creation	38	9	34	19
Image Performance Assessment	36	22	7	16
Change History	7	2	6	1
<b>Total</b>	<b>111</b>	<b>49</b>	<b>55</b>	<b>49</b>

Source: Waibel and Dale, 2004



# MIX



# New Skill Sets

- Achieving a competitive advantage necessitates specific skills to be available in-house
- Underestimating the skills needed will be costly
- Many of these skills will have to be hired in
- How do you find and keep the talent?
- Excellent opportunities!

# Questions?

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