



# *New Impressions*

*scenarios for the future of graphic technology in Australia  
to the year 2013*

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Final report from the Neville Freeman agency for RMIT University, December 2003

The graphic technology industry in Australia contains people with a burning desire to try and come to terms with the complexities and uncertainties of our future working and living environments. People who are dedicated to both the art and the science of sustaining business success.

Such people may be seen by their peers as leaders, visionaries or idealists. Or they may be viewed as disruptors, trouble-makers or part of the lunatic fringe. After all 'business is business' and we don't have time for such indulgences!

Whatever our 'world view' on the future, there seems little doubt that we would do well to embrace uncertainties about the future in our forward industry strategy.

RMIT acknowledges this need and honours the 'future-thinkers' in undertaking the creation of the 'first-cut' scenarios summarised in this report. It also seeks to develop an industry wide team-based conversation about the future of graphic technology in Australia – not least to help RMIT to develop strategically aligned industry courses - for which these scenarios are just a start.



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# People

## *Neville Freeman Scenario Team*

Director, Project Designer, Researcher and Scenario Writer: Oliver Freeman

Workshop Facilitator and Project Reviewer: Greg Rippon

Researcher and Scenario Reviewer: Andrew Champion

## *RMIT Project Team*

Howard Dare

Melanie Williams

Tony Burch

## *Document Design and Layout Team*

Barbara Goulborn and Rod McRae, Curve Projects P/L

# Acknowledgments

The three-month process of building indicative scenarios for the future of printing for RMIT has involved significant contributions from many people, including the remarkable people who agreed to be interviewed, participants in the two workshops and the staff from RMIT who had the guts to embark on this project.

Scenario planning is one of the unifying themes inherent in the courses which comprise the embryonic Bachelor of Business (Graphic Technology), and is intended to be sustained by successive student cohorts.

The financial assistance of the Department of Industry, Tourism and Resources (DITR) in developing the degree and its contents is gratefully acknowledged.

# Introduction

This has been a team effort in defining the scope of the project, stimulating divergence on the major issues and facilitating their convergence in the scenarios themselves.

We refer to the scenarios as being 'indicative' to suggest that a great deal more research is required to develop their logic and robustness. And in that process they will surely change as we improve our understanding of the complexities of the world we inhabit and in which we strive to 'do business'.

Scenario development and the thinking which accompanies it is a continuous dynamic process and the work we have done is only a beginning.

RMIT has chosen the tool of scenario planning to help make sense of how the future could pan out for graphic technology, and to assist all those involved to anticipate and adapt to change, whether it is an unpredictable external shock or an as yet unimagined new opportunity.

By building the New Impressions scenarios and looking at their impact on strategy, RMIT has clearly embraced the scenario development process.

## The Scenario Agenda

Before we can embark on a scenario planning exercise, it is necessary to decide what our project is about. Scenarios cannot be built in a vacuum. What do we wish to build scenarios for?

We decided that we needed scenarios to help us address this agenda across all branches of graphic technology:

- What are the future consumer/customer demands and preferences?
- What shape will future technological change take?
- Who will staff the industry in the future, with what skill set and why?
- How do we create sustainable business models for the future?

# Process

The alternative plausible pictures of the future for printing to 2013, relating to the scenario agenda, documented here have been developed through a process which has included:

- sampling opinions and current literature on the future of printing through desktop research
- interviews with experts and other 'remarkable people' for their insights on the future
- two scenario-building workshops, involving 26 'supply side' stakeholders in the graphic technology industry<sup>1</sup>
- preparation of scenario narratives (which form part of this report) from the materials created for and by the process

## Workshop Participants

Kit Andrews, Prospective Teacher

Billy Atta, Teacher, pre-press, ICGT

Robert Black, Operations Manager, ICGT

Phil Barnes, Teacher, post-press, ICGT

Tony Burch, Prospective Teacher

Meredith Chesney, Teacher, colour management, ICGT

Bill Cope, CEO, Common Ground

Gary Donnison, President, PIAA

Howard Dare, Collie Director, ICGT

Rob Dunn, Teacher, press, ICGT

John Federico, Prospective Teacher

Barry Freeman, Consultant, The Age

Graeme Hall, Observer, OTTE

Les Jonas, Penfold Buscombe

Hugh Kiernan, Prospective Teacher

John Magnik, Course Coordinator, ICGT

Brian Mulcahy, McPhersons

<sup>1</sup>it is extremely important to note that this process has not included conversations with users

Debra Rice, CEO, Eastern Studios  
Paul Ross, Teacher, press, ICGT  
Anni Rowland-Campbell, Executive Director, GAMAA  
Rod Spencer, Industry Consultant  
Lyn Su, Visiting Teacher  
Mark Tomasini, CEO, Print Bound  
Richard Vines, Industry Consultant  
Lou Will, Project Officer, OTTE, Planning Unit  
Melanie Williams, Project Manager, ICGT

## Remarkable People Interviewed

Kevin Kelly, Editor-at-large; author, Wired Magazine, US  
John Thackara, Founding Director, Doors of Perception, Holland  
Mark Resch, CEO, Onomy Labs, USA  
Francis Bennett, MD, Nielsen Book Data, UK  
Jennifer Sonderby, Founder, Sonderby Design, US  
David Warlock, UK Chairman, Electronic Publishing Services  
Richard Watson, Co-founder, Brainfruit, Australia  
Richard Neville, Futurist, Neville Freeman Agency  
Richard Walsh, Consultant, Ex CEO of ACP, Australia  
Lawrence Wilkinson, CEO, Heminge & Condell, USA  
Robin White, Chairman, WRC, UK



# The New Impressions Scenarios

In our desk research, workshops, interviews, conversations, reports and reflections we teased out the drivers of change which we felt would have most impact on the questions raised by the scenario agenda.

This is not a scientific or even rational process because at the heart of scenario development is a dilemma. We live our business and organisational lives on the basis that we can answer the questions which are vital to the creation of sustaining our organisations in the future and yet the scenario process is asking us to look outside of the bounded world and identify surprises, discontinuities and the unexpected – the very things which make the answers to those questions very difficult to reach and which often suggest that we are asking the wrong questions.

As a result most futures thinking is rational. And, as a consequence, it tends to converge on what we might like to call the 'official future'; the future which seems plausible, most likely but which would have denied the chaotic shifts created by a 9/11, by open source, by biotechnology and so on.

The task in creating the scenario framework is thus to open up the thinking, to move it away from the traditional supply-side logics (much loved by engineers!) and to promote discussion around the deeper dynamic aspects of the future for our chosen business.

This involves discussions about the 'drivers of change' – the things which seem most critical in understanding how the future may unfold, even if we do not see how they will impact on us or even agree on their strength. These discussions are naturally 'divergent' and usually create tensions within the scenario team.

We usually end up with a messy bundle of ideas and in this process we discovered over 100 deep influences on the future for the graphic industry.

These we reduced by merging, purging, bundling and selection to two deep embedded uncertainties which we felt would have most impact on our future.

## Will the culture which graphic technology serves be text based or visually based in the future?

Movable type destroyed the market for illuminated manuscripts by virtue of its economies of scale and the thirst of users to read books in print.

Now, half a millennium later, are we on the fringe of a 'reverse' revolution in which the printed word will be ousted by a culture increasingly demanding the visualisation of ideas and communications across multiple converging channels – PDAs; telephony, mobile technology; PCs; hardcopy; video; TV; etc.

Games technology and the more recent video mobile technology have the potential for disrupting the dominance of text culture but it is very unclear how this disruption might play out.

While some see technology as a selfish driver of change, others believe that human nature is not innately 'geekish' and will adapt to new technology in a way we may not be able to predict and which may not utilise the potential of technology itself. The attraction of visual culture may also be generational; a rite of passage we grow out of as we get older.

We can garner evidence to support either of the extremes and positions in between which make this such a potent driver for the future of printing.

## Will future control of print outputs be exercised in a world of authorisation and 'supply' push or one of customisation and 'demand' pull?

For centuries, the key to the supply of much print has been the process of 'authorisation.' Here content to be printed is controlled centrally by media players, educationists, packagers and vendors of all descriptions.

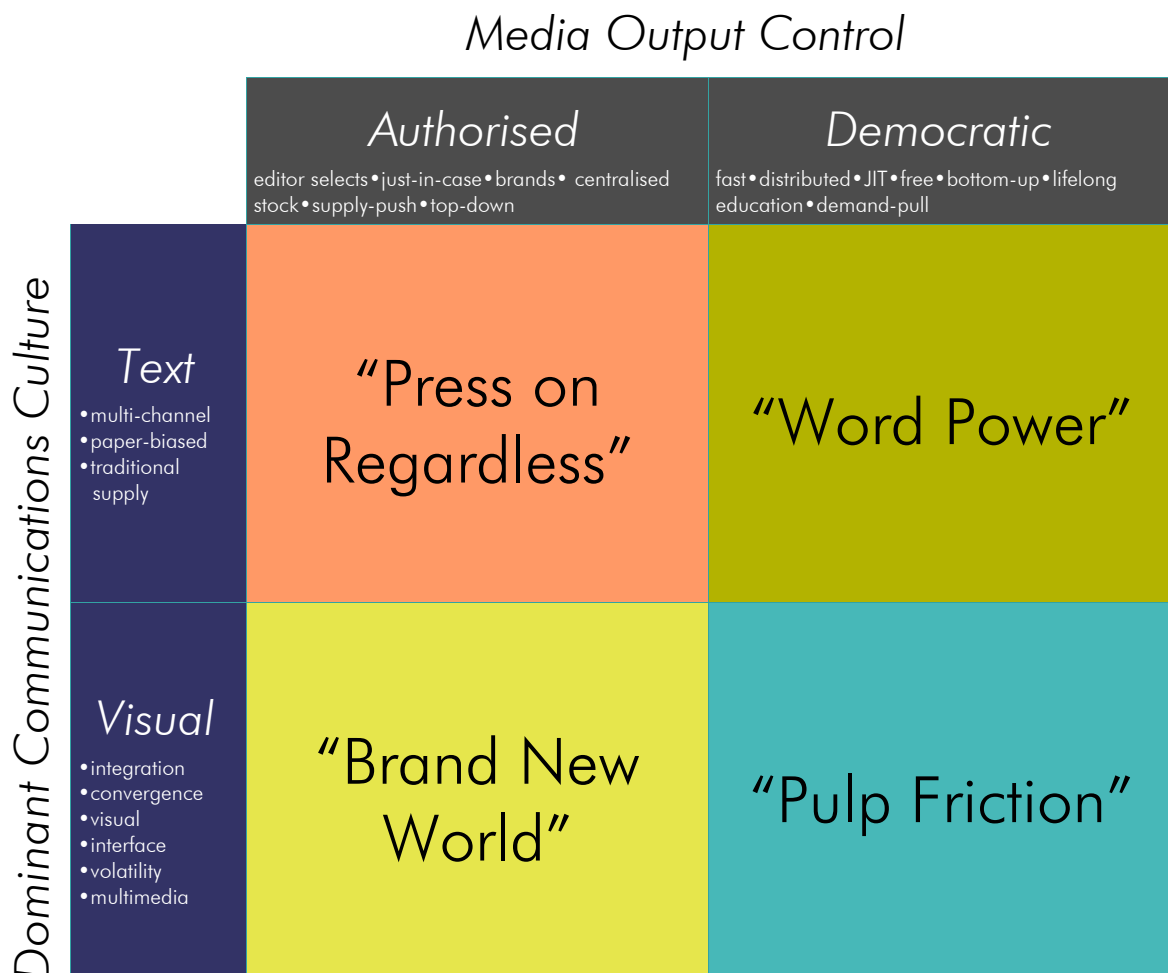
Essentially, the package to be supplied is designed and decided upon by a supply-sided, supply-minded decision maker (editor, programmer, educator, advertiser, packager, author, marketer etc) and then 'pushed' into the market.

However, there is a disruptive change in view which involves what Lawrence Wilkinson (one of our remarkable interviewees) described as 'the democratisation of the demand for information' in education.

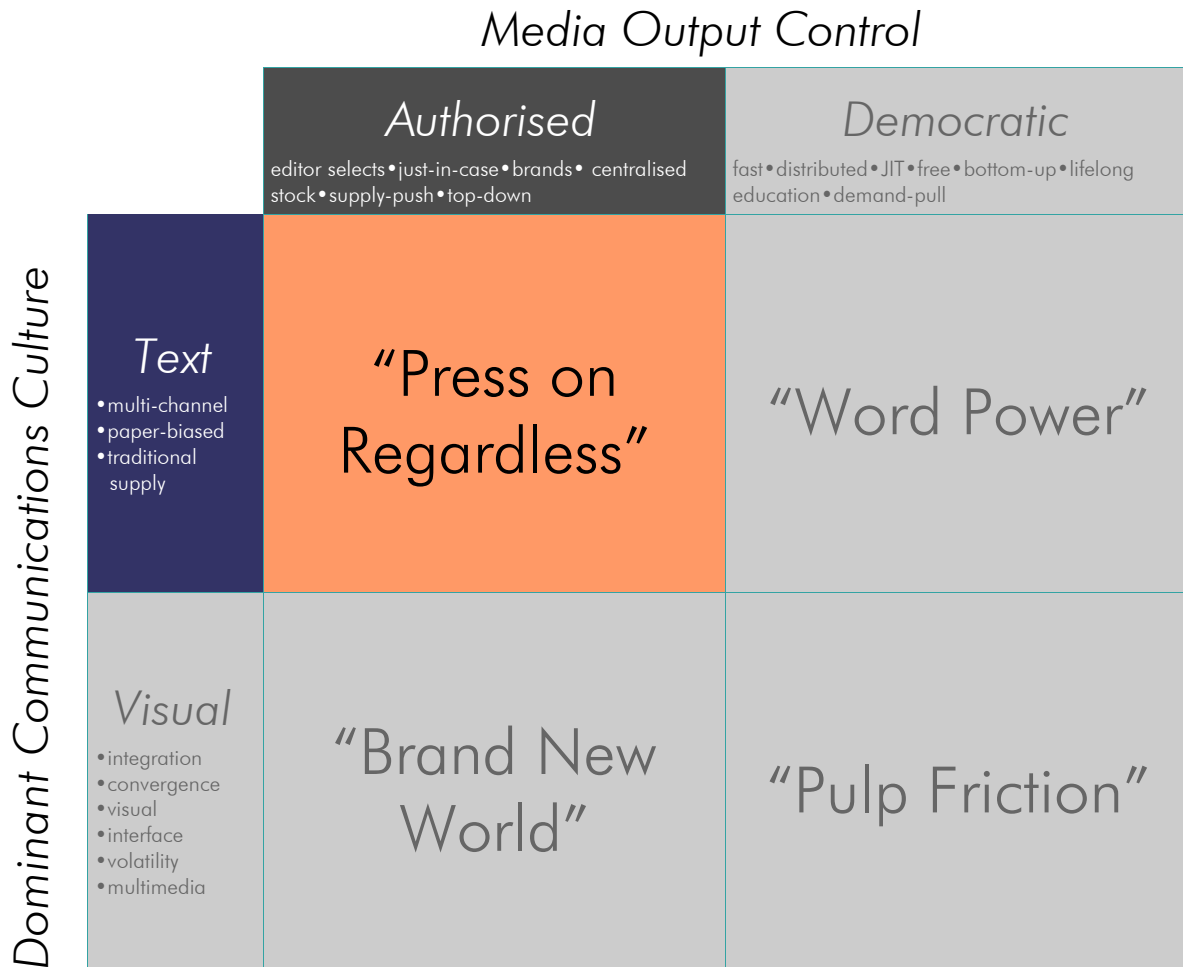
What this envisages is a world in which the customers of the future transform the supplier-customer relationship whereby, for example, students take control of their reading requirements which are no longer 'authorised' by the professor (at the centre). This is a world in which 'just-in-my-time' replaces 'just-in-case' where the Gen X and Gen Y folk have matured into a market which pulls demand from suppliers. The consumer becomes an autonomous hub rather than a dependent spoke.

This deep driver of change can be made generic for most types of printing to describe the customisation of demand and its related distributed nature. Its impact is critical and yet we are highly uncertain as to how it will unfold.

We now combined these critical and uncertain drivers of change by pitching one against the other to create a 'first cut' or 'indicative' scenario matrix.



# Press on Regardless



This is a dog-eat-dog world, where the desire to command and control is paramount. In business, ‘low cost’, high profit is the model everyone strives for and for which they seek protection from environmental, community, customer, or personal conscience concerns. It is a profitable closed loop where the corporate vision is the mechanism and the mechanism is the vision. My way is the right way. Digitisation of content and technology advances in terms of devices and ICT have not created the demand-led world we might have expected. It is a world in which text and big companies dominate. It is very like the world we live in today.

Because of its concordance with current experience, we are presenting this scenario first and in a slightly different format from the other three.

Date: 15 July 2013

Location: The University Club, New York, USA

Place: Yale Seminar Room, First Floor, Lunchtime

This was the first strategy meeting of McMorley Global following the merger between the Australian/Asia-based McMurdoch company and R Donolly in the US in 2012.

Randy Font, McMorley Global US President, was sharing a lunch table with other delegates – Dong Tai Ping from China, Jaylene Peg from downtown Adelaide, Data Mehta who had arrived that morning from Mumbai and Woody Polp from Tasmania.

The focus of the conversation was on how the new group might position itself given the experiences they had had over the last decade.

#### *Randy began:*

*Well, folks, for the first time in a generation we have to address issues such as personal conscience, business ethics, and the environment. This has in many ways been a dream run but it has always felt as if we have been working on borrowed time.*

*The merger recognises that we have to look for globalised strength to handle the challenges of the next decade.*

*We have come through the last 10 years in the US in full control of the industry agenda. It was not until 2005 that we acknowledged digitisation as an issue, and even then we stood firm.*

#### *Data:*

*It's been a similar story in India. In spite of strong lobby groups, customer pressure, and environmental issues, which came to a head in 2006, we retained our strong company vision and base values.*

*Despite the accelerating growth in the middle class in my country, with a good profit-base, we have enjoyed a period of dominance and traditional efficiency in the face of technological change and changing work patterns. Only by 2010, which was a turning point, did we have to respond to global and market growth activity by our own downsizing and a re-focus of our profit objectives.*

Woody:

*Rationalisation has sustained our business position in Australia too. As industry leaders, we are justifiably proud that, while capital investment has increased by 80% in the last 10 years and industry turnover has fallen by as much as 10% of previous levels, we have still been able to maintain our historical net profit to turnover rate of 2%. Don't you agree Jaylene?*

Jaylene:

*Sure, Woody, down Adelaide way it's the same old story. Cut costs, downsize, compete on price, consolidate, innovate cautiously, expand cautiously before going through the cycle once more.*

*Like you, we know this is not a sustainable position and we have triggered the merger to help us move globally to a new playing field.*

Dong:

*The Chinese market has been very different, of course. We are the fastest growing world economy but have no time to worry about pollution, ethics and these other western indulgences. So we have a problem in managing growth, finding sufficient working capital and making a profit.*

*We are looking for the merger to create stability and to provide 'know-how' in management of our printing, particularly quick printing, which is growing faster than any other sector.*

These experiences provided a multi-faceted view of a world which had failed to embrace the true potential of new technology and in which traditional approaches to authorisation, backed by the continuing power of the institutions, kept their grip on the markets by controlling media and educational content in all spheres.

## More than One World ...

Of course as the Chinese and Indian experiences show, this is not a homogenous world. The impact of globalisation is patchy and the needs/experiences in the developing world are quite different from those in more mature countries.

The implicit tension in this world is the pointed coexistence of dynamics which are likely to lead to great instability. We see both wealth and poverty, the physical and the virtual, technology accelerating and stalling all playing out simultaneously with muddling consequences.

We are as Randy said, living in a world on borrowed time. Waiting to spin into a new orbit.

## ... and Worlds in Denial

In the face of this 'macro' volatility, it is small wonder that instinctively people settle for what they know; the traditional ways of owning, knowing, supplying, communicating, governing and developing.

The Australian printing industry found the reliance on tradition a very attractive position. And the conservative governments which were in power until 2010 needed little persuasion about developing industry policies which were non-interventionist. After all the strategy initiatives of the early 2000s had been hijacked by academic scientists. And the GST-funded Book Industry Assistance Programme had ultimately failed, soon after, to change the shape of the marketplace for book printers.

## The Power of Business

The persistence of benevolent authoritarianism was a major factor in keeping the lid on radical change. While governments worldwide were preoccupied with global security and terrorism following the wars in Iraq and the Middle East in 2003–2005, on the local stage it was big business which ran things.

The Murdoch Printing Group grew by merger and acquisition across all print sectors so much so that by 2009 it had 23% of the total printing market. The pulse was on to grow, rationalise, cut, grow, rationalise, cut.

## The Seeds of Change

We have dwelt on some of the more general global drivers of change which seem set to deliver a very different future from the present. Downstream from these are scores of drivers which are going to impact on the future of graphic technology in Australia.

They are all present in *Press on Regardless* but become much more formative in new futures, some of which we present in the scenarios to follow.

### *Early Indicators*

- Effective control of geopolitics and global economy by US and EU
- Strong intellectual property regimes favouring large media corporations
- Continued strong economic growth in Australia, linked to US

- Increased competitiveness in tertiary education with emphasis on centralised standards both in curricula and student learning environments
- Failure of 3G technology to do more than expand the games market

### *Implications*

- Australian printers focus on globalising/agglomerating strategies, particularly in Asia
- Move towards increased transparency for stakeholders so as to create platforms for trust in conglomerating printing companies
- Pay greater attention to issues of sustainability
- Enter new markets with great caution
- Invest in maintaining current value chain
- Build new competencies not so much in the craft of printing, but in partnering, stakeholder management and cross-cultural expertise
- Retain focus on cost cutting but in the context of the other implications



# A Brand New World

		Media Output Control	
		Authorised editor selects • just-in-case • brands • centralised stock • supply-push • top-down	Democratic fast • distributed • JIT • free • bottom-up • lifelong education • demand-pull
Dominant Communications Culture	Text • multi-channel • paper-biased • traditional supply	"Press on Regardless"	"Word Power"
	Visual • integration • convergence • visual • interface • volatility • multimedia	"Brand New World"	"Pulp Friction"

This is a world in which the dominant communications culture has been driven by integration and media technology convergence with a heavy emphasis on things visual and on mobility and multimedia. But despite the proliferation of user-technology, media companies increase their control of content and the printing industry adapts to significant changes in their product mix by fast adaptation to changing opportunities. There is a sense of *'plus ça change plus c'est la même chose'*. Technology follows rather than leads and entrenched globalised companies build bigger brand awareness and enjoy unprecedented profitability.

Date: 14 April 2013

Location: The Park Hilton, Brisbane, Queensland, Australia

Place: A guest suite on the 44<sup>th</sup> floor; early evening

As Fingleton Advertising CEO Jock Fingleton began compiling his notes for his keynote address to the 2013 Annual Conference of the Australian Advertising Industry, he wondered how he might best convey to the conference the sheer commercial magic of the last decade.

All the industry stakeholders would be there. Advertisers, suppliers, retailers, publishers, printers, designers – not only from Australia but also from Asia, Europe and the US.

The industry had gone truly global as a result of the continuing convergence of ICT and Fingleton and his Australian colleagues were working the globe to find meaningful and cost effective ways of segmenting markets, of finding new customers who could be reached by and through the burgeoning commercial networks.

## More than ICT

But ICT convergence had not been enough on its own to drive these changes. At the dawn of the millennium, great uncertainty existed as to how these networks might be commercialised. The explosion onto the scene of file swapping, pioneered by Napster, had questioned whether the creators of the media would be able to protect their products and services in an anarchic environment. Would the new consumers pay for newspapers, books, music, video and so on in a world spinning out of control?

## Copyright

In 2004, a quiet revolution in digital rights management (DRM) changed the landscape in a very important way. The introduction of the Digital Object Identifier (DOI) into global media markets (and in Australia by the Copyright Agency Limited) did something for which everyone had been striving. It enabled the commercialising of communication transactions by embedding in all digital works a unique 'fingerprint' as to its ownership and source.

The DOI was then dynamically linked to commercial transaction processes run, in the main, by the collecting societies worldwide, which ensured that as the digital work moves from A to B (as a copy for example) payments are rendered by receivers to rightsholders.

This development had been at the heart of the creation of centralised global content-database with savvy DRM systems in place to manage copyright and build user-pays environments. It was no surprise in 2005 when Pearson was successfully sued for publishing DOI works to which they (unwittingly) did not have a proper licence.

## Micropayments

The launch in 2006 of GloboTrotter Inc, the global micropayment technology company with its new global currency, the 'Globo' had clinched the deal. Now content travels seamlessly between the creator and consumer and within networks on a demand basis and media aggregators integrate products and services into the content databases.

The guys who sold Google to Microsoft in 2004 for a cool US\$40bn saw all this coming and had been so wise in creating Glowcat (Global Digital Catalogue) which now in 2013 boasts a turnover of US\$118bn. By offering equity to participating publishers they cleverly became the de facto consortium which the industry needed. Now, they are able to offer access to all types of content which is packaged entirely according to demand needs and preferences. Information overload is a thing of the past.

They had their problems of course. We all remember in 2010 when DARKNET infiltrated Glowcat and copyright was infringed. New technology platforms were released to keep hackers out of Glowcat.

Jock reviewed the chart which encapsulated how the DOI and its related activities had wrought change.

## The Human Condition

Despite the deep sense of world insecurity following 9/11 and the series of wars in the middle east in 2002, '04, '06 and '10, despite the increasing destitution of Africa and the inexorable demise of Japan, the process of globalisation had continued seriously to increase wealth in the advanced countries of the west and for the newest tigers of the east (India and China).

Globalisation spawned a wave of new youthful entrepreneurs who were techno-savvy and 'lived' the new communications environment with its emphasis on visual data and mobility. But they differed sharply from their predecessors of the 'dot-com' boom in that they rejected life on the fly and had gambled on throwing their lot in with the giant corporations. They wanted money and excitement but not the responsibilities and risks which go with running your own business.

## Fast and Big

Corporations were now able to take into their business practice the sort of innovation and development which had been done by individuals and small companies. And with it came the fantastic boom in customer data mining which their resources could handle and the development of the centrally controlled marketing networks jam-packed with intelligent data about customers' needs and preferences and offering connectivity, through companies like MickyCorp, for customers, suppliers and retailers.

## Enduring Authorisation

Despite the potential for customising content using PVRs, PCs and the recently launched MDCs (mobile data catchers with their point and press function) – apart from the geeky nerdy fringe – consumers had given broad digital thumbs down to the opportunity to DIY.

It was, as if people liked to be told what to do and what to think. Whether for education or entertainment, for business or lifestyle people loved their programming to come from the 'top' where reliance could be put on brands of all kinds to deliver excellence and quality within the tacit content range.

The other aspect of human nature which curbed the potential of the new technology, and the so-called new economy, had been people's preference for the enduring role of the editors, programmers and selectors of media content.

This stand-off between the potential democratic power of communications technology and the authorisation (control) of content allowed the increasing domination of a few very powerful media companies that controlled the editorial process and consumers had little choice over what was delivered.

## Brands!

It was this world of increasingly oligopolistic 'brands' – and big brands too that had delivered such a fantastic market to advertising agencies and their fellow-travellers.

The writing had been on the wall for the written word since Walt Disney in film and the pioneers of comic heroes like Superman and Dan Dare, Wonder Woman and Lettice Leaf had launched in mid 19<sup>th</sup> century.

But it was the advent of interactive multimedia which laid the foundation of the end of the 500 year text age. And within this wide 'genre' it was games technology which delivered the *coup de grace*.

Who would have thought that an Italian plumber aka Mario or Super Mario would have been, through Game Boy technology, the

harbinger of the demise of text culture? For since his inception in the last decade of the last century, there has been a pronounced falling off in the habit of reading and an equally rapidly growing demand for multimedia games with their audiovisual and interactive gizmos getting more and more sophisticated.

Play Station, the X-Box moved things along but now the amazing technology of G5 has brought us MobiVision – the ultimate in convergent mobile tech. TV, DVD, telephony, PC and digital camera all in this neat handheld which can throw full screen images onto any white surface if you wish.

## Visual Culture

In the world of magazines, newspapers and advertising, the impact of new visual culture put pressure on the creative side of traditional print media.

While it had been truly unexpected that media companies would survive the potential onslaught of the new technology, the accompanying cultural changes, however, had been hard to manage. Despite the way print media was still a significant medium for advertising, it was nigh on impossible to find young creatives willing to do the work.

To put it simply, no-one with a creative bone in their body would be seen dead churning out what came to be known as ‘tradvertising’. No-one working for Jock on the creative side wanted that job.

This change in the attitude of creatives to advertising work was another sign of the declining role of text in our culture. The turn-on coming from audiovisual and interactive media saw a great influx of people wanting to be employed as ‘visual engineers’ to massage the visual experience because text is dead.

MIT had led the way in Australia by launching its multi-channel degree course in Media Visualisation Engineering in 2007.

## Life after Text

The demise of text had its biggest impact on the design of books, magazines, newspapers and journals. Print media, however, adapted well in this world of authorisation and control. Because of the power of brands, the print media developed great expertise in advertising based on cool photography (particularly in fashion, home and garden, cosmetics, travel and leisure) and using web-based services, the template based advertising market went through the roof. And with brand-power came an explosion in the demand for print packaging of all kinds.

Publishers, who had never been as precious as advertising types, also got into the act with the creation of catalogues and other direct mail print services for their new retail clients.

Traditional print markets for books and newspapers continued their slow decline with big players seeking economies of scale which excised smaller players from the scene.

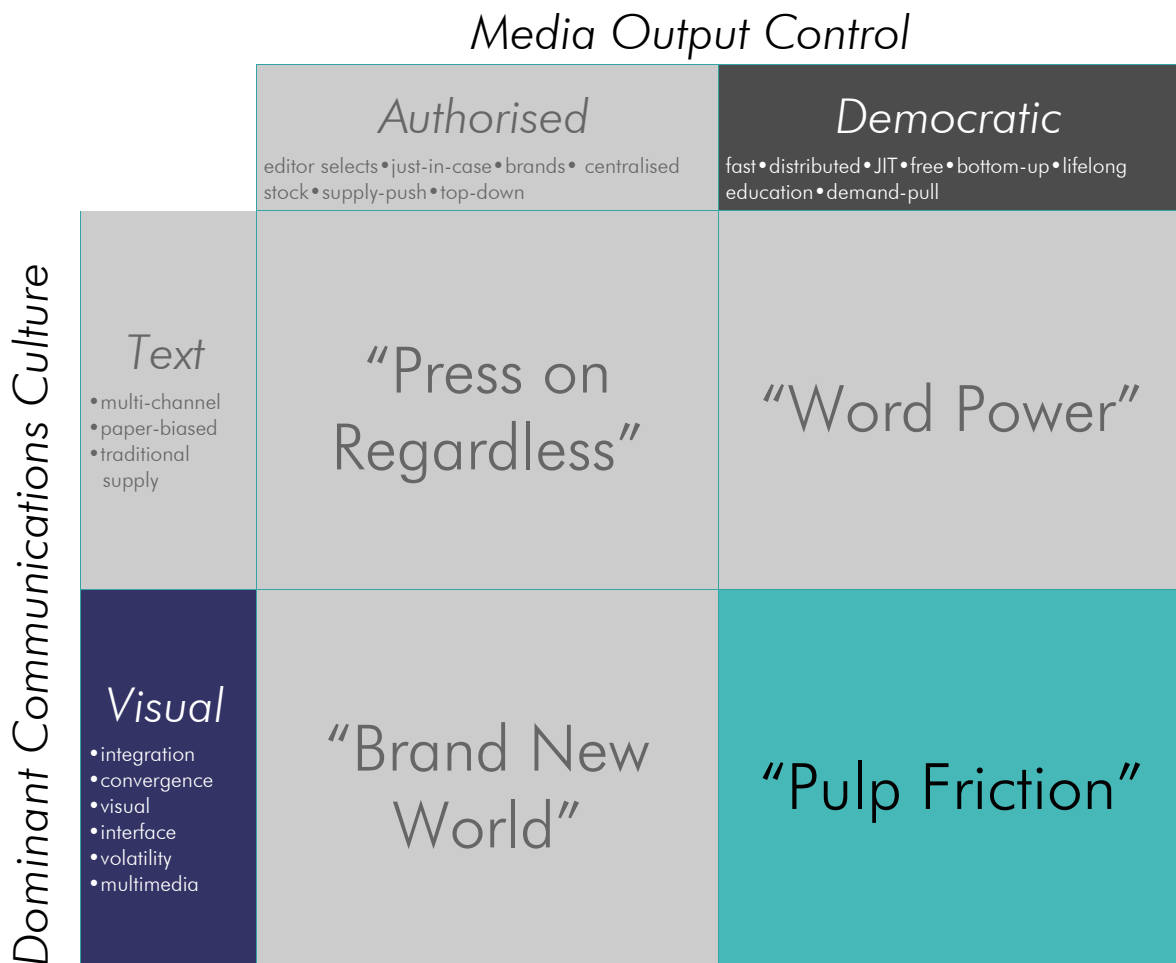
### *Early Indicators*

- Early boom in wireless technology
- New media being successfully developed globally
- Universities building learning networks with shared curricula and centralised delivery
- Decline in the number of textbooks prescribed by teachers; replaced with online multimedia modules
- Sharp decline in the demand for paper-based travel brochures
- Increase in online cash transactions greater than twice GDP

### *Implications*

- Seek to manage the interface for clients between image creation (graphics) and publication (reproduction), irrespective of the role played by paper – so get into web services, DRM, CRM
- Partner with Advertising Media to take on template-based hack work in ad creation
- Partner with Universities to become the 'online' university press
- Employ more widely: youth, women, immigrants
- Focus on visual colour reproduction

# Pulp Friction



This is a world in which the users of the media take control of distribution both for themselves, at the personal level, and with each other in the growing number of consumer-based networks. A world of ‘demand-pull’ where content is structured by users to meet their needs and the number of nodes for access and purchase proliferates. It is also a world in which the visual image reigns supreme. Where video mobile technology for both sending and receiving images has the eyes of the world in its thrall. Life is edgy and creative as distributed networks create a democratic pluralism which we have never before experienced.

Date: 1 July 2014

Location: A mews in Belgravia, London, England

Place: the London home of Andre Camponi, early morning

It was nearly 15 years since Andre Camponi, Founder of *FlyBaby* in 2004, had attended one of the early GBN annual fora.

He remembered how Ted Newlands, a veteran of Shell's strategy group from a generation earlier, had ruefully declared that the Third Millennium would be characterised by two factors: that it would be a world with only one superpower – the US – and a world in which consumers would reign supreme.

## File Swapping Consumers

It was the impact of new consumers which would change the world of the media forever. We had seen the signs of change in 2001 when Napster launched the mad world of file swapping, getting 44 million members in 6 months before the record companies managed to close them down. We also heralded open source technology with Linux offering serious competition to Microsoft.

What we had cutely described as the digital agenda was no longer futuristic. It was in play both reflecting and driving many vast and dramatic changes.

## Going Mobile

It was in the breaking moment of mobile technology, in 2004, that Andre got *FlyBaby* off the ground and into the marketplace. It's amusing to think that the great man had started his sprawling global business network helping the live music industry promote gigs in Rome to a lively young market.

As an adjunct to the promotional business, Andre offered the audience the ability to create and develop networks of like-minded consumers who were now able to recommend the best venues to each other, even as they were happening. It was not long before these groups realised that the new technology was so empowering that they could take control and call the shots. Not like trade unionists or other institutional lobby groups but as powerful individuals who literally had the whole world in their hands.



## Paradigm Lost: Education

In 2006, during a prolonged mid-life crisis, Bill Gates retreated to the mountains of Tibet and became a Buddhist monk. Maybe he had a secret window onto the world which was coming. Whatever, he bequeathed most of his fortune to provide every school which had basic electricity and telephony with laptops for its students. And wireless laptops at that.

By the late 2000s education as we once knew it no longer existed. The paradigm shift in the communication and consumption of musical entertainment (there were 500 million personal music recorders and players in circulation as early as 2005) did more in the space of five years to change education than the reforming policies of the previous fifty.

Governments became followers. Of course, being conscious of escalating educational costs, they were quick to embrace the new technology thus allowing them increasingly to remove education out of a schooling environment and into the personal space of the pupils, whether they were at home or at work, in libraries or simply on the move.

## Paradigm Gained: Business

Business began to pick up on government initiatives, closing unwanted offices and adopting similar concepts to those being developed in education. This led to lower capital investments and a big boost for the environment because of lower energy consumption. Teleworking had finally arrived. City centres lost their 'CBD' focus and became centres for entertainment, sucking the distributed workforce into their clubs, pubs, movie-houses, theatres and restaurants at weekends and in the evenings.

Retail shops lost their central role in the shopping experience, existing more as warehouses supporting online commerce. Physical packaging and branding became less important as a result of the development of virtual shopping and of the weakening of the power of copyright.

### The Eyes Have It

The first impact of these changes was to change our culture from its traditional text base. As Andre had been the first to see, the switch to mobile 3G telephony in 2003 not only kicked the text SMS ball out of play but was also the harbinger of the demise of the metropolitan newspaper. News was now able to be networked in video formats to include eye-witness images which are networked among consumers.

We are, of course, no longer surprised that the visual has ousted the textual but let's not underestimate the impact it had when it happened.

## Privacy

One of the great successes of the consumer revolution was the sharp increase in the legislation providing privacy protection. This was a no-brainer for politicians who saw the new networks as significant targets for electoral lobbying. As network power grew, so did the demand to be able to play in them without being 'spammed' alive or being integrated into suppliers' intelligent customer databases.

The need for privacy was a *sine qua non* of network power and network power generated the tools for further privacy implementation.

Andre laughed to himself. Here he was, the prime mover in the commercialisation of consumer network power, and nobody knew him. He spent three months of the year in Belgravia, living by himself and linking into his companies online and by handheld without any of the traditional pressures which 'big bosses' were used to. But then, although he was worth a motza, he did not actually employ anyone.

He stroked his ancient dog Mumbles and nodded off into a relaxed sleep.

## Just in my Time

Andre flicked open his *FlyBaby* handheld and logged in automatically to the main menu of member-networks. All media were represented – theatre, opera, painting, sculpture, books, magazines, news and so on – as well as all the channels available to access, share and buy visual data, news and works.

He remembered that his big 'aha' had been to acknowledge that the power of the networks could be harnessed to change the process and direction of distribution. 'What I want, when I want it and how I want it' was the consumer battle-cry and the demands needed IT support to make them real.

Following the success of his gig promotion network, he had created one for book reading groups. This network had been very 'novel' in its development. What started as a desire to find out what books other groups were reading became a network for buying highly discounted 'hardcopy' books and then one which wanted print on demand technology to allow groups to print their own stock and even e-book delivery across the network.

Soon Andre was doing for students what he had done for their mums and dads and then he was off into new territory with his music anthology network before the coup de grace – the *It's My News* network.

Finally, he withdrew from content altogether and provided network development services to anyone who wanted to build a position.

## Multi-channel

The revolution which Andre pioneered pumped the proliferation of distribution channels which we are used to today. It has become very difficult as we know to predict demand by channel because of the exponential growth in the number of 'points of sale' and the reduction in the average number of units created or demanded at each point. In some instances the point of sale demand is for one copy of a work; in others it might be as many as 10,000.

Printers have been very hard hit in the world of 'Pulp Friction' because of falling requirements for 'just-in-case' stocks, the decline in brands and packaging and the increasing power of digital delivery which denies the use of wood-pulp in any form. For example, the lucrative travel industry brochure business of the '90s collapsed by 2006 as discount travel operators integrated into their web domains all the details people could want to know and began delivering to video handhelds, on demand, great clips about destinations and travel experiences.

It was no surprise to see people like Lonely Planet reformat their travel database beyond 'online' to include video clips, neat translators and links back to the travel operators – all deliverable to handhelds on request.

## The Printers Strike Back

The history of printing is a history of resourceful adaptation to change. But the challenges posed by Andre and his pals required the most thoroughgoing and open-minded response that had yet been asked.

For the first part of the decade, denial of the need to change was the operative word. Printers continued to maintain and develop machinery and related resources. But soon this ostrich-like approach was so irrelevant that even the most conservative among them saw the need for change. Risk management required just that – the management of risk.

The first move came from the quick printing sector which was naturally at the cutting edge where consumer needs were concerned. They got into the Print On Demand market and pioneered POD Leasing which is the business model of today. They

also spotted cleverly that the sort of photocopying work they had been doing would disappear as the paperless world really did begin to cut in. As a response, they started to provide increased services in printing peripherals for consumers as well as online 'on-the-fly' customer service.

The newspaper printers were soon to follow, switching from newsprint to magazines and related highly visual printing. Here the emphasis was on the highly segmented needs of niche players to replace the collapsed mass market.

Book printing continued to surprise despite the impact of POD. In fact POD was not just replacing traditional book printing. It was also supplying copies of books long out of print or for delivery to markets unserved by the rationalising mass market providers. Nevertheless, significant sectors for book printing – textbooks, guide books, reference books and directories among them – declined at a rapid rate to leave the net book print output position significantly smaller than it had been before.

### *Early Indicators*

- NGOs become more trusted than corporations and governments
- Rise in global unrest – in particular against globalisation (linked to anti-US feeling)
- Acceptance of open-source approaches to IT
- Booming sales of 3G mobile phones; mad rush to invest in 4G
- Sudden surge in investments in ITC (Nasdaq/Dot Coms)
- Increase in satirical programmes in the media

### *Implications*

- Printing decentralises and localises – investing in JIT technology (print-on-demand and all forms of 'local' production)
- Build ethical integrity to gain the respect of consumers
- Focus on competencies to deliver multiple low-volume services
- Invest in R&D on a small scale looking for new opportunities from trials in many different places
- Promote CRN (customer relationship networks) and make your brands interactive

- Employ cutting-edge Gen Y and Z people to provide your bridge to the networks
- Once more focus on the interface between image creation and reproduction – whatever the medium

# Word Power

		Media Output Control	
		Authorised	Democratic
Dominant Communications Culture	Text	<ul style="list-style-type: none"> <li>editor selects</li> <li>just-in-case</li> <li>brands</li> <li>centralised stock</li> <li>supply-push</li> <li>top-down</li> </ul>	<ul style="list-style-type: none"> <li>fast</li> <li>distributed</li> <li>JIT</li> <li>free</li> <li>bottom-up</li> <li>lifelong education</li> <li>demand-pull</li> </ul>
	Visual	<ul style="list-style-type: none"> <li>integration</li> <li>convergence</li> <li>visual</li> <li>interface</li> <li>volatility</li> <li>multimedia</li> </ul>	

This is a world in which literacy levels and education have reached unprecedented highs. A world where the individual is respected, where it is taken as a right to have open and relatively free access to digitised archives containing the world information resources, unmediated, anywhere, anytime.

In this multicultural, multilingual world, people have come to expect to pay only for demanded information, and then in a language and form of their choosing.

All of this has been achieved while retaining the richness and comfort of traditional and new media forms, through the responsible use of resources and open standards for digital exchange.

Date: 31 December 2012

Location: Melbourne, Victoria

Place: The Library, RMIT at dusk

Professor Toni Birch had been writing her diary for the last decade and a half – in fact ever since she attended the Neville Freeman workshops on the future of graphic technology in late 2003.

She began the last entry for 2012:

*A thought occurred to me as I was visiting the museum of trees in Geelong today. Unfortunately, it was interrupted by a call from my virtual bank reminding me that my plastic card had only 5,000 credits left. The damn buzzing in my ear! I went to the wall mounted vending machine and brought up my statement. Quickly I entered in my pin number on my wrist-top computer and transferred another 10,000 credits from my husband's account.*

*It suddenly dawned on me that the reason I was at the museum was to gather information for the kids as they were studying "obsolete Australiana". I sent my digital photos to them and, through an intelligent search engine, discovered that if I dropped into Coles on the way home I could get my hard copy of the text I had been assembling on the displays.*

*My mind wandered to comparisons of frustration around the globe and once again I called on the trusty Intel search engine to compile the required data, and then format it using the metadata.*

*On the way home I reflected on just how far we had come. It only seemed like yesterday that I was looking through the bookshop for a title, usually without success. But what we had we lost on the way? Joni Mitchell flashed through my mind.*

*What was that thought again?*

*I guess it started in 2005 when the market no longer accepted analogue input and only embraced digital data. Quick, embedded metadata followed, like it had always been there.*

*Then it all happened – a global information strike. I'll never forget the authors march on parliament – no books, no newspapers, no school, not a written word for weeks, months. "Where is my piece?" they chanted. "No more dole ..... Pay for our brainwaves!" Happily commonsense prevailed as clarity of provenance and open standards gave the rewards and information the seamlessness we all thought we deserved.*

*But why did we lose our trees? Because we didn't care? Or because we did care? No, it was more about market than care. We are after all as market driven as the people running business, just ask the economists. Wasn't it fair? After all, information access should be ubiquitous, global literary standards are just.*

*Who could have predicted that environmental degradation would be a consequence of a digital and equitable world.*

*Let's pray for peace at home tonight. And good riddance to 2012!*

## Digital Metadata

Toni was right. It had been an amazing journey. Bumpy and amazing. You could with hindsight see the tipping points. The digitising of data had become 100% by 2005 and within two years metadata (including the DOI) had become embedded within all digital files. It was as if the potentiality of the previous 15 years was being sheeted home to a sudden realisation.

Perfect bound single copies of book were being produced in supermarkets, libraries, bookstores and even in pizza chains and coffee shops by 2007. Download music players were so common that it was estimated in 2006 that they held, at any one time, 3 billion songs worldwide. And most of those had been copied for free.

## Climate Change

Meanwhile, the global degradation of the environment was moving at an alarmingly accelerated rate. Climate change and CO<sub>2</sub> emissions were the key as the third and fourth worlds began to charge up the wealth creation ladder. Kyoto had languished. The idea of global unity had all but disappeared.

The demand for wood pulp was going through the roof. The confidence of the early 2000s that we had enough wood reserves for the near if not the long term was confounded by the fatal combination of long term drought, the rocketing demand for book and newsprint and the escalation in the demand for fossil fuels. Together they were wreaking havoc on the world's forests.

The UN looked on in consternation at its powerlessness to intervene.

## Copyright

In parallel with these environmental problems came the anarchy which we associated with the new user networks. Despite the advent of the DOI and digital rights management, these were not strong



enough regimes to resist the explosion in the untraceable file swapping of words and music by an increasingly savvy and empowered band of users.

Rightsholders were up in arms at the loss of livelihood and as Toni noted, in 2007 a global strike was coordinated by authors, publishers, musos and other stakeholders to seek a more just and fair rewards system.

Ironically, the problem with the world's trees was also exacerbating the situation. Paper rationing was introduced in 2008 and this switched resources away from print to digital access. The non-print market exploded as digital became the medium and the message. For a period, as rightsholders' incomes plummeted, it was touch and go whether the networks could be curbed from trafficking in free works.

The second wave of global information strikes in 2009 brought regulators into action worldwide. In 2010 the EU introduced model legislation with three points of attack. The first was the introduction of copyright levies on handhelds and related digital copying peripherals and devices. The second was the creation of global creativity funds by central governments to invest in publishing businesses. And the third was to build into educational funding, payment systems to reward authors and other creators.

These developments were still not enough. It took an unexpected additional element to bring the 'new balance' into play. The advocates of consumer power and open-source technology whose philosophies seemed to negate copyright had developed the concept of privacy beyond the idea of security to embrace the moral rights of individual creators as a matter of community ethics and reputation. Network creators were rated as to their reputation in upholding creators' rights and where competing sources were available the higher rated providers were chosen.

Human nature while open to radical change, still doffed its cap to the honourable way of interacting and behaving.

Of course the impact of this new ethic was patchy. It weakened in dealings with large institutions and companies and strengthened at the level of the individual artist.

## Education for All

By 2012 these supplementing regimes and cultural changes had provided a workable new commercial backbone which enabled the democratisation of information to move quickly without killing of the creative wellspring which fed it.

The thirst for education was paramount. The new technology operated in a world of open source and wireless distribution. Vast

databases of free access archives were built. In 2011 their power was multiplied with the launch of the global *Translision* service – the instantaneous translation of text from one language to another.

By 2012 we were entering a world where basic literacy was the norm and not the exception and over 50% of the 3 billion people under 20 years had completed secondary education.

## Print

The world of *Word Power* was a mixed bag for printing. The sustaining interest in print culture was positive and book printers diversified their activities to provide POD resources in traditional and new outlets.

The markets for packaging were poor, however, as the mobile generation was negative about wasteful production (because of the environment) and could not care a hoot about brands.

Newsprint continued its inexorable decline but newspaper editors took to multi-channelling like ducks to water. By 2010, nearly all broadsheet newspapers were dead and the print tabloids were increasingly supplemented by online and handheld news services. The newspaper publishers were now news service focused and enjoyed the opportunity to co-develop their market offer with their readership.

Such was the devotion to the word that magazines carrying highly visual ads for fashion, the home, travel and leisure flourished.

Quick printing held its own, too, particularly in the period before the rationing of paper was introduced, and even thereafter it was not as adversely affected as the book printing sector. The proliferation of sales points helped the high street printers who picked up increasing numbers of low-cost jobs.

### *Early Indicators*

- Accelerating and unregulated demand for woodpulp in Asia
- File swapping grows unabated; weakness of DRM systems exposed
- Investments by large publishers in metadata and database management systems
- Authors and publishers cooperate to their mutual advantage
- Increased demand for POS print facilities

## *Implications*

- Focus on the interface between metadata/DRM and reproduction to elicit new opportunities
- Style your business as a long-term player which is committed to the common good
- Position your business to participate in the burgeoning social networks
- Build relationships with players at the cutting edge of ITC
- Reduce investment in high print run facilities and switch to multiple low-volume applications

# Strategic Options for Printing Industry Sectors

In our second workshop we established a checklist of strategic options. Those with most relevance to all scenarios are reproduced here:

## R&D/Product Development

### Quick/Commercial

Value-add to ensure survival/growth

Value-add to compete effectively for scarce resources

Get closer to the customer

Change business model to effectively/efficiently react to customer needs

Form alliances with ICT and logistic sectors

Implement standards and interoperability research agenda based on end-user needs and output formats

### Newspapers/Magazines

Variable marketing logistics 'pick and print' > customised

Centralised data/metadata

Form alliances with ICT and logistic sectors

Implement standards and interoperability research agenda based on end-user needs and output formats

### Packaging

Intelligent packaging

Environmental containers (intelligent)

Initiation of development of re-usable substrates

Integration of packaging with product to form a product/packaging manufacture environment

## Books

Form alliances with ICT and logistic sectors

Implement standards and interoperability research agenda-based on end-user needs and output formats

# Customer Services/Human Resources

## Quick/Commercial

Customer help/self help

Focus on customer communication channels

HR > develop a business mindset > customer needs

Invest in CRM and database management services

Develop intelligent services around wellbeing, lifestyle, whole of person needs

## Newspapers/Magazines

Security technologies – data/info

Customer service/support > quick, efficient, effective

Embrace 'progressive education' mindset

Invest in CRM and database management services

Develop intelligent services around wellbeing, lifestyle, whole-of-person needs

## *Packaging*

Accommodate fashion/taste for varying population groups

Value/supply chain perspective

Make HR and customer service a line management responsibility within the product manufacturing business

Focus on cross-functional skills

## *Books*

Identifying delivery mechanisms

Two-way communication

Invest in CRM and database management services

Develop intelligent services around wellbeing, lifestyle, whole of person needs

# Marketing/Customer Development

## Quick/Commercial

What do you want and how do I give it to you?

Show them how to do it and ask the right questions

Focus on advanced personalisation services

Customer-pull strategies

## Newspapers/Magazines

People perspective and give it to them

Understanding market dynamics and embed in the culture

Focus on advanced personalisation services

Customer-pull strategies

## *Packaging*

Understanding and delivering customer preference

Trust, security, integrity, reliability

Market research to identify customer acceptance of packaging

## Books

Deliver what they want > a one-stop shop

Change business models i.e. publish, library, coffee shops etc

Focus on advanced personalisation services

Customer-pull strategies

# Competition/Globalisation

## Quick/Commercial

Business adapted to suit market demand > speed, reliability

Get the right people to run the business (networks?)

Global alliances for technology infrastructure

Highly localised responses for product services

## Newspapers/Magazines

Customer-driven not newspaper-driven > selective business

Distribution mechanisms > customer needs  
Global alliances for technology infrastructure  
Highly localised responses for product services

## Packaging

Rewards/specials/loyalty programs  
Distribution to accommodate different shopping habits

## Books

Global knowledge networks  
Customised distribution and production  
Global alliances for technology infrastructure  
Highly localised responses for product services

# Investment/Financial Management

## *Quick/Commercial*

Invest in business and people  
Learning the value of the value proposition  
Support for whole-of-industry common services and an IT/Communication infrastructure  
Development of governance structure to give infrastructure investment and end-user access guidelines

## Newspapers/Magazines

Invest in enabling technologies  
Invest/recognition of value of the data and metadata  
Support for whole-of-industry common services and an IT/Communication infrastructure  
Development of governance structure to give infrastructure investment and end-user access guidelines

## Packaging

Supply chain > investment in > efficiencies/effectiveness  
Focus on cost-reduction strategies

## Books

Enabling technologies – investment in

Support for whole-of-industry common services and an IT/Communication infrastructure

Development of governance structure to give infrastructure investment and end-user access guidelines



# Postscript

We know that we cannot predict the future and that the past is a poor guide because its discontinuities are unlikely to be repeated and its trends will be rudely interrupted by new surprises.

The New Impressions Scenarios have been constructed as a response to these truisms and are a foundation for exciting future work.

We believe that RMIT has taken a bold first step in its service provision to the graphic technology industry. It has also positioned itself to introduce scenario planning into its academic 'body of knowledge' for purposes beyond graphic technology alone.

We urge RMIT to put resources into both these activities in 2004 and look forward to helping RMIT in an exciting development.

Oliver Freeman      16 December 2003