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Productivity in Printing Industry

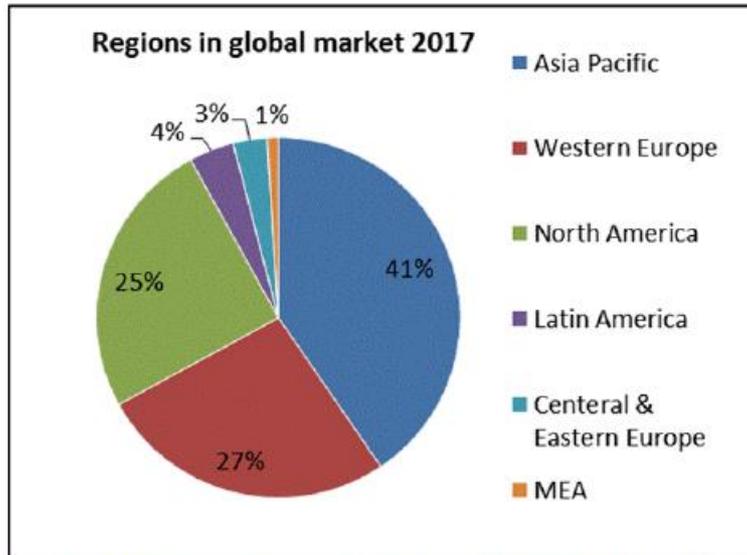
1. Overview of the Printing Industry

As one of the top printing hubs in Asia, Singapore is renowned for reliability, efficiency, and quality printing. The Print & Media Association is Singapore's national representative body for the printing industry. Singapore's status as an intellectual property (IP) and finance hub has played a part in helping the industry thrive. The United States is a primary market for non-electronic, non-oil domestic export products from Singapore. In 2014, printed material to the United States was up 58.1 percent from the previous year. Figure 1 shows Singapore Printing Industry statistics 2013.



Figure 1: Singapore Printing Industry Statistics 2013
Source: <http://www.spring.gov.sg/Developing-Industries/PRT/Pages/statistics-printing.aspx>

It is expected that the global printing industry will reach \$980 billion by 2018. Growth is due to labels and packaging instead of graphic applications, and digital printing. 2015 digital print accounted for 13.9 percent of print and printed packaging (in value terms) and 2.5 percent in volume. It reflects a growth from 2010, when the value was 9.4 percent and volume 1.9 percent. The acceleration of digital transition from offset printing is expected to bring the numbers to 17.4 percent (value) and 3.4 percent of all print/printed package volume by 2020. An analysis of those countries points to growth in the overall size of the global print market from U.S. \$584 billion in 2011 to U.S. \$668 billion in 2017. By 2017 China is projected to rise to the number-one spot in market size at U.S. \$154 billion, bypassing the U.S. print market (currently the largest). Figure 2 shows the global opportunities for the print industry.



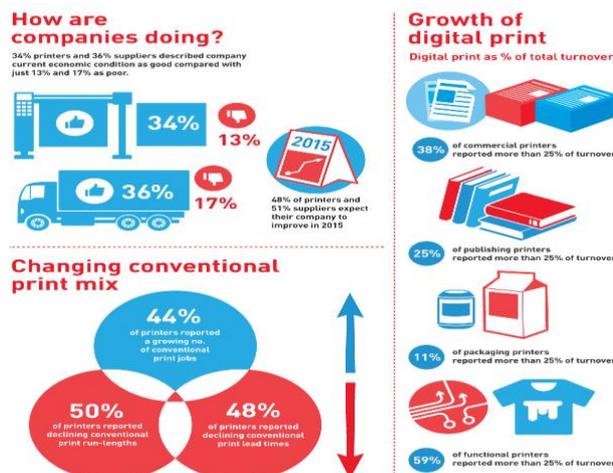
Source: NPES 2013 study "World-wide Market for Print: Identifying Global Opportunities for the Print Industry" by Economist Intelligence Unit.

Figure 2: Global opportunities for the Print Industry
Source: Intertechs Tech Awards

Globally in all markets, conventional (non-digital) print continues the trend of shorter runs. The number of conventional jobs is declining and lead times have stabilised. Sheetfed offset is marginally positive while digital cut sheet colour is very positive. Flexo for packaging continues its growth trend. Hybrid technologies continue to draw the most interest outside of Europe. Most printers report the bulk of cash is being generated through conventional print, although digital print continues to grow rapidly. Printers have been encouraged to diversify with non-print turnover. The response showed there was limited change, if any, as numbers matched the previous year. Globally, 27% reported having an excess of 10% in non-print turnover.

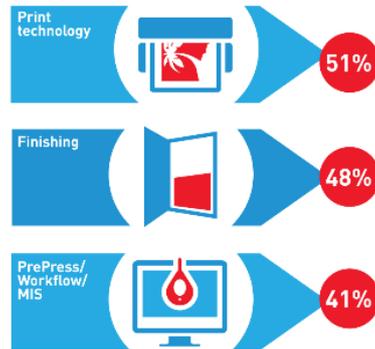
Economics of Printing

A survey of suppliers and printers conducted by Drupa (the print media's largest trade fair in the world) in October 2014 has provided guidance for key economic and market developments in the global printing industry. European printers accounted for 513 responses, while another 297 were returned from other regions of the world. Figure 3 shows the Economics of Print - The New World Order.



Printer investment plans

Top 3 investment drivers



Top 2 print technology investments:



Key performance parameters

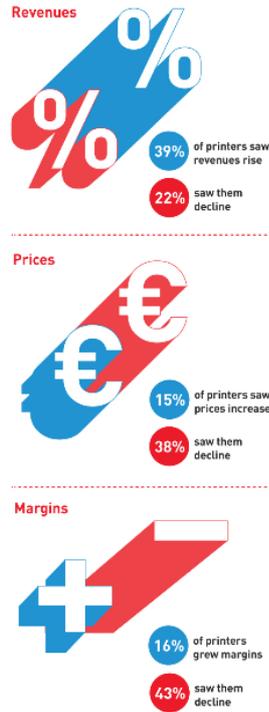


Figure 3: Economics of Print - The New World Order

Source: <http://blog.drupa.com/the-economics-of-print-the-new-world-order/>

2. Challenges of the Printing Industry.

The 2016 overall top trends in the printing industry include:

1. Sustainability
2. Multi-Channel
3. On Demand
4. Personalisation

2.1 Sustainability

Sustainability is a big consideration the print services industry on what it can do to decrease its impact on the planet and its resources. With planning, best manufacturing practices, and advanced printing technology, print service businesses can save money and the planet, and attract business with their forward-thinking plans. The future will bring continued pressure from upstream partners seeking to impose sustainable procurement practices, including reducing, reusing, and recycling of containers and packing, requiring environmental certification compliance, and sustainable distribution practices, such as those that emphasize downsizing and standardising packaging promoting recycling and reuse programs.

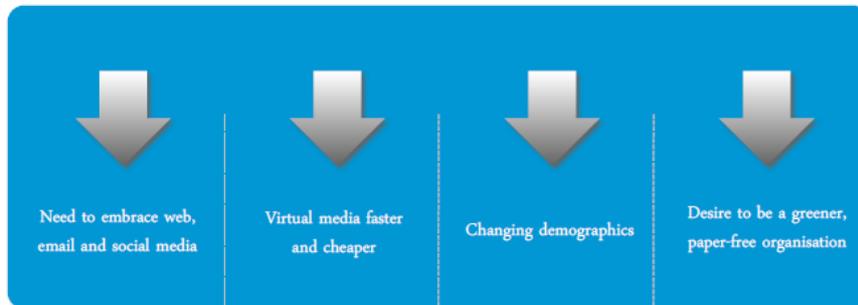


Figure 4: Drivers of anticipated future decline in print
Source: Seeing the bigger picture for digital print by Canon

2.2 Multi-Channel

Omni-channel describes the blurring of boundaries among channels with the rise of the connected consumer—choosing the channel that works best for that purchase at that time.

Figure 5 shows the trend from the use of print to the use of multi-media for marketing. What is the common denominator that is driving media choices? The answer is convenience. E-mail, social media updates, instant messaging, texting—it's all quick, easy, and (usually) cheap.

Printers need to learn the new technologies—particularly the role of data and the emergence of mobile. A key is measuring results. Be proactively involved in testing and assessing the results of marketing programs. Focus on integrating it into the new marketing technologies. Print is tangible. Retailers sell tangible items. Print helps make that connection.

2.3 On Demand

With so many businesses looking to managed print services to handle their print product needs, it is increasingly important that those managed services are ready to print at short notices.

2.4 Personalisation

Personalised print products are useful business tools. When companies personalise their forms and print products with their logos, it improves company loyalty, enhances brand recognition and ties the paperwork to the business.

3. Enablers and Disruptive Technologies

Digital is growing because it can offer advantages that offset print cannot provide. As colour digital presses came to market the initial drivers were for low cost, short runs and quick turnaround. As more companies used the technology, new applications and business models developed for print-on-demand and short-run books. There is increasing demand for photobooks and photo products, where digital print linked to online ordering has enabled a multi-billion dollar market to flourish.

Digital printing will continue to grow in most print sectors across the world. Mono webfed electrophotography is being superseded by full-colour inkjet; but despite this drop, the volume and value of electrophotography will continue to rise as colour applications grow. Innovative users will find more applications and niches to exploit the advantages of digital and, although some may be at the expense of analogue printing, they will also open up totally new opportunities.

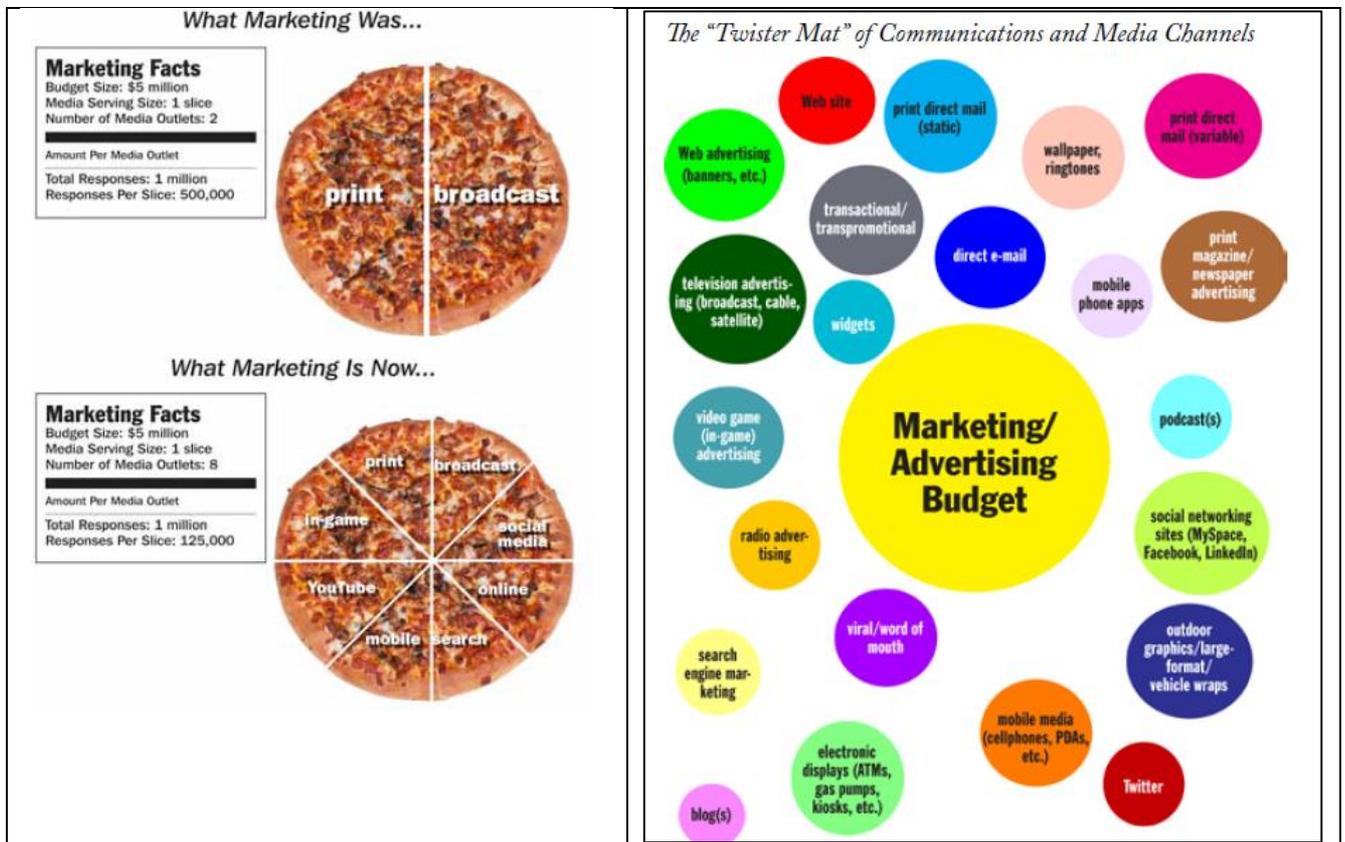


Figure 5: Trend towards using multimedia for marketing.
Source: *Disrupting the Future* by Joseph W. Webb, Ph.D. and Richard M. Romano

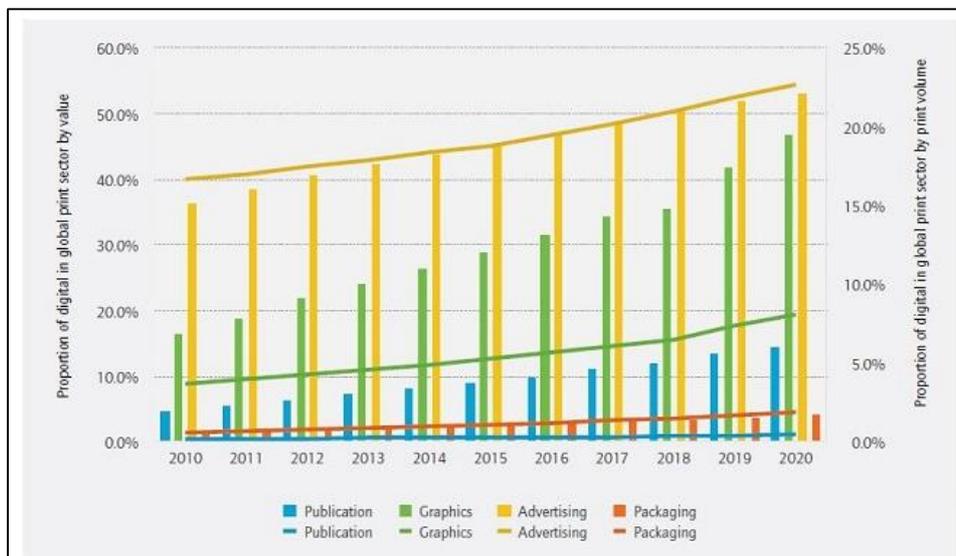


Figure 6: Digital print penetration into the global print market by application 2010–20
Source: www.smitherspira.com

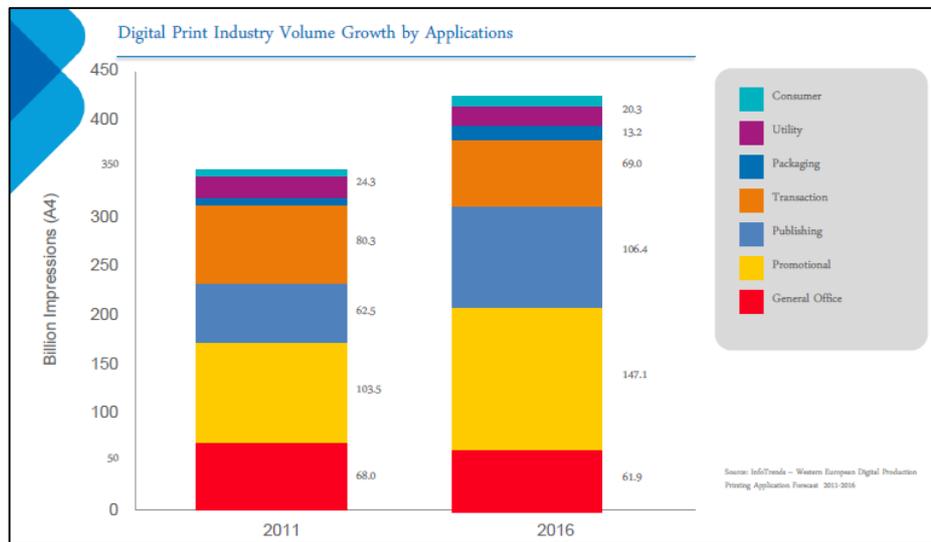


Figure 7: Trends in Digital Print

Source: InfoTrends – Western European Digital Production Printing Application Forecast 2011-2016

3.1 Printing – Digital Transformation

Technology drives the print industry’s innovation. Look for new solutions to problems that go outside the boundaries of paper, presses, and ink. Create new boundaries and perspectives; broaden the horizons of what your business can do.

Industries such as graphic communication, decorative, packaging, and functional printing are being affected by changes in printing technology. Several solutions to digital disruption create future opportunities for the print industry as it:

- Adapts to an “as-a-service economy”.
- Exploits IoT.
- Expands high value print service.

This is exactly the type of interconnectivity we seek. For years printers have been removed from marketing campaign conversations. DirectSmile credentials them in a way that goes beyond the trade and repositions them as valuable partners.

EFI DirectSmile Cross Media (see Figure 8) is a unique, fully featured, all-in-one solution that requires no HTML skills and offers many benefits, including:

- An easy-to-learn toolset with a browser-based Design Editor for all media
- Robust personalization for all media, including print
- Mass email/SMS messaging as well as individually triggered messages with the ability to integrate social media into a campaign

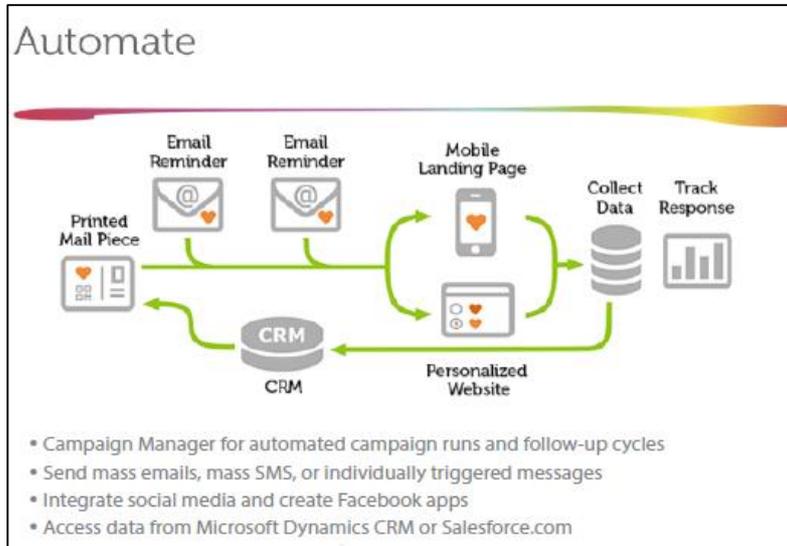


Figure 8: EFI DirectSmile Cross Media
Source: Intertech Tech Awards 2015

Hewlett-Packard (HP) opened a HP Graphics Solutions Centre of Excellence in Singapore on 3 September 2014 in an effort to unlock the full power of digital printing. HP's Centre of Excellence, Singapore, presents the opportunity to boost Singapore's printing industry. According to Thien Kwee Eng, assistant managing director of the Singapore Economic Development Board, HP's new facility and expansion "capture opportunities from the growth of digital printing." The 21,000 square metre facility aims to provide customers in Asia Pacific and Japan with a one-stop access to its digital printing portfolio and solutions. Printing companies will also be able to benchmark and conduct end-to-end application testing of their HP digital printing equipment at the facility.



Source: www.packwebasia.com

Figure 9: HP Graphics Solutions Centre of Excellence in Singapore



Source: www.printingnews.com

3.2 3D Printing in Singapore

Industry and consumer enthusiasm and excitement over 3D printing technology continues to grow rapidly throughout the world. Affordable 3D printers go beyond the flat 2D image by forcing material through a nozzle to create a physical object layer by layer.

Stratasys Asia Pacific, a subsidiary of Stratasys Ltd. announced the opening of a 3D Printing Experience Centre at its new office located in Toa Payoh, Singapore, on 31 July 2016. The new centre has been set up to provide local support for the growing 3D printing needs in the South Asia and Pacific region. The establishment is a strong signal of Stratasys' commitment to the region and offers accessible 3D printing solutions to the local market.

The Centre features Stratasys' cutting-edge 3D printing technologies – PolyJet and Fused Deposition Modelling (FDM), showcasing the full product portfolio ranging from desktop 3D printers to large, advanced 3D production systems, thus enabling designers and engineers to create models and prototypes for new product design and testing and to build finished goods in low volume. The Centre also exhibits Stratasys' specially engineered 3D printing materials – PolyJet photopolymers and FDM thermoplastics.



Figure 10: Examples of 3-D printed objects at the Stratasys 3-D printing experience centre
Source: www.3ders.org

3.3 Mass Customisation through Software and Production Technology

Cimpres (which most people know in the U.S. as Vistaprint) uses the internet, technology aggregates large volumes of individual small, to customise orders, including:

- Signage.
- Print.
- Apparel.

The company's business model is based on two beliefs:

1. Software and production technology can be harnessed to aggregate enormous numbers of small orders and turn them into a controlled flow of high-volume production.
2. Break the traditional trade-off customers make when choosing between the benefits of mass production and the personal relevance of customised products.

Company software routes jobs to the most cost efficient and appropriate production system for the product ordered. As an example, 250 high quality customised business cards can be completed within 13 seconds. That time covers labour for pre-press, printing, cutting and boxing, a very small fraction of the time required by traditional printing.

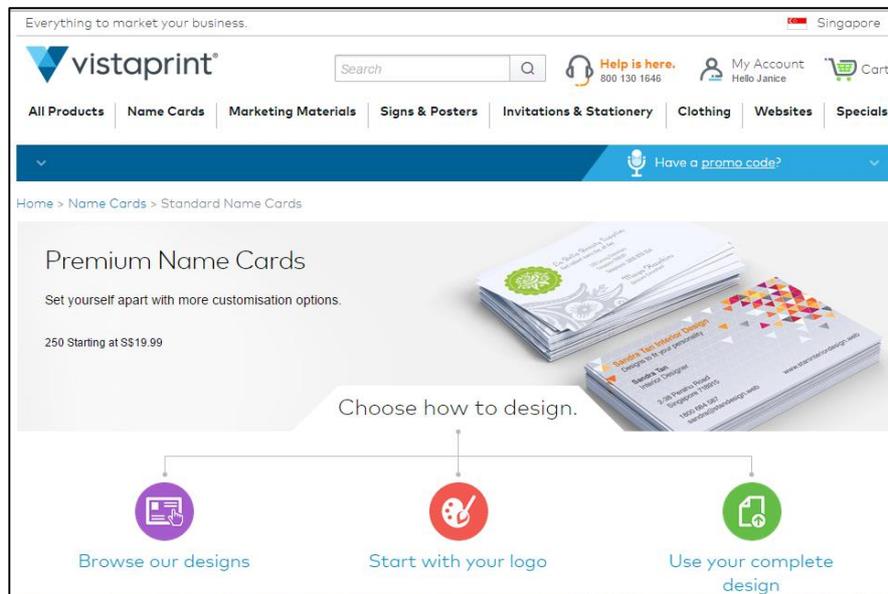


Figure 11: Vistaprint
Source: www.vistaprint.sg

3.4 IoT (Internet of Things)/M2M (Machine to Machine) technology for Smart Printing

Benefits of IoT/M2M technology include operational efficiency, improved service quality, and sustainability. Real-time data optimises the energy usage for each device, including light and deep sleep modes and complete power-off. The payoff includes reduced carbon emissions and environmental impact. Figure 12 shows how you can optimise your printing needs through Smart Printing

3.5 Cloud printing

The many advantages of cloud printing will make this technology one of the hottest trends during 2015. The advantages are many but the most important one is perhaps the ability of cloud printing solution to be used on a cross-platform basis with iPad, iPhone, iPod touch, BlackBerry and Android. Many companies including Google are now offering cloud printing services which enables printers to connect to cloud servers. Many printers normally use and handle huge amount of data during prepress stage. Cloud technology enables them to use cloud solutions instead of investing huge amount of money and resources for buying and installing expensive servers. Figure 13 illustrates the concept of cloud printing.

4. Possible Immediate actions

The distance between dreams and reality is called action and we suggest the following possible immediate actions:

1. Envision how you see your business in 2018—what will be the same? What will be different? What will you need to do to achieve that vision? The key is to focus more on developing skills, products, and services that are in demand by the marketplace. Only then will sales be effective. Being good at what you do is obviously important, but it's equally important to understand what else is happening beyond one's own walls. It's about relevance, otherwise a company wastes time and resources becoming good and efficient at something no one wants.
2. Focus on print businesses not print media. Understand the value proposition of print— and other media

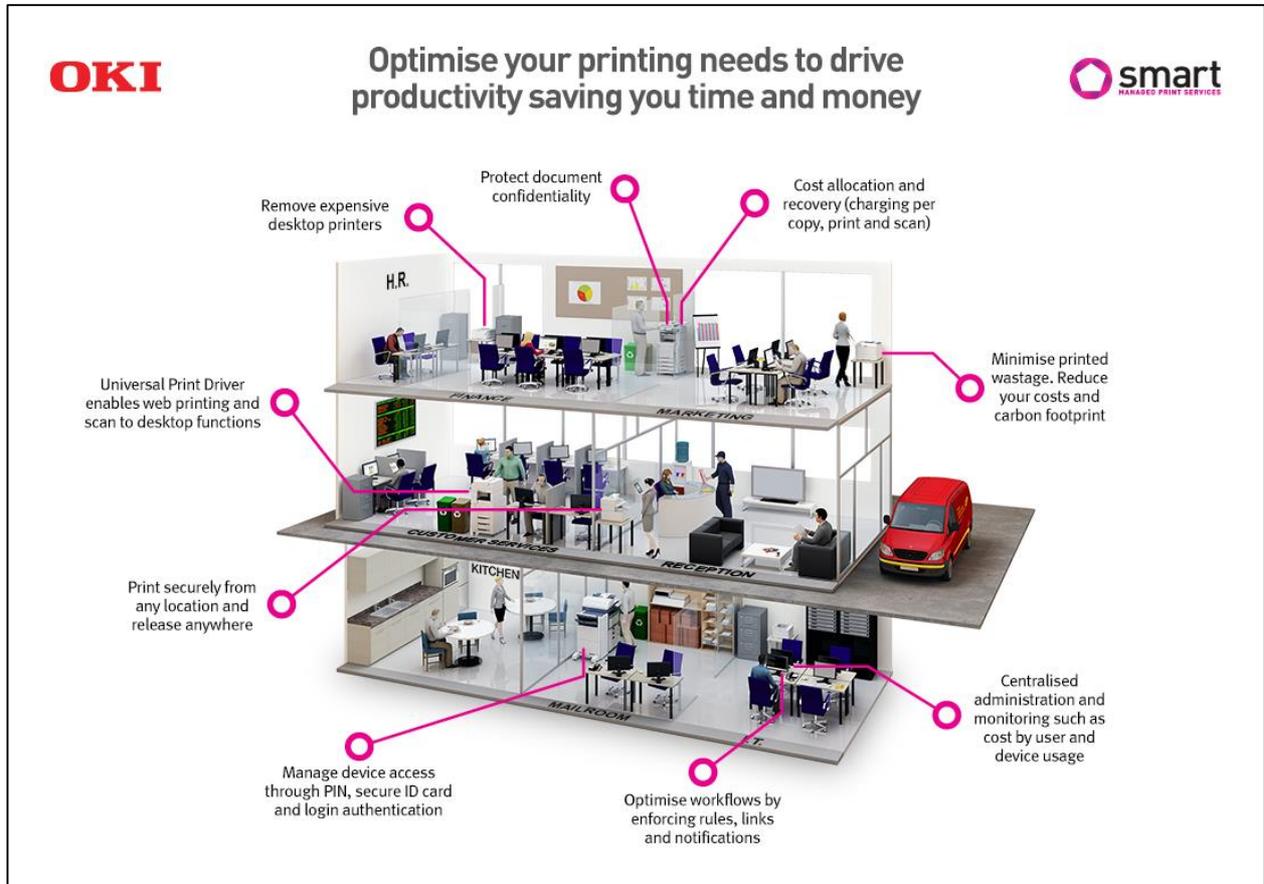


Figure 12: Optimising your printing needs through Smart Printing
Source: www.okismartprinters.co.uk



Figure 13: Cloud Printing
Source: windowsstation.com

3. Take a hard, objective look at your niche, equipment, and employees: is your company flexible and adaptable to changes in the market? Service should be move ahead of the finished product in importance. Change the business model and regard the product as a replaceable item, while the service delivery becomes a priority and a differentiator.
4. Pick one or two of your current customers and think up ways you could spin off their print jobs to larger, multichannel campaigns. What new hardware/software/equipment would be required? What new skills would be required? Brainstorm the ways that you could combine print and electronic media for a specific current client. Pick one or two current customers and list all the ways you could be assisting them with their marketing and communication needs beyond print.
5. Go online to social media sites or go physically to business or graphic communications networking events and look for professionals who might be worth approaching to help with complementary products and service.
6. The printing industry's emphasis needs to evolve from billing for discrete tasks like printing individual jobs to retainer-based billing for providing ongoing services, many of which involve social media development and monitoring. Start to think about ways you might be able to help your customers with these non-print marketing and communications initiatives.
7. Explore how others in the printing industry are using the Internet; do a Google search for commercial printers with capabilities similar to yours and compare and contrast their Web sites to yours - are they better or worse? What are they doing that you are not?

Case Study

Case Study: Singapore –BusAds Pte Ltd Gold Award at Asian Print Awards 2014

An underwater decal sticker at Singapore Polytechnic swimming pool won the gold at Asian Print Awards 2014. Created by BusAds Pte Ltd, the decal is designed for installation without first having to remove the water. Advantages of this type of decal include reducing the waste of water by not having to drain pools and consequently refill and treat them whenever a mandatory or desired sticker is required.

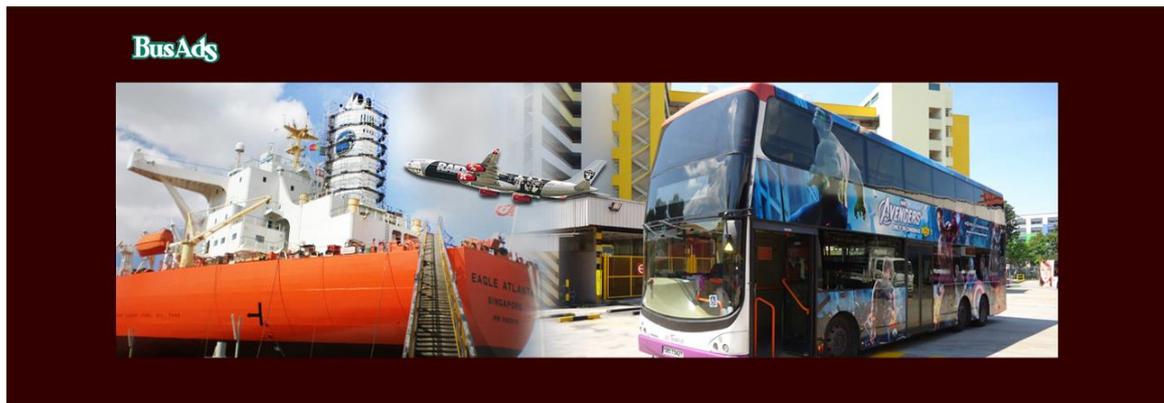


Figure 14: Bus Ads
Source: www.busads.com.sg

The company started with Matthew Yapp in 1983. The family-run company has steadily increased in size and capabilities. The company vision includes recognition as a market leader in the large format printing industry. Methods of market level operations include professionalism, sincerity, quality and exemplary customer service.

Printing processes include digital, silkscreen, offset, and photographic printing onto Duratrans. The fleet of printing equipment handles a variety of graphic print requirements for banners, posters and signs. Large-format advertising for fleet, bus, aircraft and other businesses is a result of the constant research and experimentation by BusAds to improve the services offered to consumers and companies in Singapore.

Case Study: Global – Dubai Media Inc

Dubai Media Inc (DMI) has announced its intention to use the Prosper 6000C Press in its innovative Smart Printing Services initiative in the UAE. There is quite of anticipation over the introduction of advanced printing services, particularly reader-customised newspapers. Readers will be able to select topics that interest them and received a personalised newspaper delivered to their door.

There are several benefits to this type of efficient page inventory management besides a better reader experience, including smoother production processes and less waste.



Figure 15: Dubai Media Inc (DMI) innovative Smart Printing Services initiative
Source: www.news-sgi.globalprintmonitor.org

Kodak will place the first EMEA region smart digital printer, Prosper 6000C, with DMI, the Middle East's largest media group. DMI's printing division, Masar Printing and Publishing Company, has used Kodak products since 2007. Printing & Distribution Sector executive director Faisal Bin Haider commented about the product's ability to provide unmatched digital printing in:

- Day-to-day productivity.
- Compelling economics.
- Outstanding quality.

Masar will be able to print production quality on-demand books and fulfil new demands of direct mail products using the new press.

5. Conclusion

To continue to do well in the printing industry, it is necessary to look beyond conventional print to digital print and to diversify your business. Review your business model and leverage technologies to extend the services you provide to your customers.

Recommended Readings

Webpage Title	Drupa Newsroom
Website Title	Innovations
Publisher	Drupa
Website	http://blog.drupa.com/category/innovations/

Webpage Title	Printing Impressions: America's Most Influential and Widely Read Resource for the Printing Industry
Website Title	Home
Publisher	Printing Impressions
Website	http://www.piworld.com/

Webpage Title	ProPrint
Website Title	ProPrint Magazine: March 2016
Publisher	ProPrint
Website	http://www.proprint.com.au/Magazine/

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