

**PRINTING UNITED**  
ALLIANCE PRESENTS:

**digital**  
PACKAGING **SUMMIT**

NOVEMBER 7-9, 2022  
PONTE VEDRA BEACH, FLORIDA

[digitalpackagingsummit.com](https://digitalpackagingsummit.com)



BROUGHT TO YOU BY

**Packaging**  
Impressions



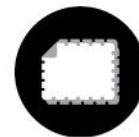
LABELS



FLEXIBLE PACKAGING



FOLDING CARTON



CORRUGATED



# Corrugated Packaging



**Jeff Wettersten**

VP Packaging

**Keypoint Intelligence**

**317-710-6744**

**[jeff.Wettersten@keypointintelligence.com](mailto:jeff.Wettersten@keypointintelligence.com)**

# A Diverse Audience

Digital Summit Participant Responses-2022	Core Converters	Specialty Operations
Number of Firms Attending	8	6
Revenue Range-Corrugated	\$7.5MM-\$14B	\$1MM-\$30MM
Annual Capital Range-Print	\$500K-\$40MM	\$200K-\$10MM
Digital Value		
Generate New Business	6	1
Better ability to handle shorter runs	5	1
Ease staffing requirements	3	2
Increased flexibility	4	1
Increased profitability	5	4
Provide faster response times ( speed to market)	5	4
Anticipate needs of existing customers	3	1
Improve equipment utilization		

The Challenge-  
 “speaking out of  
 both sides of my  
 mouth without  
 confusing the  
 audience”

# A View From The Hill

# Separating Fads from Mega Trends in Packaging

Some speak of disruption as new. Disruption is ever present in packaging.

Era- approximate time periods	Consumer	Packaging product/innovation	Corporate/value chain structure
2000-09 Substrate shifts/changes	<ul style="list-style-type: none"><li>• Consumer demographic shifts change packaging needs, substrates and formats (e.g., . snacking culture, convenience, smaller pack sizes)</li><li>• Strong growth of new consumers, mainly in Asia, drives new demand and organized retailing.</li></ul>	<ul style="list-style-type: none"><li>• Shifts from rigid packaging (e.g., glass, metal) format to flexibles and rigid plastics in multiple categories.</li><li>• Focus on lower cost (lighter weight, material reduction)</li><li>• Smaller packages</li></ul>	<ul style="list-style-type: none"><li>• Restructuring (e.g. .divesting upstream and printing-paper businesses)</li><li>• Creation of global corporations and development of new growth markets (China, India)</li></ul>
2010-20 Changing face of the consumer	<ul style="list-style-type: none"><li>• Emergence of new consumes- China becomes the largest market for packaging</li><li>• Covid 19 raises the visibility on the importance of packaging and the limitations of the supply chain</li><li>• Health and wellness trend (e.g.,. fresh “good for me”)</li></ul>	<ul style="list-style-type: none"><li>• Convenience/high- functionality packaging and new-formula shift categories (e.g.. retort pouches in baby foods)</li><li>• Some categories shift to more aluminum (from plastics)</li><li>• High SKU proliferation drives packaging development</li><li>• Sustainability innovation pilots, but limited commercialization</li></ul>	<ul style="list-style-type: none"><li>• Consolidation, globalization and socialization</li><li>• Strong private equity activity</li><li>• Bold sustainability commitments across value chain</li></ul>

Source: McKinsey, Keypoint Intelligence

# Separating Fads from Mega Trends in Packaging

Some speak of disruption as new. Disruption is ever present in packaging.

Era- approximate time periods	Consumer	Packaging product/innovation	Corporate/value chain structure
2020- Sustainability and digital transformation	<ul style="list-style-type: none"><li>• Consumer (aided by social media truly shape how brand owners approach markets-a push for sustainable targets and real action.</li><li>• E-commerce shopping persists globally and accelerates in food</li></ul>	<ul style="list-style-type: none"><li>• Strong focus on commercializing sustainable packaging</li><li>• Packaging adapted to e-commerce (ship-ready)</li><li>• Scaling of new models and technologies (reuse/refill, direct to shape print, digital printing, integrated technology)</li><li>• Adoption of new materials as cost curves fall</li></ul>	<ul style="list-style-type: none"><li>• Focus on growth drivers (e.g. divesting or spinning off noncore businesses)</li><li>• Digital acceleration and value chain disintermediation (convert on site)</li></ul>

Source: McKinsey, Keypoint Intelligence

# Disruption Shaping the Paper and Forest Products Industry

Global Moves 2000-10	Forced Restructuring 2010-20	Transformational change 2020-30
<ul style="list-style-type: none"><li>• Geographic shifts in pulp and paper production<ul style="list-style-type: none"><li>• East for paper and packaging (China)</li><li>• South for pulp (Latin America)</li><li>• Subsequent growth among Chinese, other Asian, and South American market participants.</li><li>• Megamergers in Europe and North America in a bid to create global corporations</li></ul></li></ul>	<ul style="list-style-type: none"><li>• Demise of graphic paper</li><li>• Closures and conversions</li><li>• Focusing on core businesses</li><li>• China's influence on world markets (e.g. recovered paper, pulp)</li><li>• Innovation agenda (but little commercialization)</li></ul>	<ul style="list-style-type: none"><li>• Extraordinary disruption amid sustainability, e-commerce, and COVID 19 pandemic</li><li>• New products coming of age (commercialization stage)</li><li>• Sustainability in construction</li><li>• Climate change and biodiversity affecting forest usage and regulation</li><li>• Climate risk in operations and sourcing</li><li>• IoT acceleration</li></ul>

Source: McKinsey, Keypoint Intelligence

Through it all... the expectations of you as a converter from

**Delivery of high volume at low cost**

to

**Delivery of any and all volume at low cost**



# Key Takeaways

- It will be important for innovative products to be not only **more sustainable but also less expensive**, so packaging converters will probably have to consider incorporating new materials.
- Sustainability pressures will also create challenges for substrate players that rely on materials being phased out. As their products and assets become obsolete, their **leaders will have to make an early strategic choice: either to be the lowest-cost, most efficient “last player in the game” or to dramatically reposition the portfolio. Waiting and riding out this transformational change is not an option.**
- *Productivity optimization.* Winning in this industry—as in many industries—has always been about productivity and cost differentiation. In the past, success on the cost curve meant coupling the most modern and sizable machine with the right fiber source. Going forward, digital and analytics can provide the next step change: for example, by applying already-proven digital and analytics applications, companies **can improve productivity and throughput by 10 to 15 percent**—representing significant gains on traditional cost-curve differences between many players or individual machines and mills. This opportunity can be further extended by using digital and analytics to optimize the end-to-end value chain—from fiber (forest or recycled) to end product—in order to harness the full value of the data along the supply chain.

Source: Keypoint Intelligence



# To Do's

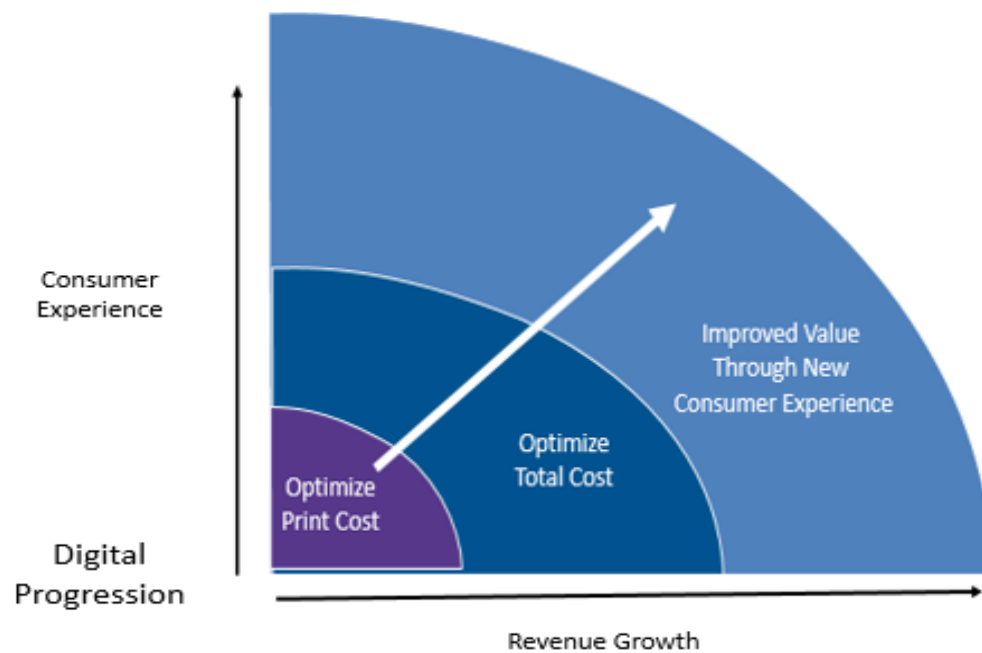
1. Sustainability: Invest where it matters to consumers and regulators.
2. Growth: Win by identifying granular pockets of opportunity.
3. Procurement and the supply chain: Use strategic category management to get ahead of inflation and supply headwinds.
4. Pricing excellence: Recapture inflation and use it to capture margins.
5. Talent: Attract, retain, and retrain employees, and get the return to work right.
6. Digital and e-commerce: Embrace digitization (including the use of automation) in the front, back, and middle of processes.

# Connecting to Digital Printing

# Capital Equipment Evaluation

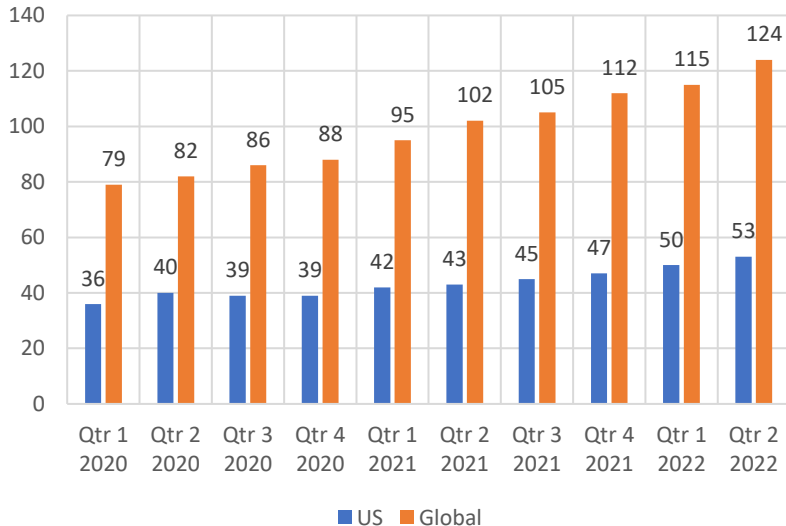
- Under the assumption that at least some of the prior section comes true- do you want to be a leader in print quality or process capability?
- Key drivers in process capability
  - Material range- what is your suppliers development activity with material suppliers
  - Ink/primer/varnish- what si their development activity?
  - Software- for the press, for operations, integration with the ERP.
  - Solution integration- industry 4.0
- Are you debating image quality and cost cross overs or focused on finding the right supplier for the future?

# Digital Progression



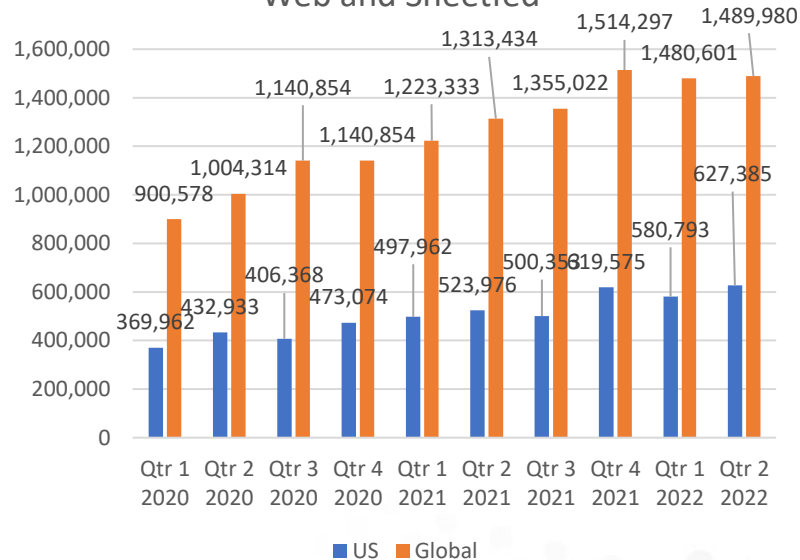
# Print Quality and Cost Crossovers-Underperforming vs. Expectations

## Single Pass-Installed Base Web and Sheetfed



Quarter to Quarter CAGR-US: 3.94%, Global:4.61%

## Single Pass- Output (MSF) Web and Sheetfed



Quarter to Quarter CAGR-US: 5.42%, Global:5.16%

This data does not include Hanglory installs and output-their information will be added starting 4<sup>th</sup> quarter.



# The View from an Early Adopter-FEFCO Presentation



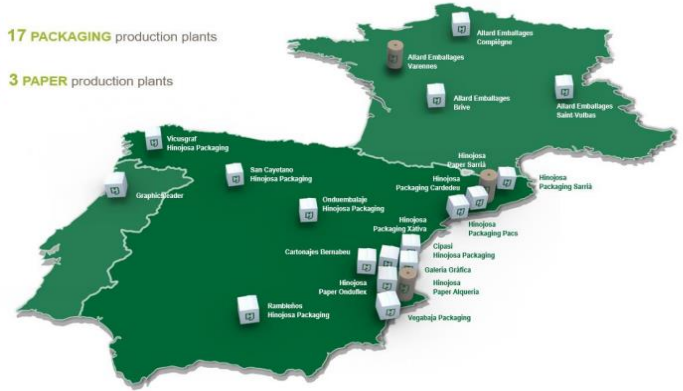
## Key Facts

About us

- 2.300 employees
- Turnover 2021 : 550 million €
- > 8.000 customers
- wide range of paper-based packaging
- Innovation is a main driver
- Our business model is the **Circular Economy**
- 5 single pass digital printers in operation, the first one since 8 years

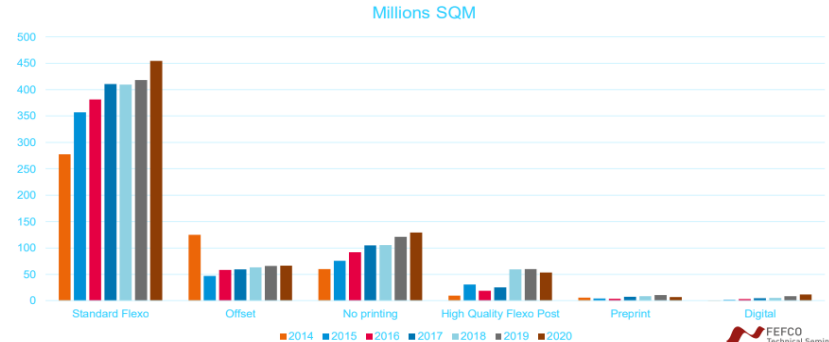


- 17 PACKAGING production plants
- 3 PAPER production plants



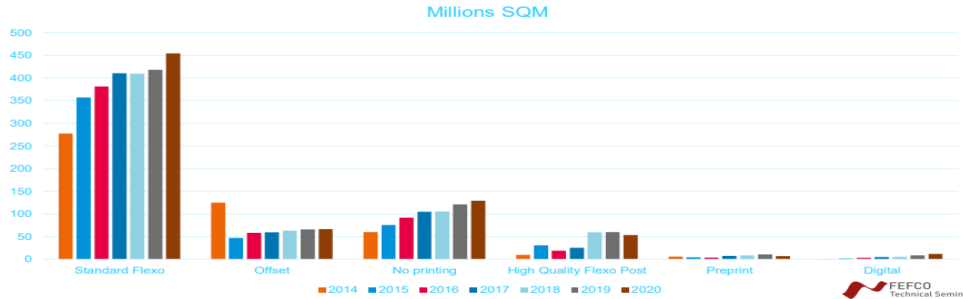
[www.grupohinojosa.com](http://www.grupohinojosa.com) | | | Member of BLUE BOX PARTNERS FEFCO Technical Seminar

## Our figures extracted from 7 converting plants.....



# Is Hinojosa an Isolated Case?

Our figures extracted from 7 converting plants.....



Unfortunately, no. Their experience is typical of many installations. Are there recommendations valid- yes if you fail to plan and/or pivot.

## If you want to go for single pass digital printing :

- Converting current business to digital don't make sense => create new business with higher margin.
- Your digital printer will not hold as much as your analogic printer => get better contribution margin.
- Be sure that your board warp is under control.
- Look for easiest digital single pass post print business first :
  - Big lots of the same box with various SKU
  - High quality double wall
  - Long size board
  - Producer using digital production process, they love digital printing...
- Train the sales team to understand how to quote digital printing and the impact of ink cost.
- Train the sales team to explain the benefit of photographic images vs spot colours.
- Train the technical team, production and prepress.
- Train the sales team to push customer initiative to change the printed image to support actively his marketing and sales process.
- Define clear rules for you planning department : Digital process is not suppose to be a joker to solve planning issue on the analogic process.
- After trying to train all the sales team you may reach the conclusion that only part of your team is able to sell digital printing bringing value to your customer and keeping part of it.

# Is Hinojosa an Isolated Case?

Our figures extracted from 7 converting plants.....



If you want

- Converting current
- Your digital printer
- Be sure that your b
- Look for easiest dig
  - Big lots of the sam
  - High quality doble
  - Long size board
  - Producer using dig
- Train the sales team
- Train the sales team
- Train the technical
- Train the sales team sales process.
- Define clear rules for you planning department : Digital process is not suppose to be a joker to solve planning issue on the analogic process.
- After trying to train all the sales team you may reach the conclusion that only part of your team is able to sell digital printing bringing value to your customer and keeping part of it.

If I were called in as the consultant I would ask for the plan detailing how these value were going to be achieved- operationally as well as with the customer.  
80% of converters will not have a plan.

## Digital Value

- Generate New Business
- Better ability to handle shorter runs
- Ease staffing requirements
- Increased flexibility
- Increased profitability
- Provide faster response times ( speed to market)
- Anticipate needs of existing customers
- Improve equipment utilization

Unfortunately, no. Their experience is typical of many installations. Are there recommendations valid- yes if you fail to plan and/or pivot.

g :

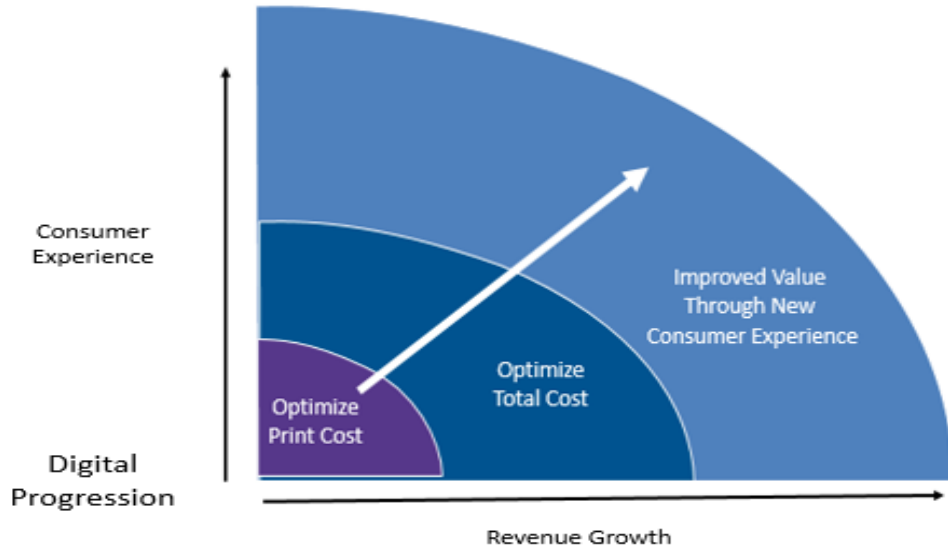
margin.  
n.

by his marketing and



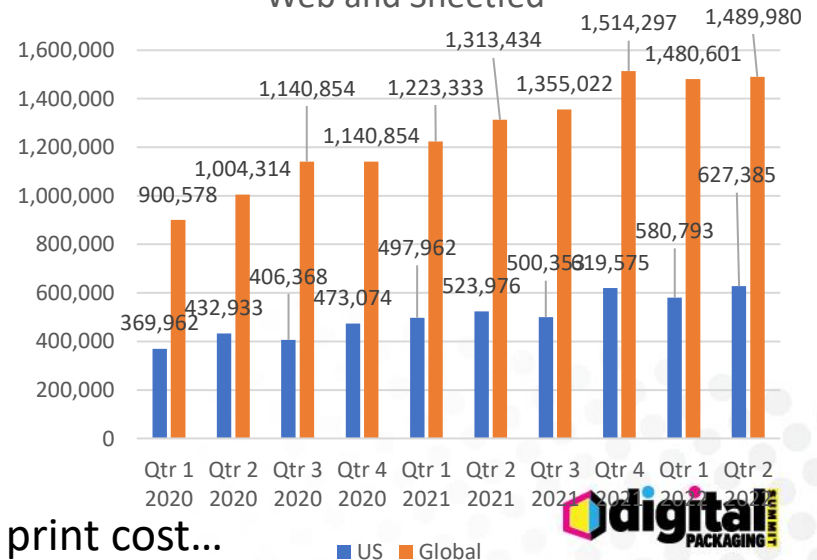
# What would I do?

Focus on the process, not the product. Changing the buyer view on where used, how used is years in the making.



## Digital

Single Pass- Output (MSF)  
Web and Sheetfed



For most converters, what comes after optimizing print cost...  
what is the plan?



# How Would I do It?

- Make digital printing meaningful to the business-who gets excited about 1% unless you are talking income or net worth?
- Develop competitive differentiation
- Make it simple to execute

	M2	Sq. Ft.	To Digital	Volume Moving	Productivity	Added Value
Plain	130,000,000	1,393,600,000	69,680,000	5%		x
Standard Flexo	455,000,000	4,877,600,000	243,880,000	5%	x	
Offset	65,000,000	696,800,000	248,757,600	36%		x
High Quality Flexo	50,000,000	536,000,000	107,200,000	20%	x	
PrePrint	5,000,000	53,600,000				
Digital	7,000,000	75,040,000	93,800,000			x
Total	712,000,000	7,632,640,000	763,317,600	10%		

Sales leads added value, operations/finance leads productivity

# How Does 5% of Plain Get Converted to Printed?

Why do customer purchase unprinted boxes?

- Some do not require print.
- Some apply narrow web labels for information
  - Many small to medium sized brands have a limited number of SKU's around physical dimensions, but a high number of SKU's for print.
  - Direct print flexo, or offset is problematic. High mix of print requirements (sku's) translates into low volumes. Converters are not interested. Narrow Web labels default to an easier solution for the brand- especially with digital assets in place at narrow web label converters.
- Why are converters not interested- the perception is low value per msf. How can a converter compete when the label cost 2-5 cents per label.

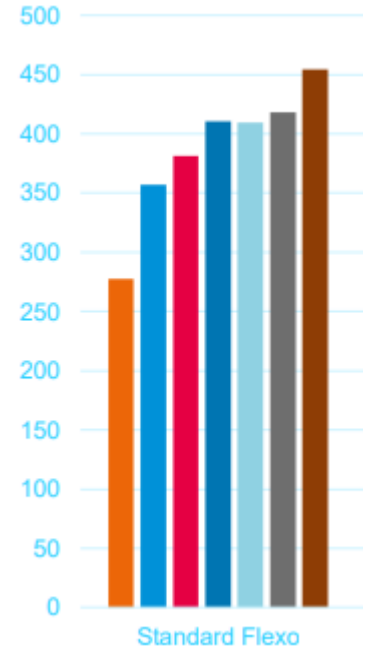
# How Does 5% of Plain Get Converted to Printed?

When you take all factors into consideration, label cost, the cost to apply the label, obsolescence etc. here is what happens to label cost across various volume thresholds. Order volumes are based on a 12 x 12 x 12 carton. The cost to print a digital label is about the same as the cost for digital printing on a sheet. Why pay for the redundant material, labor to apply the label and obsolescence. The customer is seeking a simplified process for providing printed cartons meeting the needs of their customers. Narrow web labels has met the need for print, it's up to the corrugated industry to provide the process/workflow solution. 10% of the corrugated market is unprinted, how much desires to change?

Plain 12 x 12 x 12 8.53 sq. ft./carton	Qty			
Carton Qty	1,000	2,000	5,000	7,500
Job Size (Sq. Ft.)	8,530	17,060	42,650	63,975
# Of Narrow Web Labels Applied/Carton Label Size 4" x 4"	4	4	4	4
Value Add-Print	\$300	\$504	\$1,020	\$1,350
Board Cost	\$725	\$1,402	\$3,444	\$4,894
Ink Cost	\$102	\$205	\$512	\$768

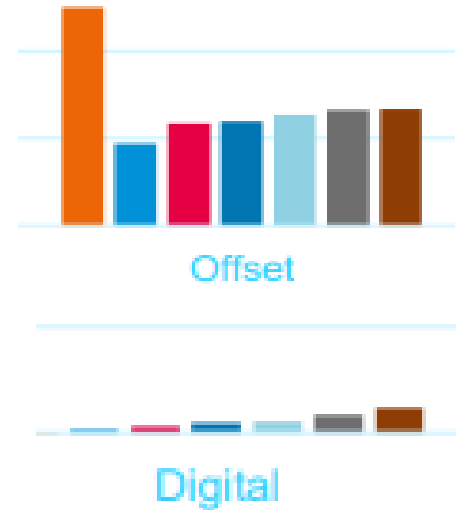
# Move 5% of Standard Flexo to Digital

- What is a 5% increase in productivity worth to your business?
- Change the focus from optimizing print to optimizing output out the back door-eliminate wait time between operations.
  - What are you seeking from customers- the option to print flexo or digital based on production requirements.
- How to gain customer buy-in
  - Once the customer approves- reduced lead times for digital printing-meets on demand needs of the customer
  - No upfront cost on graphics revisions- begins to develop a captive digital supply chain
  - Within the same image the customer can add color at little to no additional cost.
  - Scale capability- flexibility in managing products on the front end (introduction) and the back-end maturity. Product volume is highly variable by SKU-focus digital on the tails and earn the right to ask for more on the mainstream products aligned with your conventional assets.



# Move 36% of Offset to Digital?

- Offset is the favored target for most digital OEM's. Depending on the volume of offset produced, converters typically move 40%-80% of the sourced offset volume to in-house production on the digital press.
- OEM's claim the average cost savings to the converter is 18%.
- The issue- once the offset volume has been moved, where does future growth come from?



# Move 20% of High Quality Flexo to Digital?

- Simplify the process, print quality is an area of differentiation few can actually claim.
- How to gain customer buy-in
  - High Graphics is a market unto itself. While commonality can be found, it's important to recognize the differences.
    - Less sensitivity to geographic boundaries
    - Requires a more consultative approach throughout the supply chain
    - Regulatory and compliance issues are more prevalent
    - Consumers are active advocates or critics via social media
  - Buyers seek suppliers capable of delivering high volume at low cost, but these buyers are at least willing to engage in a value related discussion



# Outlook for the future

Web Presses- moving converter workflow from make to order to batch processing. Drive productivity gains upstream and downstream. The pace of adoption is picking up with integrated and regional players. Participation by large brands targeting adoption in key vertical markets will accelerate participation. Web adoption will drive sheetfed adoption.

Sheetfed- technology options are expanding:

- Extended color gamut- Barberan and Durst
- Presses targeting industrial production requirements- Xeikon, Domino, Hanway
- Hybrid presses- Kento

New entrants will continue to emerge, other evaluating entry.

Rate of installs and output will accelerate in late 2023 as presses placed in mid to late 2022 come on-line.



# Industry Opportunities and Threats

Buyers desiring to purchase digitally printed corrugated packaging will seek out and find suppliers of digitally printed product.

- The installed base provides access and capacity to buyers. The output rates provide performance visibility and capability.
- If incumbent converters cannot find a way or the means to sell, parallel markets will develop. This is clear from the number of specialty printers attending this session.
- One size will not fit all. Various business models will be pursued delivering unique value. Technology options will have to expand to meet the different needs of suppliers.
- The emphasis and focus will move from print to other areas: software, chemistry, board/paper, converting.
- Access to digitally printed sheets offers opportunities for participation in high graphics to a wider audience. Specialty printers and converters seeking to expand participation into high graphics may want to rethink their investment needs- rather than invest in print do you invest in web facing market initiatives or back-end converting requirements. Who is your target customer and what does an end-to-end solution look like?

# Final Thoughts

- Digital Printing is about more than the ability to print. Digital printing must align with converter production and workflow needs.
- External factors from consumers, retailers and brands create industry pain points. Be specific with your customer regarding the pain points you are addressing and how your solution will remedy that pain.
- Become solution centric, not print centric. For new entrants, or those with limited volume in print, what do you intend to sell that will drive your revenue?
  - Some of you may be better off to invest in converting technology rather than print technology.
  - Other may be better off to invest in customer facing technology to reach a mass market.

Start with the end products and work in reverse to identify the available options you have in delivering the end product.

# Preparing for Your Future

What does your plan for success look like? What critical assumptions do you have in your plan requiring validation. How will validation occur.

Many companies make the mistake of getting so wrapped up in the euphoria of the new they fail to ever consider the “unintended consequences” of the actions they may take. Attempting to be all things to all people is almost impossible to achieve, as your organization will struggle with where the business focus needs to be. Where does digital printing fit your overall business? What are your current core competencies, does digital printing build or dilute them? As I stated earlier, we estimate 80-120 converting sites can claim product differentiation based on printing capability. Those 80-120 will continue to communicate and demonstrate print differentiation to their customer base. If you are outside of the 80-120, what is your message and purpose in a digital investment.

The opportunity for participation is large as is the potential revenue for digital printing. Securing this revenue requires a plan. Need help in developing your plan? Feel free to give us a call.