PRINT BUSINESS OUTLOOK CONFERENCE 2017

February 5, 2016
PrintPack 2017
Greater Noida, India
Digital Printing – Today & Tomorrow

By:
Manish Gupta
National Manager – PP & IP Marketing
Konica Minolta Business Solutions India Pvt. Ltd
Global Print Drivers

- Reduction in Run Length/ shorter lead times
- Cost Reduction Pressures
- Full Color, total variable printing
- Versioning and Personalisation
- Web to Print System
- Technology Development & Adoption
Drivers to the Adoption of Digital Printing

<table>
<thead>
<tr>
<th>Factors</th>
<th>Not at all Imp.</th>
<th>Relevant but not imp.</th>
<th>Fairly imp.</th>
<th>Very imp.</th>
<th>Critical</th>
<th>*Rating Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rising requirement for short runs</td>
<td>1%</td>
<td>3.8%</td>
<td>13.3%</td>
<td>64.8%</td>
<td>17.1%</td>
<td>2.93</td>
</tr>
<tr>
<td>Recent improvements in digital printing technology</td>
<td>1.9%</td>
<td>3.8%</td>
<td>21.9%</td>
<td>54.3%</td>
<td>18.1%</td>
<td>2.83</td>
</tr>
<tr>
<td>Low initial set-up costs for print jobs</td>
<td>1.9%</td>
<td>3.8%</td>
<td>24.0%</td>
<td>50.0%</td>
<td>20.2%</td>
<td>2.83</td>
</tr>
<tr>
<td>Rising requirement for personalisation</td>
<td>1.0%</td>
<td>20.0%</td>
<td>20.0%</td>
<td>41.0%</td>
<td>18.1%</td>
<td>2.55</td>
</tr>
<tr>
<td>Rising requirement for variable data</td>
<td>1.9%</td>
<td>20.0%</td>
<td>19.0%</td>
<td>41.9%</td>
<td>17.1%</td>
<td>2.52</td>
</tr>
<tr>
<td>Environmental issues</td>
<td>11.4%</td>
<td>34.3%</td>
<td>30.5%</td>
<td>17.1%</td>
<td>6.7%</td>
<td>1.73</td>
</tr>
</tbody>
</table>

Note: *averaged response whereby 0=not at all important; 1=relevant but not important; 2=fairly important; 3=very important; and 4=critical

Source: Smithers Pira survey result
Global Digital Print Volumes

Source: Smithers Pira
Global Digital Print Market Split 2009-2019 (billion A4)

Source: Smithers Pira
# Print Process

## TABLE 2.1 (continued) Global print market by print process employed 2010–20, ($ billion, constant values and A4 billion prints)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheetfed litho</td>
<td>7,007,243</td>
<td>7,261,122</td>
<td>7,376,027</td>
<td>1.0</td>
<td>7,511,990</td>
<td>7,990,741</td>
<td>1.6</td>
</tr>
<tr>
<td>Heatset web litho</td>
<td>9,445,920</td>
<td>9,298,325</td>
<td>9,427,200</td>
<td>0.0</td>
<td>9,598,823</td>
<td>10,194,825</td>
<td>1.6</td>
</tr>
<tr>
<td>Coldset web litho</td>
<td>21,840,015</td>
<td>20,250,453</td>
<td>20,000,446</td>
<td>-1.7</td>
<td>19,719,266</td>
<td>18,805,444</td>
<td>-1.2</td>
</tr>
<tr>
<td>Gravure</td>
<td>3,652,321</td>
<td>3,926,270</td>
<td>4,010,802</td>
<td>1.9</td>
<td>4,149,912</td>
<td>4,847,131</td>
<td>3.9</td>
</tr>
<tr>
<td>Flexography</td>
<td>4,816,384</td>
<td>5,152,942</td>
<td>5,278,210</td>
<td>1.8</td>
<td>5,418,885</td>
<td>6,030,548</td>
<td>2.7</td>
</tr>
<tr>
<td>Other analogue</td>
<td>2,990,954</td>
<td>2,997,806</td>
<td>2,987,898</td>
<td>0.0</td>
<td>2,977,646</td>
<td>2,917,083</td>
<td>-0.5</td>
</tr>
<tr>
<td>All analogue</td>
<td>49,752,838</td>
<td>48,886,918</td>
<td>49,080,582</td>
<td>-0.3</td>
<td>49,376,522</td>
<td>50,785,772</td>
<td>0.7</td>
</tr>
<tr>
<td>Electrophotography</td>
<td>718,106</td>
<td>794,876</td>
<td>814,281</td>
<td>2.5</td>
<td>845,782</td>
<td>966,425</td>
<td>3.5</td>
</tr>
<tr>
<td>Inkjet</td>
<td>232,772</td>
<td>383,006</td>
<td>440,463</td>
<td>13.6</td>
<td>501,921</td>
<td>827,584</td>
<td>13.4</td>
</tr>
<tr>
<td>All digital</td>
<td>950,878</td>
<td>1,177,882</td>
<td>1,254,744</td>
<td>5.7</td>
<td>1,347,704</td>
<td>1,794,009</td>
<td>7.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>50,703,716</td>
<td>50,064,800</td>
<td>50,335,326</td>
<td>-0.1</td>
<td>50,724,225</td>
<td>52,579,781</td>
<td>0.9</td>
</tr>
</tbody>
</table>

**Key drivers in adoption:** Reliability & Productivity

*Source: Smithers Pira*
Print Process

Source: Smithers Pira
Global digital production color volumes totaled more than 450 billion impressions in 2015.

InfoTrends expects them to approach 900 billion by 2020.
- Production color inkjet accounted for 45% of the total production digital color volume in 2015 and will account for 60% in 2020.
- This occurs despite the fact that digital color toner is also growing at a 7.6% rate.

Source: Global Production Printina & Coovina Market Forecast: 2015-2020, InfoTrends
Geographic Regions

Source: Pira International
Digital Volumes

Digital Printing Output of India (A4 million)

- 2009: 17,971
- 2014: 35,805
- 2019: 64,629
- 2024: 88,050

Electrophotography Printing Output of India (A4 million)

- 2009: 13,606
- 2014: 27,232
- 2019: 45,686
- 2024: 54,067

Source: Smithers Pira
Digital Production Equipment Growth - India

Source: IDC
Sources of digital printing volumes, 2008–2018 (%)

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2013</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offset Transfer</td>
<td>72</td>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td>Variable Data</td>
<td>10</td>
<td>18</td>
<td>29</td>
</tr>
<tr>
<td>Transactional</td>
<td>5</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>Web Generated</td>
<td>3</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Other Processes</td>
<td>8</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>New Products</td>
<td>2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Digital will continue to complement offset due to:

- Shorter runs
- Tighter schedules
- Hybrid printing

Distribute and print.

Source: Pira International Ltd
## Where will the Print be Produced in %

<table>
<thead>
<tr>
<th>Segment</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copy shops/ Quick Printers</td>
<td>20</td>
</tr>
<tr>
<td>Commercial printers</td>
<td>30</td>
</tr>
<tr>
<td>Sign / Photo shops</td>
<td>10</td>
</tr>
<tr>
<td>Photo labs</td>
<td>2</td>
</tr>
<tr>
<td>Newspapers</td>
<td>7</td>
</tr>
<tr>
<td>Mailers</td>
<td>1</td>
</tr>
<tr>
<td>Pre-media services</td>
<td>4</td>
</tr>
<tr>
<td>Packaging printers</td>
<td>9</td>
</tr>
<tr>
<td>Specialty printers</td>
<td>5</td>
</tr>
<tr>
<td>Industrial printers</td>
<td>5</td>
</tr>
<tr>
<td>In-plant and transaction printers</td>
<td>9</td>
</tr>
<tr>
<td>Home printers</td>
<td>1</td>
</tr>
</tbody>
</table>

**Source:** Pira International Ltd

Adoption is the key!
Some Factors improving Readership

- Scented inks
- Computer-controlled spot gluing
- UV- and EB-curable inks
- Specialty stocks
- Special effect coatings
- UV-curable gloss & dull coatings
- Spectral databases
- Tactile & dimensional finishes
- Metallic process color system
- In-line stitching
- Embossing
- Fluorescent & iridescent inks
- Die cutting
- Foil stamping
- “Hi-fi” color
- Rigid plastics

Bar chart indicating the benefits of these factors.
Digital Spot UV + Embossed Foil
Print Still More Relevant -
The Effect of Mere Touch on Perceived Ownership

• Peck and Shu, 2009

• Basic Findings
  • For humans, touch can connect you to an object in a very personal way
    • Illinois tried to ban touching products during shopping
  • The experience of touching an object can influence persuasion, even if the touch element provides no information regarding the product.
  • The valuation and affective reaction of an object increases when the touch provides sensory feedback
  • Touch statistically increases PERCEIVED OWNERSHIP
    • The higher perceived ownership, the more likely you are to buy
New Upcoming Technology

RFID = Antenna + Chip
New Upcoming Technology

Applications

- Warehousing
- Packaging Direct / Labels
- Manufacturing – Printing Circuits
- Education
- Security Applications
  - ID Cards
  - University Degrees
  - Certificates
Internet usage impacting digital volumes

**FREQUENCY OF INTERNET ACCESS IN URBAN INDIA**
- Daily User: 27%
- Several times a day: 16%
- About Once a day: 14%
- All 7 days: 11%
- 4-6 times/week: 2%
- 2-3 times/week: 2%
- Once a week: 1%
- 2-3 times a month: 1%
- Less than once a month: 1%

**INTERNET GROWTH IN INDIA**
- Total
- Rural
- Urban

**MOBILE INTERNET USERS**
- All Figures in millions
- Rural
- Urban

Source: "Internet in India 2016" by the Internet and Mobile Association of India (IAMAI) and IMRB International
Design: Goku.K
Leverage Document & Internet

Purpose of **Document**
- to provide information
- to give instructions
- to persuade the reader
- and to enact (or prohibit) something.

The main purpose of the **Internet** is offering effective information sharing and **Communication** globally using computers.

- Automate
- Authenticate
- Accurate
Business Success Factors

- One Stop Services = Print Portfolio
- Direct Communication with End User = W2P
- Total Cost Saving = Automation and Training

Marketing & Web to Print

- Total Digital Workflow

Automation & Training

- Customer (BtoB, BtoC)
- Data Base

Print Portfolio

- Internet (PURL)
- Designing

- Short Run
- Mass Production

- Personalized Catalogue for shop
- Poster - leaflet
- Shop POP, Ticket
- Regional & personal DM
- Campaign poster
- Product presentation

High Speed Ink-Jet
- Production Printer Wide
- Format WEB
e-Mail

Volume Shifting
End User doesn’t require “Printing Service”
Just desire “Marketing Products and its Support”
Managing PrintShop >> Managing Business
Thank you

Let's Grow Together