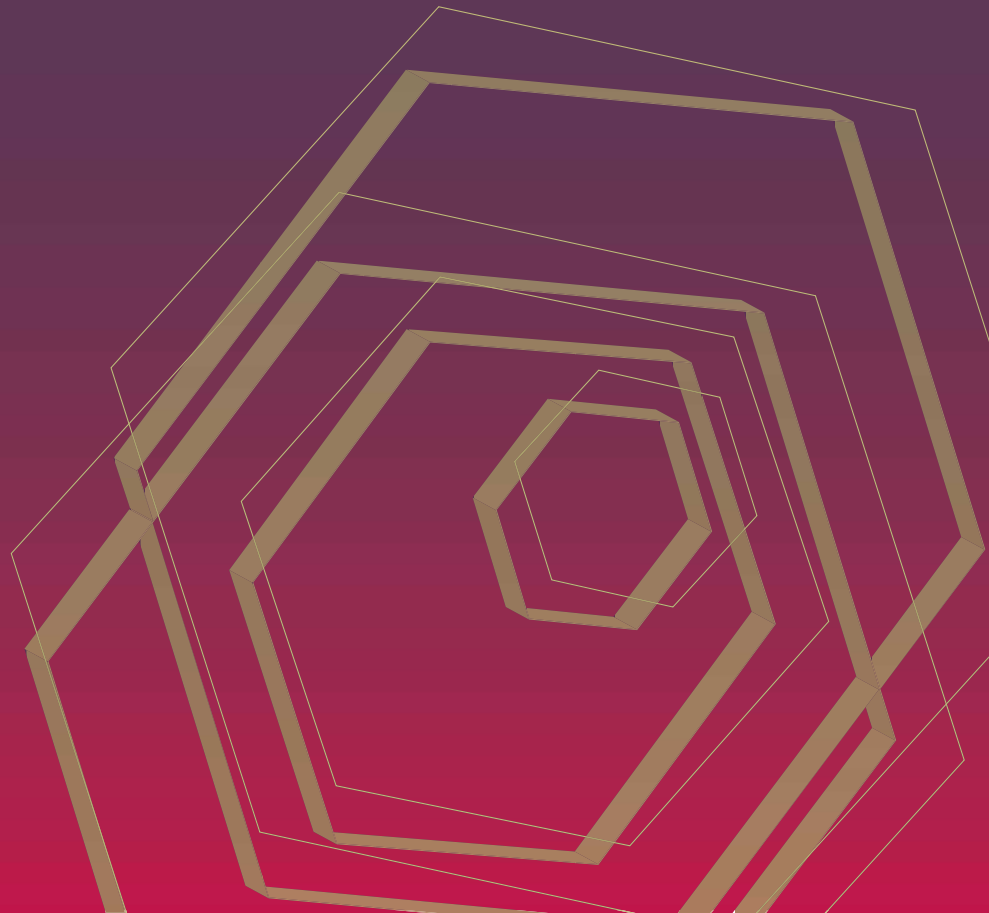




business insights

Key Learnings from EPICS Projects 2000 - 2004



Acknowledgement

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This report was prepared on behalf of the Printing Industries Association of Australia by principal author Richard Vines with contributions from Andrew Goldsmith, Phillip Boyle and Tony Freeman in their capacity as Client Managers for the EPICS program.

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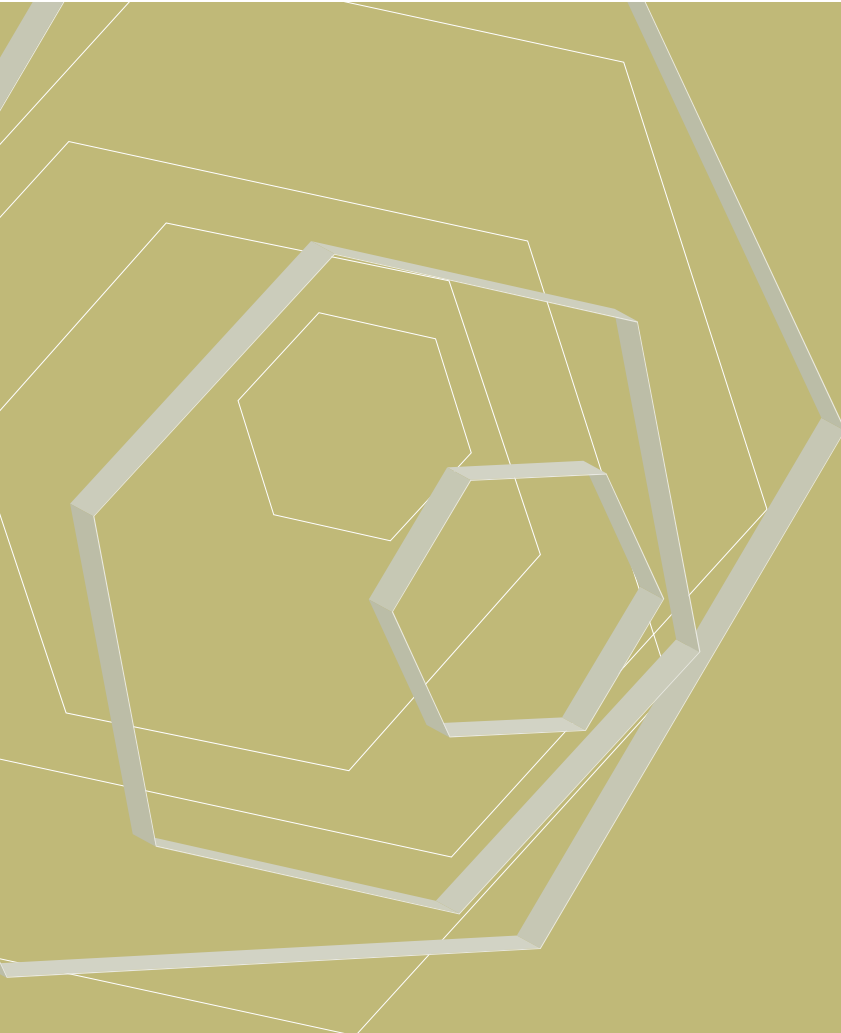
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business insights

Key Learnings from EPICS Projects 2000 - 2004

forward



All the business planning tools in the world can't help a company reposition itself and become more profitable unless there's a commitment to use them. This can be made easier if we know what others have done, how they did it and what were their results. This report illustrates just that.

Printing Industries is proud to have secured the \$48 million four-year Enhanced Printing Industry Competitiveness Scheme (EPICS) from the Australian Government to make possible over 500 projects that helped the industry itself and more than 300 companies directly.

While the intent of the funding was to revitalise the book production sector, benefits have also flowed to the rest of the industry through initiatives such as:

- PrintNet Benchmarking Online;
- International Competitiveness Project;
- Training & Education Needs study;
- Industry Analysis and Market Development Projects (Ad Rem, Joint Industry Study);
- Training and Education Development Projects (Cadetships in the Print and Graphic Arts industry, Print Degree Course, Print21 Business Diagnostic Tools, Book Profit Program, Leadership Course for Print Executives); and
- Innovation, R&D and Technology Development Projects (C-2-C Integrated Book Production project, New Pathways for Multi-Channel Publishing, Digital Rights Management (DRM), Eco-Efficiency Assistance Program for Book Production Industries).

The Industry Strategy, Print21, also made a valuable contribution to the success of EPICS. Many companies used the Print21 Diagnostic Tools to help provide a focus for their EPICS projects.

EPICS ended on 30 June 2004, and with it the role of the Client Manager Service which worked with these companies over the schemes' four year duration. The project legacy, while comprehensively documented in this report, is by no means complete and will continue well into the future. It is hoped this publication will inspire company based projects to build on these learnings.

Companies featured in this publication have characteristics similar to the majority of industry companies. They wanted to know what was lacking in their business, how to fix it and what more to do. Most had lacked any formal planning process to help them. EPICS showed the way forward. *Business Insights - Key Learnings from EPICS Projects 2000 - 2004* has been initiated by this Association to foster renewed growth and profitability over the whole industry. I commend this publication to you if you are interested in the success of your business.

A handwritten signature in black ink, appearing to read 'Chris Segart'.

Chris Segart
National President
Printing Industries Association of Australia



about us

The Printing Industries Association of Australia (*Printing Industries*) is the advocate and support organisation for businesses in the Print, Packaging and Visual Communication industry in Australia.

Membership covers all imaging and communication sectors. These include print, prepress and design, publishing, distribution, software and hardware, paper and paper board, print consumables, packaging and flexible packaging, paper converting, binding and finishing, communication and media services.

Printing Industries' mission is: "To be the catalyst for the prosperity of the print, packaging and visual communication industry in Australia".

Peak Body

Printing Industries provides leadership on behalf of the industry, company and industry advocacy and is the industry voice to all levels of government.

Specialist Services

We are a national, independent, member-based organisation providing specialist services to large, medium and small businesses. Industry specific services include PrintNet Online Benchmarking, Print21 Business Diagnostic Tools, statistics & reports, employee relations and OH&S services, training, export development, environment, GST and business management services.

National Coverage

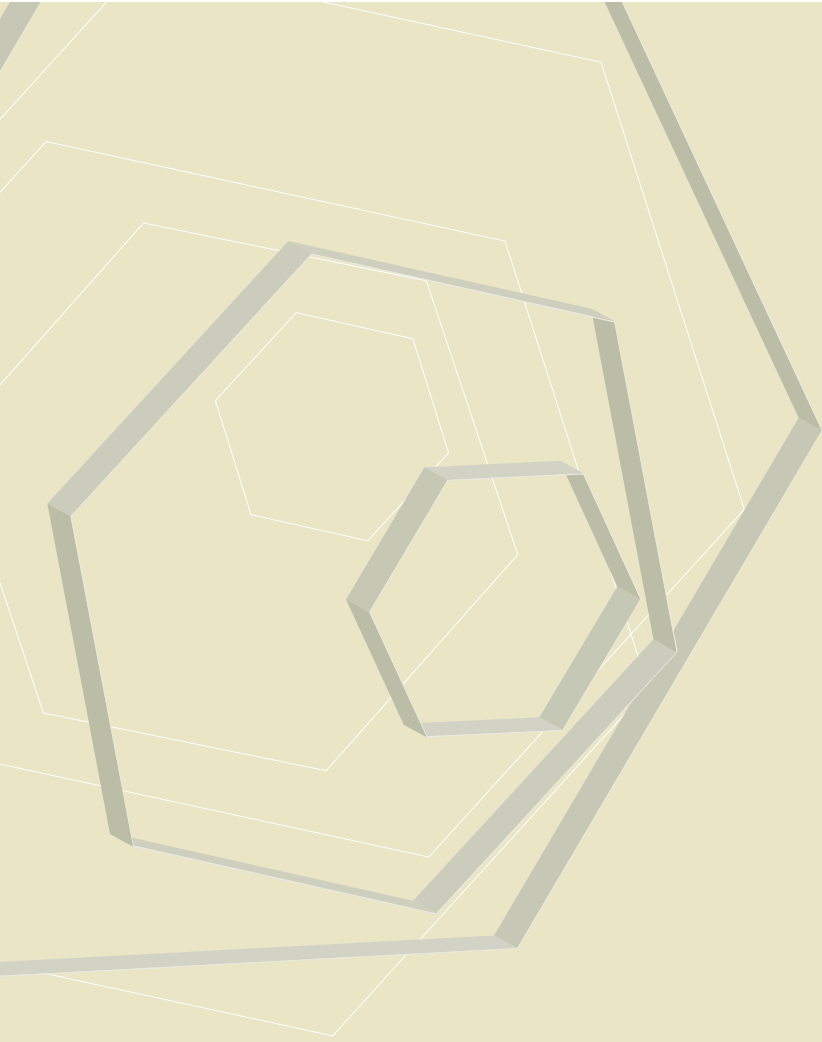
We support our members through a network of local offices, phone support, site visits, internet resources (www.printnet.com.au), roadshows, industrial award coverage, government grants, policy development and representation before all State and Commonwealth governments.

Communication Channel

We keep you informed on everything from technology to business developments through exhibitions - PacPrint, PrintEx - local conferences and events including Print Month 2005, the National Print Awards and local awards, PRINT21 magazine, PRINT21 On Line, CEO Updates, local news and networking functions and the industry website www.printnet.com.au

Our Industry

The industry is one of the largest manufacturing sectors in Australia employing over 115,000 people. Small to medium businesses dominate with 85% employing less than 20 people. Annual turnover is greater than \$18 billion, including more than \$8.4 billion in industry value added, \$575 million in exports and \$2 billion in imports. Average annual capital expenditure is approximately \$746 million.





business insights

Key Learnings from EPICS Projects 2000-2004

“Australia’s printing industries are at the crossroads. The pace of technological change is nothing short of phenomenal. Long gone are the images of plastic-sleeved printers stooped over typeset. The industries in Australia have moved from the traditional “ink on paper” to embrace an ever-increasing range of technologies and fields of expertise. And yet, as printing industries, we have not always had a clear vision for our future. We don’t always recognise our industries’ size and sophistication and the major role we play in peoples’ lives and in the economy.”

**Trevor Hone, Chairman Print21
Executive Summary
Printing Industries Action Agenda
March 2001**

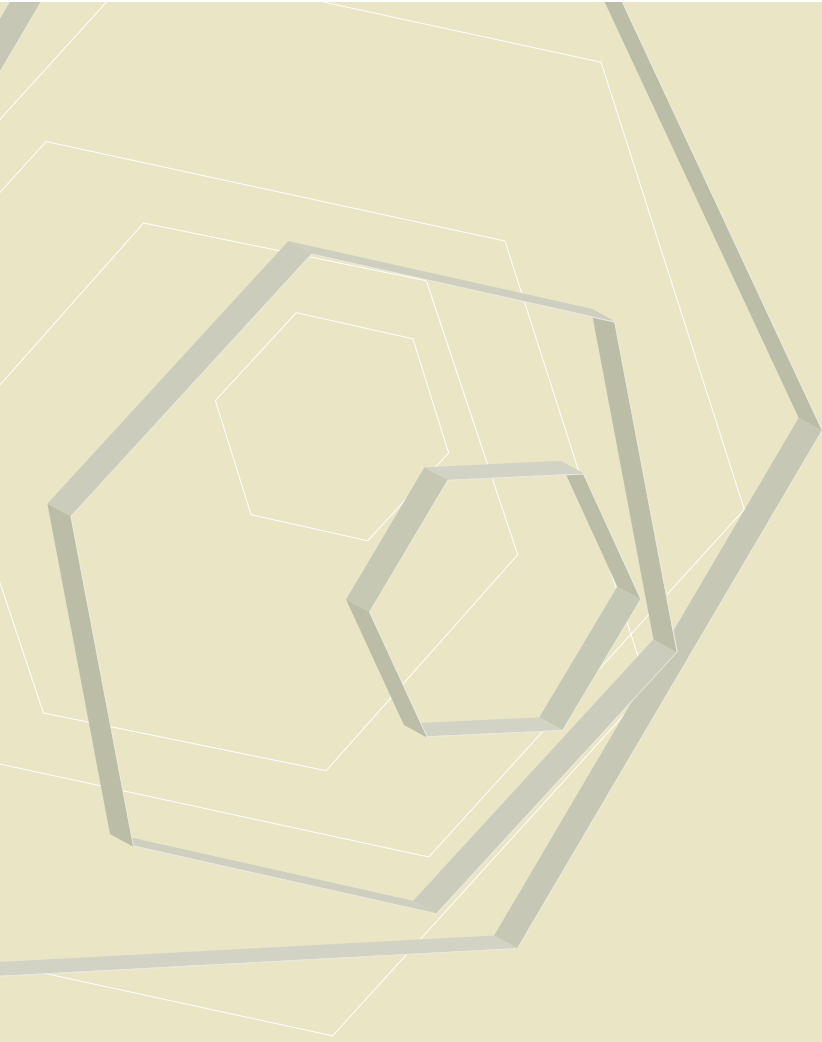
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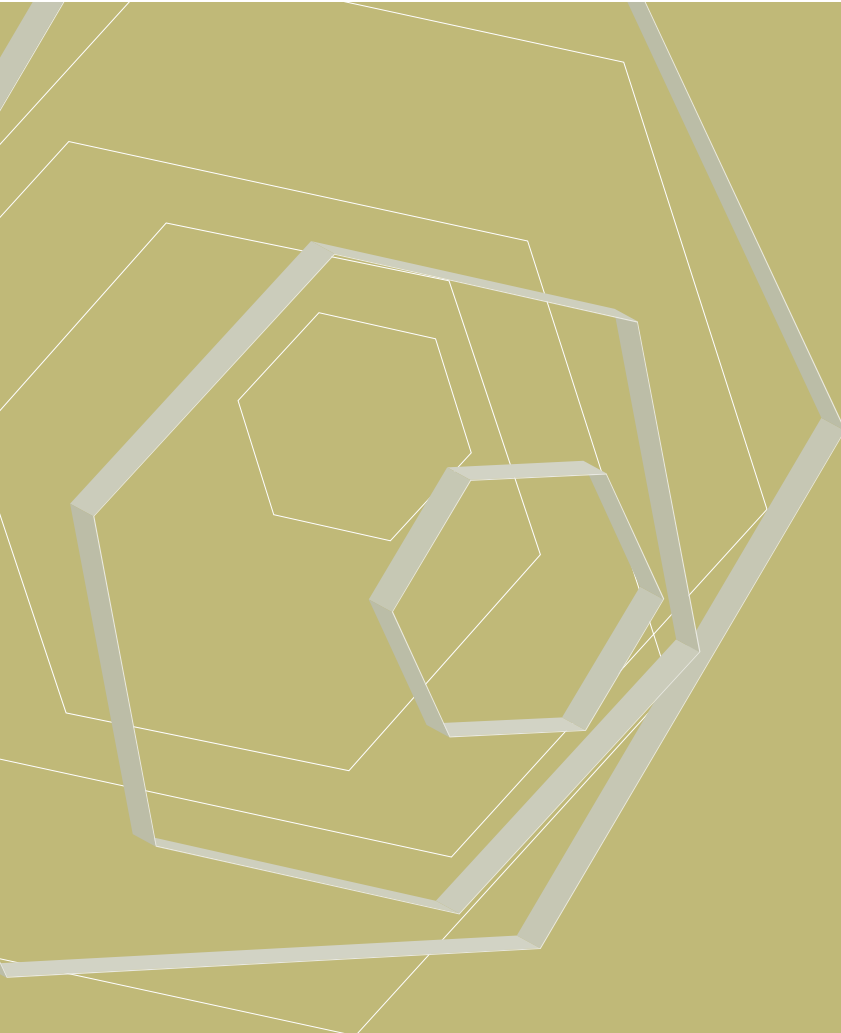
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executive summary



executive summary

Introduction

A summit convened in late 1997 brought together representatives from all sectors of the printing industry to address the state of the industry in Australia at that time. From that meeting, with support from the Australian Government, Print21 was born; an Action Agenda to motivate, guide and provide resources to the industry, and to individual enterprises within the group with the aim of moving forward together into the 21st Century.

From the summit, a consortium was founded composed of representatives from the Printing Industries Association of Australia (*Printing Industries*), Graphic Arts Merchants Association of Australia, National Paper Council of Australia, Australian Paper and the then Commonwealth Department of Industry, Science and Resources. A steering committee and three working groups were then formed to:

- prepare: a current profile of the industry;
- to undertake a strategic analysis; and
- develop possible pathways for progress for the future.

The findings of these working groups became the Print21 Action Agenda, released in 2001 and implemented progressively since then.


Print21 has been a significant achievement in terms of government and industry working together, with the working group structure showing the value of participation from industry members at all levels. The aim of all involved has been not just to increase profitability and improve business processes within the printing sector, but to effect a cultural change: to hold up a mirror to the industry so that it can see itself, and recognise how it is currently changing. As for all industries going into the new millennium, change means finding a way to understand, keep abreast of and implement new technologies. This is one of the overwhelming

challenges for printing industries in Australia. New technologies impacting on business means rethinking business processes.

As is evident in the case studies presented in this paper, the Scheme has affected many enterprises by focusing on one part of their business in the light of Print21 recommendations and has shown many other potential areas of growth. It has encouraged management to look at their enterprise in the context of a bigger picture, to look around to see how other companies might be dealing with the same challenges and opportunities. Companies participating in Print21 projects, no matter which area of business was focused on, would have gained a greater understanding of the industry and the broader business environment in which they are operating.

Findings and key recommendations

Print21 found that at the beginning of the new millennium the Australian printing industry was in a state of flux. Huge changes are rippling through the sector driven by rapid technological change and an increasingly globalised marketplace. As change brings opportunities it also brings disruption. Print21 predicts that this rate of change will affect the industry for some time to come, and sees the future as exciting, complex and uncertain.



There could not be a better time for the injection of ideas and resources for development of the industry. The working groups' research showed that, on the whole, the industry had been experiencing a decline in profitability and return on investment over the last years. As Print21 also showed, the challenges and opportunities that exist for the industry revolve around revitalising profitability and working towards growth that can be sustained in the long-term. The profile of the industry, undertaken by one of the working groups, gives a picture of a very large, vital group of businesses, the huge majority of which are small to medium in size. The industry also has a strong presence in rural Australia.

After an in-depth analysis of its current state and the way it has changed in the last years of the 20th Century, Print21's Action Agenda provides a suite of recommendations that map out a path for Australian businesses to improve their competitiveness, expand their business processes (or at least, understand them better) and to grow. The recommendations provide Australian businesses with innovative strategies and plans with which to combat the slide in profitability in order to increase competitiveness. The 12 formal recommendations that emerged focused on the development of practical solutions to be achieved by government and industry working together. Each recommendation is accompanied by a list of tasks that must be undertaken towards that goal, and allocates responsibility for each task.

Print21 also mapped, on a broader scale and through scenario planning, viable pathways forward.

EPICS clients were encouraged to use the Print21 Business Diagnostic Tools as a reference point to help them develop their enterprise improvement projects.

EPICS nature and structure

The government's commitment of \$48 million over four years for the Book Production – Enhanced Printing Industry Competitiveness Scheme (EPICS) had the major objective of revitalising the Australian book production industry. EPICS has given Australian businesses operating within the book production and printing industries a unique development opportunity – the time, money, expertise and guidance to find out what their business is lacking and how, according to the guidelines of the Scheme, they can best apply resources to the areas that need help.

Business planning was one of the most crucial areas that needed work. Of the case studies noted here, and in many others recorded as part of the Scheme, business planning was often underdeveloped or close to non-existent. Many small to medium-sized companies participating in EPICS projects did not have formal business plans. This initial step led to further projects for many companies and an opening-out of goals; as one problem or challenge was articulated and addressed, more opportunities and new ideas for business often became apparent.

Industry-wide needs were addressed by EPICS' Infrastructure and Industry Growth Fund (IIGF) grants. These grants were allocated to projects that addressed such things as business development training and skills development. A national benchmarking project proved to be of considerable value to the companies that participated giving each participant, and the

executive summary

industry as a whole, a wide-angle view of the relative cohesiveness and viability of the industry. It became apparent for many companies taking part in the benchmarking project that collaboration in technology, in some cases, and in information, in particular, would bring benefits to all without harming competition.

Leadership and career pathways was another broad theme addressed through IIGF grants, having a significant effect on the culture of the industry. This area needed work as Print21 identified the lack of young leaders training to take up management and industrial issues. Leaders are needed for the future to sustain the industry. As case studies show, the development of young people working in book production and printing must be considered from the point of view of leadership and management potential as well as focusing on the development of experienced workers with technical skills and solid grounding in the practical aspects of working in the printing industry.

IIGF grants were used to fund partnerships with the Royal Melbourne Institute of Technology (RMIT) and a sandwich course¹ at the Canberra Institute of Technology (CIT). These projects have shown possible ways forward in this area and together with the development of degree courses, have the potential to take printing and print management as a career to a new level.

Benefits and challenges

A vast number of companies, Australia-wide, got involved in EPICS projects. Companies participating in order to focus on their own needs and development potential were given resources, expert guidance and incentive. Companies worked on improving their competitive edge, business planning skills, workflow reform and many other projects.

Those involved in benchmarking and collaborative exercises learned about sharing knowledge, developing or enhancing information systems, and gathering and analysing data about their own industry. Partnerships with government, universities, industry consultants and specialists has given the industry as a whole an opportunity to develop a strong sense of itself and the direction in which it is heading.

Challenges that lie ahead may be surprising, but Print21's research provides a valuable assessment of the current health of the industry and shows pathways by which to move forward. There is still much work to be done in business development and cultural change, encouraging individual companies to look outside their own business premises in order to gain a stronger understanding of the environment in which they operate and an awareness of themselves as functioning within a large, vital and complex industry.

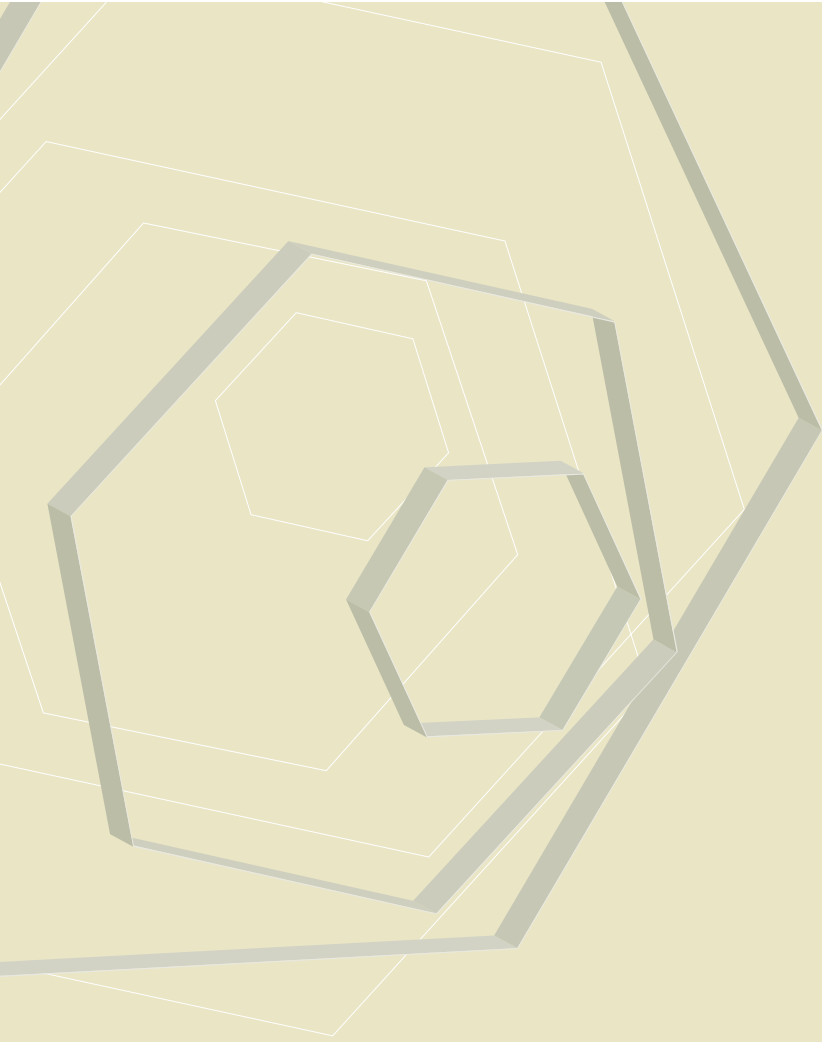
However, Print21 has begun a huge process of cultural change and awareness, the effects of which will be felt in the industry for some time to come.

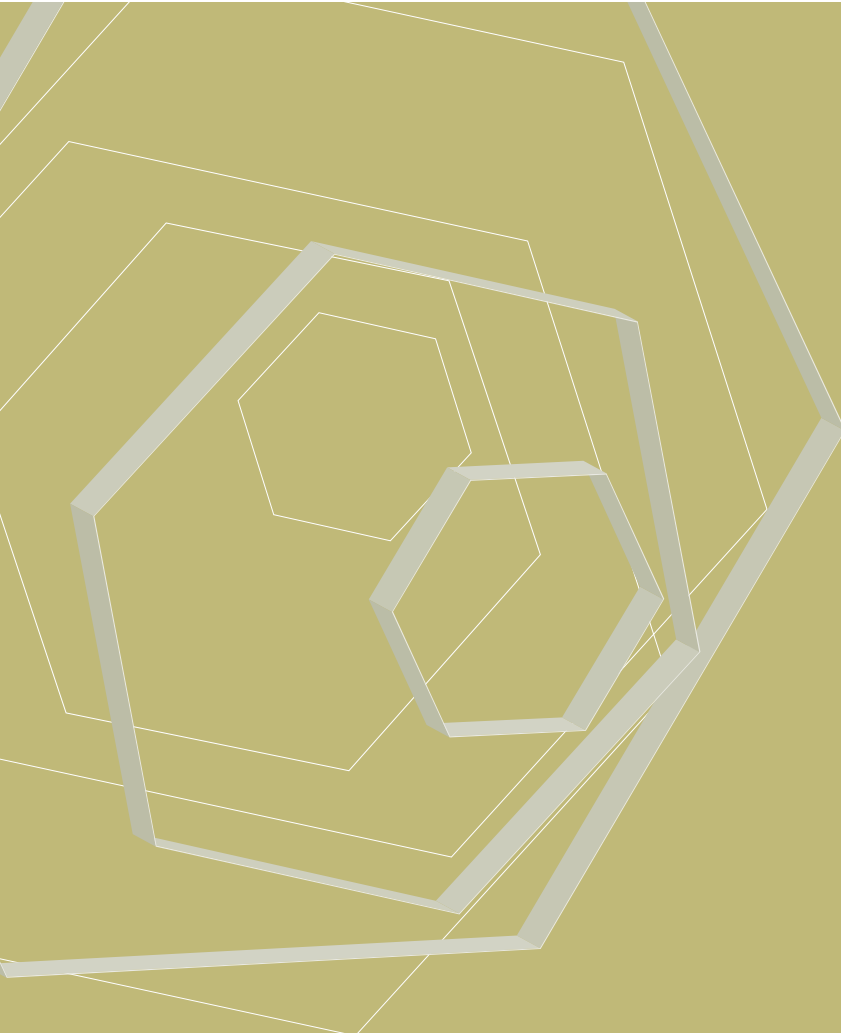


Objectives of this paper

This paper aims to:

- Identify relevant findings from the implementation of various Enterprise Development Fund (EDF) and IIGF projects that arose from EPICS;
- Document these findings in a framework consistent with the recommendations and strategies of Print21;
- Show how Print21's Action Agenda represents the particular interests of Australia's book production industry, including the interests of Australia's publishing industry generally;
- Provide case studies and examples to assist stakeholders in Australia's book production industry make more informed judgments about business strategies; and
- Demonstrate the changes that the Australian publishing industry is undergoing and highlight Print21's innovative strategies to move with these changes.





section 1

Overview of EPICS and Print21

section 1

Overview of EPICS and Print21

Government support of the Australian book industry

Historically, the Australian Government has supported the book industry through a number of different channels. Content development has been supported through bodies such as the Australia Council. The manufacturing sector was supported through what used to be called the Book Bounty Scheme, a tariff compensation program. However, Australia has gradually reduced these tariffs over the last three decades and the Book Bounty Scheme finished in December 1997. Tariffs still apply at 5% on imported paper however.

The Australian Government introduced the Printing Industry Competitiveness Scheme (PICS) in 1999, replacing the Book Bounty Scheme. PICS provided a 4% rebate of paper input costs for designated books, whether or not the paper was subject to the 5% tariff. The Scheme ran to completion in 2003 with funding in the last year channelled from EPICS.

Over time, the change from the Book Bounty through PICS to EPICS has shown a move from government's involvement in the industry from "bottom line" compensations to implementation of innovative strategies for product and service development.

In a world changing with the forces of globalisation and technology revolution, and a move towards a more open economy in Australia generally, the industry needs to change along with it, acknowledging that profitability comes from investing in productivity improvements, and market-growth through development of product and services. Project-based innovations have become a cornerstone strategy in delivering EPICS. Applications for EPICS grants were considered individually, and competed against the relative merit of other project proposals.

Print21² The Action Agenda framework – key findings

Print21, an industry-government partnership began in March 1999. It was established to analyse the Australian printing industry as a whole; as it stands today, growth opportunities for the future and possible pathways into the 21st Century. Print21's research papers declare that:

- The Australian printing industry is experiencing a slow slide in profitability and a decline in return on assets;
- The challenge facing the industry is to innovate, revitalise profitability and build sustainable industry-wide growth in the long-term;
- Reliance on the way business has been done to date is no guarantee of survival let alone of sustainable growth;
- New approaches are needed for business development and the customer is vital in this process; and
- Customers are demanding more total business solution offerings from Australian printers.

In answer to these findings Print21 made 12 recommendations:

Collate industry information: Develop, implement and maintain an information system to assist in monitoring the industry's performance across a range of financial and operational parameters.

Develop international markets: Develop market opportunities, responding to and meeting international competition.

Respond to future trends: Develop information and knowledge to enable the industry to respond to emerging scenario issues and trends.

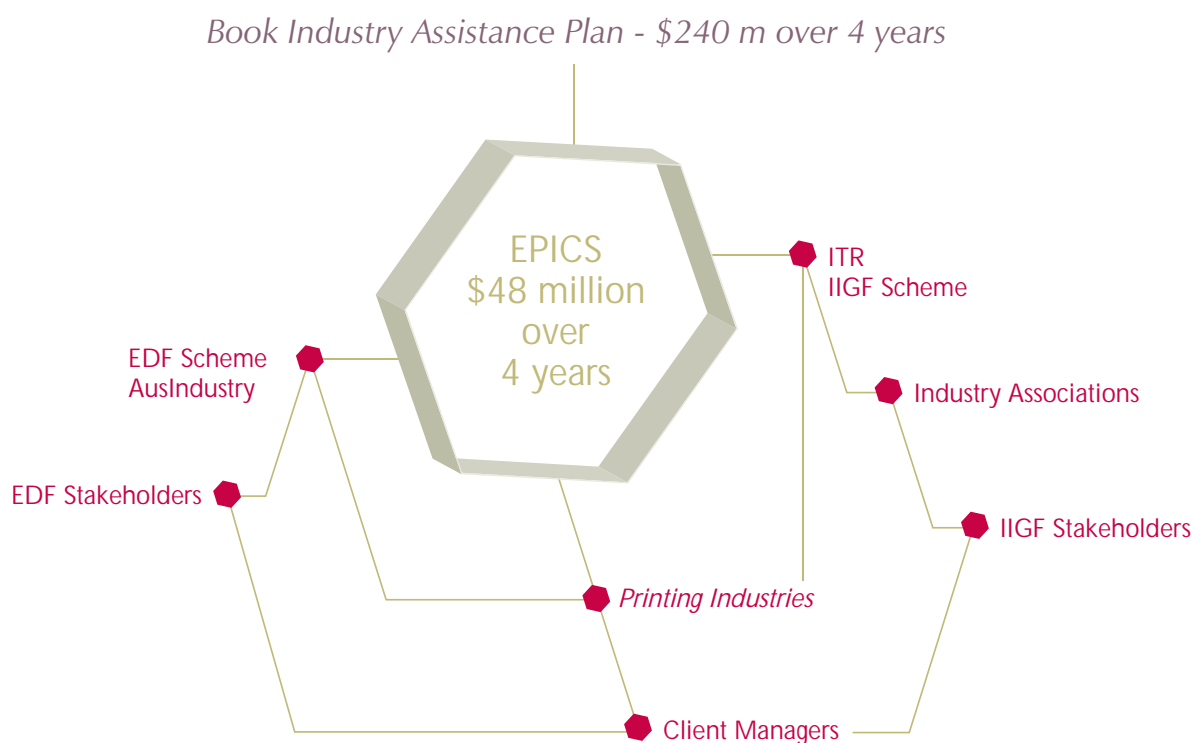


Figure 1
Structure of EPICS administration

Identify regional opportunities: Assess opportunities in regional Australia.

Provide business tools: Assist firms in the printing industry to develop effective business strategies and strengthen relationships with their customers and suppliers.

Provide people solutions: Assist printing firms to increase their investment in people to

achieve solution-oriented sales and marketing functions and improved business management practices.

Encourage innovation: Assist firms to increase their R&D and innovation, and encourage development of innovation centres in new technologies and business management.

section 1

Overview of EPICS and Print21

Assess low capacity utilisation: Assess the nature and extent of low capacity utilisation.

Improve capacity utilisation: Determine a range of actions that could be taken in the industry to improve capacity utilisation.

Leverage technology & IT: Assist firms in the printing industry to manage technology and leverage IT competencies.

Promote industry capabilities: Assess and promote the printing industries' capabilities and promote these to potential customers.

Establish implementation group: Establish an implementation group to carry out the Implementation Program.

These recommendations were grouped into three categories: Business and Market Development, Innovation and Technology, and Skills and Training.

More about Print21 and EPICS

EPICS came out of an Australian Government package of \$240 million (July 2000) called the Book Industry Assistance Plan, aimed at printing, publishing, book selling, book authorship and library activities in Australia. From this package, \$48 million was allocated over four years for EPICS.

EPICS grants were designed to improve the development and competitiveness of the Australian book production industry following the introduction of the Goods and Services Tax (GST).

Two program funds of EPICS grants were made available:

1. The Enterprise Development Fund (EDF) administered by AusIndustry which has

supported proposals from individual companies or small groups of applicants with commercial objectives aimed at increasing their competitiveness; and

2. An Infrastructure and Industry Growth Fund (IIGF), administered by the Manufacturing, Engineering and Construction Division of the Department of Industry, Tourism and Resources for projects aimed at delivering industry-wide benefits.

Implementation and structure of EPICS

Printing Industries and the Manufacturing, Engineering and Construction Division of the Department of Industry, Tourism and Resources established a professional Client Manager Service to help companies access EPICS grants. Client Managers also provided referrals to other assistance programs and services.

EPICS has launched many successful and varied EDF and IIGF projects.

Eligibility for EPICS grants

For the purposes of EPICS, a “book” was defined as being anything including a traditional book, journals and periodicals, government books intended for sale, annual reports and manuals. The definition explicitly excluded book material with greater than 30% advertising content, newspapers, calendars, directories, timetables and subsequently also excluded stationery items, such as invoice books and diaries.

Participating companies were required to provide detailed progress reports, showing milestones reached in their project, and maintain records throughout.

To be eligible for EPICS, book production companies included companies that undertook one or more of the following processes:

- Typesetting;
- Film preparation;
- Colour separation;
- Platemaking;
- Printing;
- Folding;
- Binding;
- Manufacture of packaging to be sold with the book;
- Packing of the book for purposes of transport; or
- A new methodology or technique recognised as similar to, or a replacement for, one of the above processes (e.g. graphic artists for books who can be considered a “typesetter on the screen”).

Innovation, business development and skills formation

Applicants for EPICS grants were required to show how each project was designed to add something new to its core business, or to develop and enhance business processes already in place or to upskill staff.

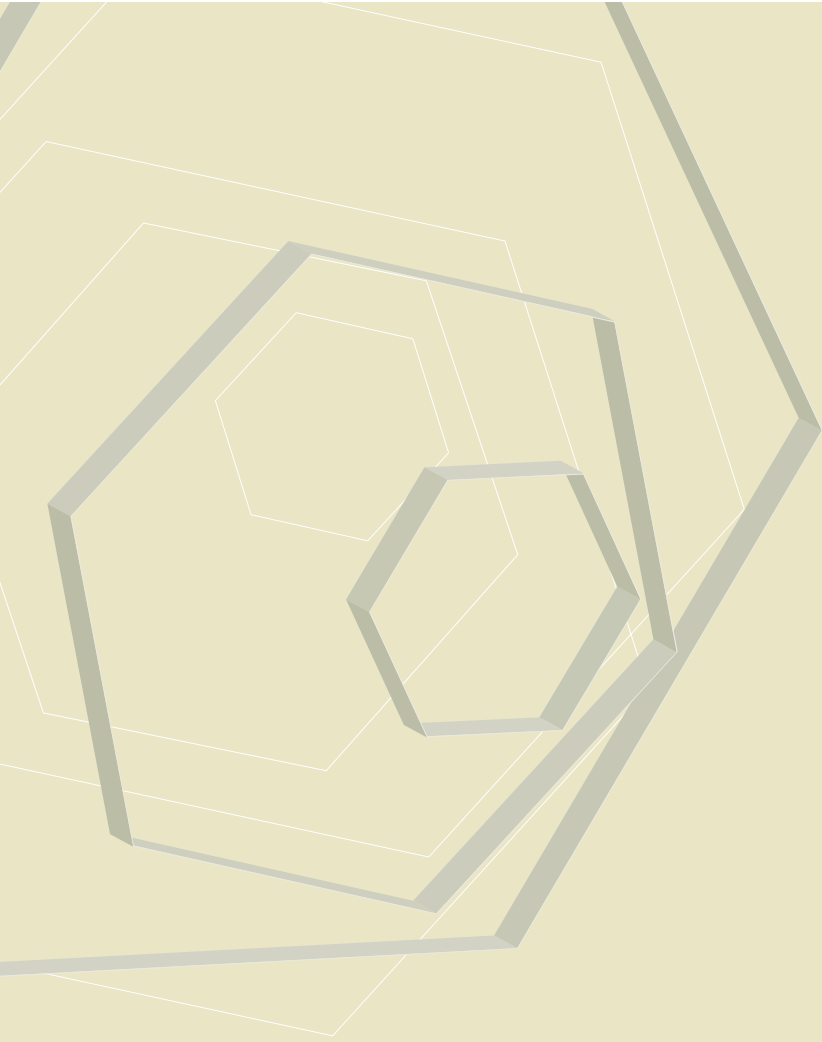
Innovation - was broadly defined as new products, production processes, services and management systems that provided a market advantage thereby resulting in business improvement.

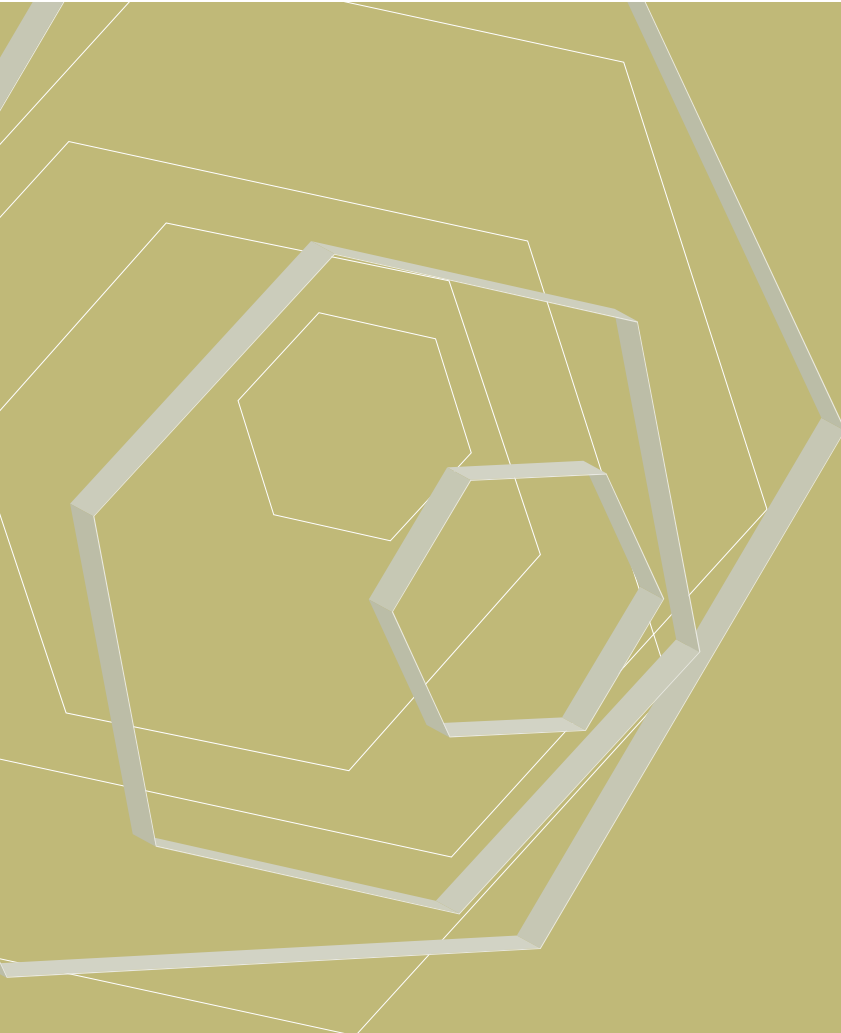
Business development - was defined to include one of the innovation practices defined above as well as strategic planning activities, such as the development of business plans and marketing initiatives.

Skills formation - referred to staff training in new or innovative techniques for services which would enhance the competitiveness of the company.

These terms were defined with enough flexibility to allow applicants to show how each individual project contributed to that applicant's strategic business intent.

Applicants for EPICS grants were considered individually, and competed against the relative merit of other project proposals.





section 2

EPICS Customers: Taking up the Challenge

section 2

EPICS Customers: Taking up the Challenge

Business planning

Print21 identified that the print industry is comprised primarily of small to medium-sized companies, many of which approached business planning in an informal manner. As such, the culture of operating strategically had not permeated throughout the industry to the same extent that it had in some other industries.

As a result, it was expected that companies making EPICS project applications should approach the application as a rigorous business planning exercise. No particular methodology was imposed on EPICS customers, but it was always emphasised that business plans should be written with the findings and directions of Print21 in mind. More than 150 business plans were funded as part of EPICS.

Print21 also developed eight diagnostic tools for companies to use in order to assess various aspects of its business and the environment in which that business operated as part of its strategic planning activity. The tools were designed to help each company understand more about the way it works, to improve competitiveness and to guide change.³ Print21's business diagnostic tools are:

1. Financial analysis

This tool covers topics such as the financial health of a company and how to measure it; market valuation; investments and earnings in relationship to cash flow.

The financial analysis tool allows a company to draw its own financial profile; to calculate financial ratios; analyse its own market value and determine how to increase that value.

2. Industry analysis and business purpose

This tool is designed to investigate a company's purpose in running its business; allows a SWOT analysis and an industry analysis including current competitors.

After applying this tool, a company will understand the major influences affecting its industry; have insight into challenges posed by competitors and be in a better position to identify customer needs and which of those to pursue.

3. Customer analysis

This tool aims at giving a company a better understanding of its customer base; positioning products and services to meet customer expectation and customer segmentation.

It allows a company to segment its market; analyse the identity of its customers; determine capacity in fulfilling customer needs and; design an action plan to improve ways of meeting customer expectations.


4. Competitors

This tool investigates competitors, both within the industry and outside; profiles competitors; analyses the structure of the industry and; looks at competitive strategies.

A company can use this tool to clearly identify competitors and their business strategies; define strategic choices and rate them and; develop a plan for improving strategic position in the industry.

5. Firm analysis

This tool is designed to allow a company to assess its internal processes; investigate standard accounting frameworks; analyse economies of scale and of scope and; look at various strategic models.



Using this tool, a firm can outline its activity system; identify emerging value-creating opportunities; define key success factors and key performance indicators.

6. The external operating environment

This tool examines the importance of changing environmental factors, servicing customers and controlling costs.

It allows a company to analyse its business environment and become familiar with its most important elements; gather information on its environment and; to draw conclusions and act.

7. Resources

This tool allows a company to measure value linked to tangible and intangible assets and; to assess human, organisational and relationship capital.

With this knowledge a company can identify quantity and quality of its intellectual capital; assess categories and amounts of intellectual capital needed and; develop plans addressing gaps in current resources.

8. Strategy formulation

Companies can use this tool to consider its existing outputs to current markets; existing outputs directed to new markets; new outputs to current markets and; new outputs to new markets.

This allows a company to assess its strategic orientation, looking at perceived value and delivered cost.

Different strategies for companies taking up EDF grants

Companies taking up EPICS grants have employed a wide range of strategy options. In many cases, companies blended a number of strategies in order to reach objectives. Occasionally, more emphasis might have been placed on one or other of those options.

Most of these plans recommended that enterprises should remain in the industry and build on their identified strengths.

A crucial part in any decision making about strategies is the fight/flight option – that is, whether to remain in the industry or to exit. As a result of the direction and guidance provided by Print21, many EPICS business plans addressed similar issues.

The diagram below shows various strategy options taken up by enterprises participating in EPICS. Each section of the diagram is explored in the following text and case studies.

section 2

EPICS Customers: Taking up the Challenge

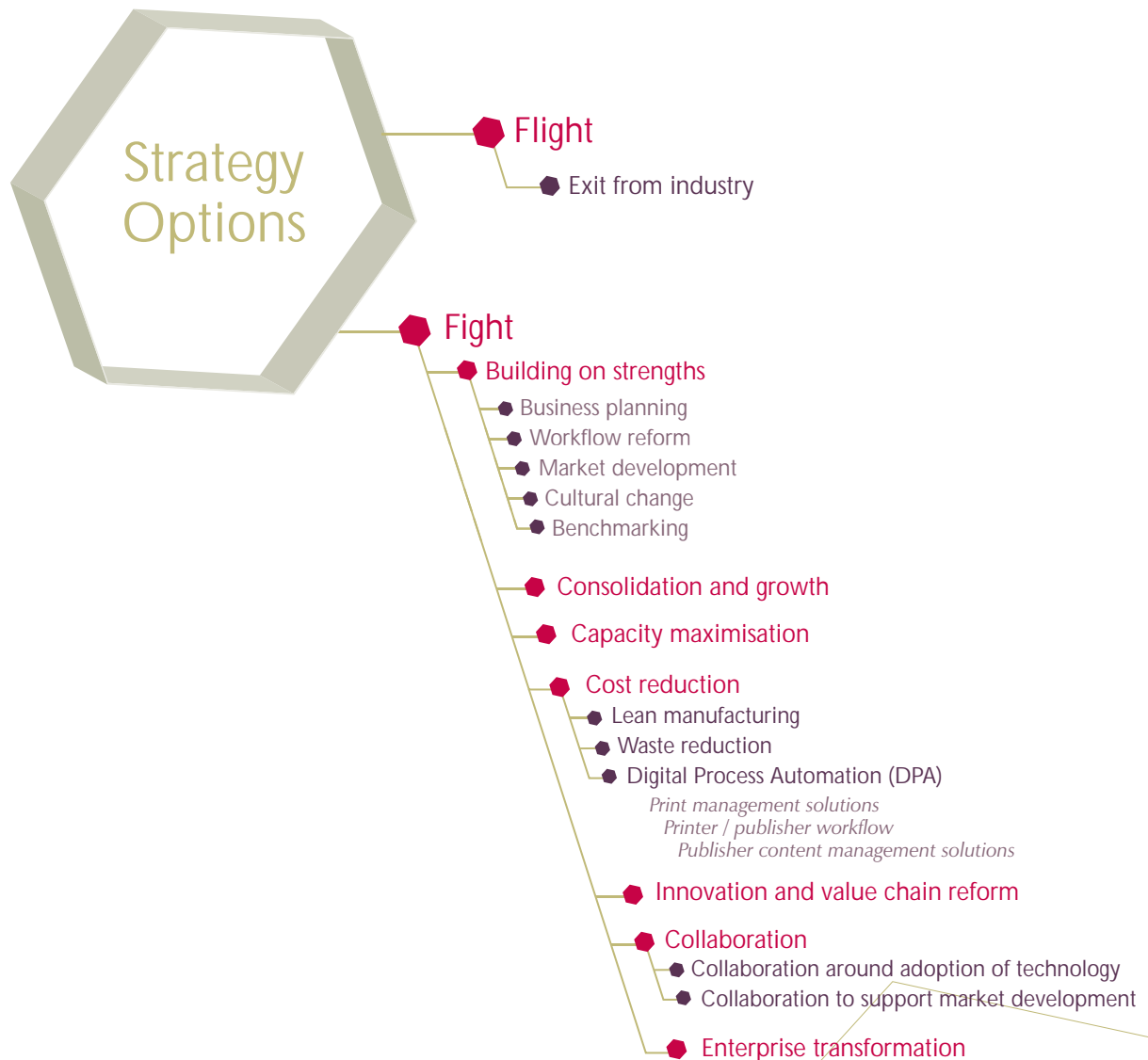


Figure 2
Strategy options at enterprise level ⁴

Taking the flight option

One of the many good outcomes from business plans undertaken by companies assessing their place in the industry, was occasionally the gradual realisation that exiting from the industry altogether is a realistic option that should be considered.

CASE STUDY

*Choosing to leave:
Five Star Press*

For example, Five Star Press, a South Australian company, implemented a business plan under EPICS using the Australian Business Excellence Framework as its planning methodology. Over time, this planning activity highlighted to the owner of the company that there was a need to either significantly expand the turnover of Five Star or put in place a strategy to make a profitable exit from the industry.

Through a multi-staged process, Five Star Press merged with Graf-X to form Five Star Graf-X. One of the values of the exercise for the owner was that he came to have a more realistic understanding of the value of his enterprise. The merger with Graf-X ultimately resulted in a full buy out. The owner was able to pull out of the industry and, at the same time, extract some value from the exit.

The new entity – Five Star Graf-X – has become a major success story. All employees from Five Star Press were taken into the new company, and it now operates three shifts. Five Star Graf-X offers end to end prepress and printing solutions that, before the merger, could not have been achieved by either Five Star or Graf-X alone.⁵

Another example of an enterprise benefiting from an EPICS grant-driven business plan is Anglican Youthworks (See Appendix).

Flight

⁵ EPICS was not able to allocate direct funding to support the flight option. However, it was beneficial in an indirect manner; by supporting business planning activities and technology projects, the flight option was occasionally brought to the surface and then acted upon.



section 2

EPICS Customers: Taking up the Challenge

Fight Options - Building on strengths

Once a company has undertaken business planning and established that the business is profitable, viable and definitely worth continuing in the industry, the business plan will highlight certain areas where the company can improve the way it does business.

Workflow reform

Workflow reform enables businesses to identify what they are already doing – and then to focus on incremental improvements to lift overall performance of current activities.

CASE STUDY

Rodenprint

Rodenprint is a Sydney-based commercial printing company, established in 1973 as a general commercial printer. It now employs 25 staff and provides a mix of print solutions to clients in book publishing, packaging and commercial printing. Like many printing companies, Rodenprint had established goals for the business without a specifically designed Business Plan.

Depending on the mix of business during any year, books have represented 35-40 % of sales value for the company.

Proposed project

Rodenprint wanted to have a fresh look at its business mix, identifying sources of business, which areas were profitable, and which customers and associated requirements had greatest impact on the business. It was also decided to investigate machinery and assets owned by the company, and which of those were being used effectively. It was also keen to identify its profitable business, its business capability, its strengths and weaknesses, opportunities and threats - in the business and in the marketplace generally. The company decided that both management and all other staff could contribute important aspects to the project at varying degrees of involvement.

Rodenprint had already established that books provided a significant contribution to the business. Could book printing profitability be increased by expanding that area to provide increased sales, reduced costs and savings for publishing customers?

The project underway

As part of the formal business planning project, Rodenprint:

- Examined all financial aspects of the business in detail;
- Scrutinised the purpose of its business and the industry in which it operates – specifically the costs and contributions relative to book printing;
- Conducted a complete analysis of its customer base;
- Examined its competitive position in the market and looked at other companies considered to be competition;
- Developed an analysis of the company – including its competitive edge while determining value-creation opportunities;
- Carefully examined the environment in which the business operates;
- Considered its resources; and
- Finalised strategies and identified the impact they would have on the company, both in the immediate/short and long-term outlook.

Outcomes

Through this process, Rodenprint discovered some other things about its business practices to work on. A project team was established to examine workflow and to implement changes. Some of the changes included factory layout revisions, and a job workflow wall chart that was developed and placed in a highly visible position.

section 2

EPICS Customers: Taking up the Challenge

CASE STUDY

Rodenprint

It was also identified that printing/storing/shipping solutions had been in place for a number of clients for some time and there was a potential to expand this service. It has become an important value added service, utilised by more clients.

Rodenprint identified a number of important actions necessary in order for the business to move forward. These included the creation of new departments in order to expand business; specific areas of staff training that would be required; confirm the culture of the business and the importance of interpersonal relationships within the company to help create a team environment in the workplace.

Summary of outcomes

- *Primarily the company identified that it was a sound and successful business and that staff worked well together and efficiently in their day-to-day operations;*
- *Some aspects of the business were more profitable than others;*
- *Usage of equipment had an effect on the outcomes of printing jobs and associated profitability;*
- *Designated book printing contributed 35 % to sales, however, considerably less (proportionately) to company profitability; and*
- *Significant investment would be required in folding/binding, Computer to Plate (CTP), for it to maintain its book printing business in a constantly changing and low margin profitability business sector.*

Future possibilities

It was decided that:

Book printing

Either significant investment in capital equipment, introduction of new technology, substantial reorganisation of the factory for better workflow, comprehensive upskilling of staff would be needed. This would result in cost increases and ultimately higher costs for book printing clients and increased retail prices of books;

or

the company should become less reliant on book printing as a significant contribution to the business and concentrate on more profitable work.

CASE STUDY

Rodenprint

Packaging

It was identified that existing equipment was suited to packaging - particularly for the pharmaceutical and cosmetics sectors. Little additional investment in capital equipment and staff training would be required. Die cutting and embellishing provided comprehensive added value for print outputs and contributed to client satisfaction.

Sheet fed work

Sheet fed commercial printing work for advertising and general printing clients was consistent, of reasonable volume and sourced from sound clients. This provided greater growth opportunities than those perceived from book printing.

Rodenprint's future

It was decided to expand business opportunities for both packaging and general commercial sheet fed printing and to reduce its reliance on book printing. The company has further worked with its book publishing clients to find lower costs, and satisfactory outcomes for both to enable lower retail cover prices for their books.



section 2

EPICS Customers: Taking up the Challenge

Market development

A focus on market development enables companies to achieve sustainability and to build a foundation for reinvestment and innovation by growing the size of their market.

In this type of strategy, businesses focus on core products and services, and simultaneously aim to develop capacity, expand volume and generate improved processes in order to cope with the expansion.

As many businesses taking up EDF projects under EPICS did not have formal business plans, this was a necessary first step in order to identify a company's position in the market. Marketing development includes finding this position, adopting strategies for increasing market share and planning definite objectives over a period of five years.

CASE STUDY

Ligare

Ligare is a specialist book printer and binder. The management of the company had become aware over some time that the company needed an injection of business enhancement in order to increase market growth and profitability. The company's major market is the printing (and binding) of legal and educational books for foreign-owned, particularly US, publishing companies. This market has created peak and low periods for Ligare; September to March is the busiest time because of the school and university academic year (also tied into the US financial year) and the corresponding low period is from April to August.

Proposed project

Ligare undertook a Business Plan project and a Sales and Marketing Plan (among others) under EPICS. Two of the main findings of the Business Plan was that it confirmed the company was on the right track in remaining a specialist book printer, and that Ligare needed a more sophisticated, unified sales and marketing approach.

The Sales and Marketing Plan produced a marketing strategy and budget. It also developed an outline for sales training which ensured that all sales staff were using the same approach. The management of Ligare realised that the company was serving a niche market and that more attention must be given to developing this market.

The project underway

Following the Business Plan, Ligare sought new business for its low period. The plan showed that the purchase of an existing operation would be the best method of expansion, bringing in necessary new equipment. Acting on that recommendation, Ligare purchased all of the machinery of Star Printery. The additional machinery enabled the company to attract new customers with the resulting forecast that its turnover will increase by more than 50 % in about five years.

Ligare turned its attention to the short print run market which was increasingly being spurned by larger book printers. The Marketing Plan also recommended employing a full-time sales representative in Melbourne to focus on securing business in the short print run market.

Surveys were undertaken in order to ascertain how well-known Ligare is as a printing company. Management was relatively surprised to learn that it was not as widely known as they had supposed. A resulting strategy was to begin advertising and also participation in Book Week was planned in order to raise the company's profile.

section 2

EPICS Customers: Taking up the Challenge



CASE STUDY

Ligare

Outcomes for Ligare

- *The purchase of more machinery had enormous benefits but not without great strain on management and resources as the existing operation had to remain operational while additional machinery was installed and customers' needs had to be satisfied in the meantime;*
- *A spin-off benefit to the purchase was that Ligare managed to capture more Star Printery customers than had been expected, despite problems encountered in absorbing the extra machinery;*
- *Ligare also expanded into offering customers warehousing and distribution services. This has been largely successful and became a profitable venture for the company;*
- *Ligare also purchased a second-hand two-colour printer from South Korea for about one-third of the price of a new machine. This has provided additional capacity for demands of new customers and growing demand from existing customers; and*
- *Ligare anticipated that expansion would slow, although sales staff would continue to seek new customers.⁶*

Building on strengths

-  Cultural change
-  Benchmarking

Cultural change

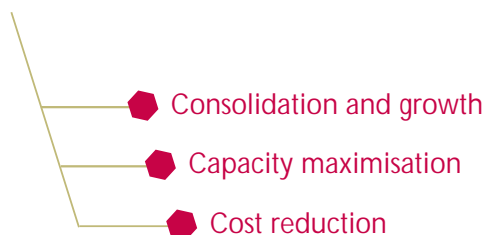
Cultural change within a company can facilitate increased productivity by enabling staff to focus on what they currently do and design new systems in order to do things better. Cultural change programs usually result in the renegotiation of current processes and might be supported by training and skills development programs.

For example, a business might implement a large-scale cultural change program by:

- Surveying the workplace to determine staff views and attitudes;
- Establishing competency levels across all layers of the business, from management through to the shop floor;
- Improving production processes through the development of consistent methodologies in decision making;
- Communicating a clear rationale as to why the implementation of change is important to the business; and
- Changing culture leading to major productivity improvements and a significant decline in industrial disputation.

Benchmarking

Benchmarking is considered in section 3 of this report, where projects sponsored under the IIGF stream of EPICS are considered.



Fight Option - Consolidation and growth

Consolidation can be achieved for companies within the printing industry in various ways. Sometimes the purchase of another business provides a way to expand, both in terms of market size and also in diversification of activities.

Fight Option - Capacity maximisation

Print21 identified that low utilisation rates of plant and equipment were a key reason for declining profitability in the print industry. Some enterprise owners have therefore turned to this issue as a key strategy option.

Fight Option - Cost reduction

Cost reduction strategies aim to contribute to business sustainability and industry reinvestment by reducing overhead costs within a business. Cost reduction in the print industry is perhaps one of the most demanding areas of management because there are many, varying strategies that can be adopted.



Lean manufacturing

Lean manufacturing is a methodology that seeks to minimise resources required for production. Its focus is on minimising all non value adding activities that give rise to increased costs, longer lead times and unwarranted inventory requirements.

To achieve lean manufacturing, businesses need to carry out preventative maintenance, initiate quality improvement programs and maintain a flexible workforce.

section 2

EPICS Customers: Taking up the Challenge

CASE STUDY

Lithocraft Graphics

Lithocraft Graphics has been operational since 1962 in two production premises in inner-city Melbourne. It provides account management services to support clients' communication needs with design, prepress, sheet fed printing, finishing, and logistics services. The business is profitable and has recorded consistently strong sales growth over many years.

Lithocraft Graphics embarked on an EPICS sponsored Strategic Business Plan in which one of the key recommendations dealt specifically with workflow and waste. Operations had consistently received strong investment in plant (hard) technology, which had ensured the optimum quality of end product. However, there had not been a corresponding investment in organisational (soft) technology specifically with respect to plant layout, production planning, product handling, and micro-innovation to capture cost reductions and efficiency improvements.

A "new layout and relocation feasibility and planning project" was undertaken and had immediate impact on cost savings.

EPICS project objectives

The Lithocraft Graphics project objectives were as follows:

- To review all processes, facilities, workflow and logistics with the view to achieving optimal efficiency from current operations;*
- Establish a Key Performance Indicator scoreboard for production workflow to help measure ongoing production performance;*
- To undertake the Buckingham Lean Game (simulation exercise) facilitated by an expert consultant to illustrate the benefits of lean manufacturing;*
- To implement the recommendations across the current production facilities; and*
- To build on all the knowledge from above, develop future facility options including site selection criteria and concept plan.*

CASE STUDY

Lithocraft Graphics

Project outcomes

The project was highly successful and contributed significantly to a reduction in manufacturing waste at the plant. Specific outcomes were:

- *Identification of waste in areas such as overproduction, time spent waiting, transportation, inappropriate processing, unnecessary production, unnecessary motions, and defects;*
- *Savings identified from potential plant layout changes at one of the company's sites (should the business choose to move location);*
- *Restructured staff and organisation to promote best practice pursuits;*
- *Establish improved shop floor communications with specific reference to empowering relationships between staff; and*
- *Recruit and train staff in the pursuit of best practice operations.*

Future directions for Lithocraft Graphics

In the months following the completion of the project, all staff became engaged at various levels in implementing recommendations. Significant plant layout improvements were made, particularly in the Bindery and Despatch departments and a new position created for a Quality Control Manager to specifically target waste recovery programs.

The project has enabled Lithocraft Graphics to develop a lean manufacturing culture whereby every process is monitored and justified.⁷

⁷ *Another example of manufacturing processes being refined through EPICS can be found in the case of Scanlon Printing (See Appendix).*

section 2

EPICS Customers: Taking up the Challenge

Waste reduction

Waste reduction is similar to lean manufacturing (a preventative measure) but its emphasis is on investigating where wastage occurs and implementing strategies to reduce it.

Digital Process Automation (DPA)

In contrast to concentrating on traditional manufacturing processes to reduce costs, DPA aims to automate business processes through the use of digital technologies and the integration of the internet into book production supply chains.

Cost reduction projects that focus on DPA highlight the emerging reality that the book production industry is in transition. Digital Process Automation is a term that covers both the flow of digital information about a file (metadata) as well as the flow of digital content itself.

There have been three different types of digital process automation projects funded under EPICS.

1. DPA for printers

Digital Process Automation for printers refers to both the automation of production workflow as well as the flow of information associated with production, such as material costs and margins. Total DPA is still not available, but with the advent of digital presses, the adoption of machine readable metadata and automated enterprise resource planning systems, it may not be far away.

EPICS has funded a wide range of initiatives in these areas. For example, the types of DPA projects have included:

- Online and automated quotation systems;
- Automated order and plant scheduling systems;
- Digital information flow between print

management and management information systems – both internal to a business as well as externally; and

- Job tracking and distribution coordination.⁸

2. DPA for publishers

The challenge of DPA for publishers is shaped largely by the types of markets being serviced. In the trade sector, the focus would probably be on streamlining relationships between the publisher and authors, and the relationships between a group of creators and contributors working on a collaborative project. They would be involved in tasks such as project conception, proposals, version control (drafts and editions), editorial workflow, peer refereeing and copyright agreements.

In the information publishing markets, DPA might be used for structuring content so that it can be efficiently diverted to other uses and multiple distribution channels, depending on various business opportunities that may present themselves. These publishers have accessed EPICS grants on the basis that the development of structured content is a new methodology similar to, or a replacement of, another process. For example, automatic style-sheeting can be used in marking up content, replacing the traditional typesetting role.

Lonely Planet Publications and Australian Geographic are two well-known Australian publishing companies which have sought to explore DPA and what it can do for their businesses. In both cases, the businesses were built on transaction models – customers purchasing books, journals and magazines. Digital technology allows for new commercial opportunities, as can be seen in the case study of Australian Geographic.

38 ⁸ An interesting example of digital automation being achieved through EPICS is explored in the Hawker Brownlow Education case study (See Appendix). This company publishes, prints and distributes educational material sourced from the US and the UK.



3. DPA between printers and publishers

EPICS has supported a number of projects to assist with DPA between printers and publishers. For example, for companies which have both printing and publishing capabilities, digital systems can be put in place to create internal mechanisms capable of seamlessly managing workflow between the two divisions.

Other companies that publish material but rely on outsourced printing services for book production often already have computer technology. However, there is almost no electronic communication with external service companies. EPICS projects of this kind have shown that this is a mechanism that can deliver substantial cost savings to companies, even though there may be initial complexities in establishing the system.

section 2

EPICS Customers: Taking up the Challenge

CASE STUDY

Australian Geographic

Australian Geographic is the publisher of the high quality journal of the same name and operates out of suburban northeast Sydney. The company has amassed an enormous amount of intellectual property, particularly photographs and original commissioned artworks over almost 20 years of operation. Australian Geographic identified a vital need to preserve these irreplaceable images.

The Australian Geographic journal is printed locally, and its annual turnover is approximately \$50 million from the journal, non-fiction books and retail operations (48 shops).

Proposed project

Australian Geographic had always been aware of the dangers of potential loss of irreplaceable transparency images which were kept in secure cabinets in the publisher's premises. There was further potential for colour deterioration over time. In addition, Australian Geographic's photographs were in increasing demand from other publishers, educational bodies, individuals and organisations. Because of the size of its archives, Australian Geographic began to experience difficulties sourcing correct images or providing selections of images of the required subject and it became obvious some sort of organising system was necessary. The company also realised that improving storage, preservation and accessibility of its images would bring more opportunities for increasing revenue.

Supported by EPICS, Australian Geographic undertook a Business Plan which showed the best solution to be digitisation of its images, despite the cost involved. Digitisation provided security as Australian Geographic retained all images in-house under a catalogue system and they were also replicated on three separate servers, away from the premises.

The project underway

The application for EPICS funding was made with the objectives of establishing the digitisation system, plus the actual digitisation of 5,000 images. The company has committed to the later digitisation of another 5,000 images without EPICS funding. The sale of those images, as well as their use in other Australian Geographic publications, will supply some of the revenue of the continuing process.

The new system allows customers to directly download images and it will also allow the downloading of images onto PowerPoint and other presentation software. The system preserves the rights of images used, ensures payment to Australian Geographic, and gives details of all images viewed and downloaded.

CASE STUDY

Australian Geographic

Future directions for Australian Geographic

- *A special images-only edition published, likely to become an annual event and sold as a consumer item, through newsagencies.*
- *New publication planned with a focus on scientific content for popular use and educational purposes.*
- *DMAG, Australian Geographic's other publication will benefit from the digital archive as production processes will be enhanced and spin-off products such as project kits for schools are planned.*

section 2

EPICS Customers: Taking up the Challenge

CASE STUDY

Firefly Press

Firefly Press is a small, educational publishing company based at Buderim on the Sunshine Coast of Queensland. From this base they write and produce high quality educational books in literacy, maths and science which are sold to schools and students predominantly in Queensland although there are some other interstate sales where the books have been adapted to specific curriculum requirements. They also produce books as teacher resource materials.

Firefly Press commenced as a one person, part-time publishing company and now employs six staff full-time. They update previously published books to suit changes to curriculum, and publish a range of new titles each year. They currently have a catalogue of 74 titles and all books are printed in Australia using a combination of printers, depending on the print run, type of book and its position in the marketplace.

Project proposal

Firefly Press instigated an EPICS-funded business planning project in conjunction with a locally-based consultancy. The plan identified the need to address all aspects of the business in relation to production costs, to remain competitive particularly following the introduction of GST, and the corresponding drop in numbers of books sold. They also found that while its business was computer-based, electronic communication with its printers and other suppliers was non-existent and that improvements in this area could generate some real cost savings.

Initial objective

The initial objective of the business planning project was to identify the real opportunities within the business that would have a direct effect on production costs. Other objectives included:

- Improving the use of technology across all sectors of the business;
- Strengthening links to current printers and taking advantage of CTP technology;
- Conducting a thorough cost analysis of all book-related activities and analysing the effect of these on product pricing;
- Reviewing current procedures in handling and warehousing/storage of finished goods; and
- Conducting an audit of skills within the business and undertaking skill development programs.

CASE STUDY

Firefly Press

The project underway

- Audits of all hardware, software and type fonts used in book productions and for all publications stored electronically were carried out in order to create a central register, storage and efficient version-master control system;
- An investigation of CTP technology in order to identify technical requirements of printers receiving electronic data from Firefly Press for proofing and printing;
- A post-production analysis of the cost of each book in order to identify areas in which further cost savings were possible; and
- Investigate current warehousing systems in order to streamline processes.

Outcomes – links with printers

The project enabled Firefly Press to have a direct influence on its relationship with printers. By improving its CTP transition it has:

- Simplified the interaction in the value chain between publisher and printer;
- Reduced the time frame from edited manuscripts to proofs;
- Minimised the cost penalty of amending books (in order to correct errors or make last minute improvements) by removing the film process; and
- Ensured a greater number of finished books are delivered to the warehouse on time.

Future directions for Firefly Press

Indicators show a reduction in direct production costs for the company and more efficient dealings with local suppliers also led to savings.

Firefly Press has planned to explore areas of book publishing not previously considered, allowing the company to explore new markets as well as new products.



section 2

EPICS Customers: Taking up the Challenge

Fight Options - Innovation and value chain reform

Directing attention to value chain reform results in businesses adopting strategies that are designed around whole-of-chain considerations; that is, from creator to consumer. Value chain initiatives therefore start by identifying specific needs of end consumers and then designing new supply chains to profitably service these needs.

An example of this might be a publishing company operating in a sector such as educational text books. From a student survey, the publisher becomes aware that students want several chapters from a number of its publications aggregated into another book. This might be due to different course requirements, or recommended readings by teachers of the courses that the text books cover.

A publisher that identifies a trend like this one and establishes its own custom print operation to take advantage of the particular market it has revealed, shows how value chain reform can be of real benefit to companies operating within the printing industry.

An example of a company that operates across the entire book industry value chain, and the benefits it gained from investigating reform of its value chain activities, can be found in Openbook Publishers experience in EPICS (See Appendix).

Fight Options - Collaboration

Collaboration, like Benchmarking, has been a significant part of EPICS, but these have both fallen as projects under the IIGF arm of funding. As such, it will be discussed in section 3.

Fight Options - Enterprise transformation

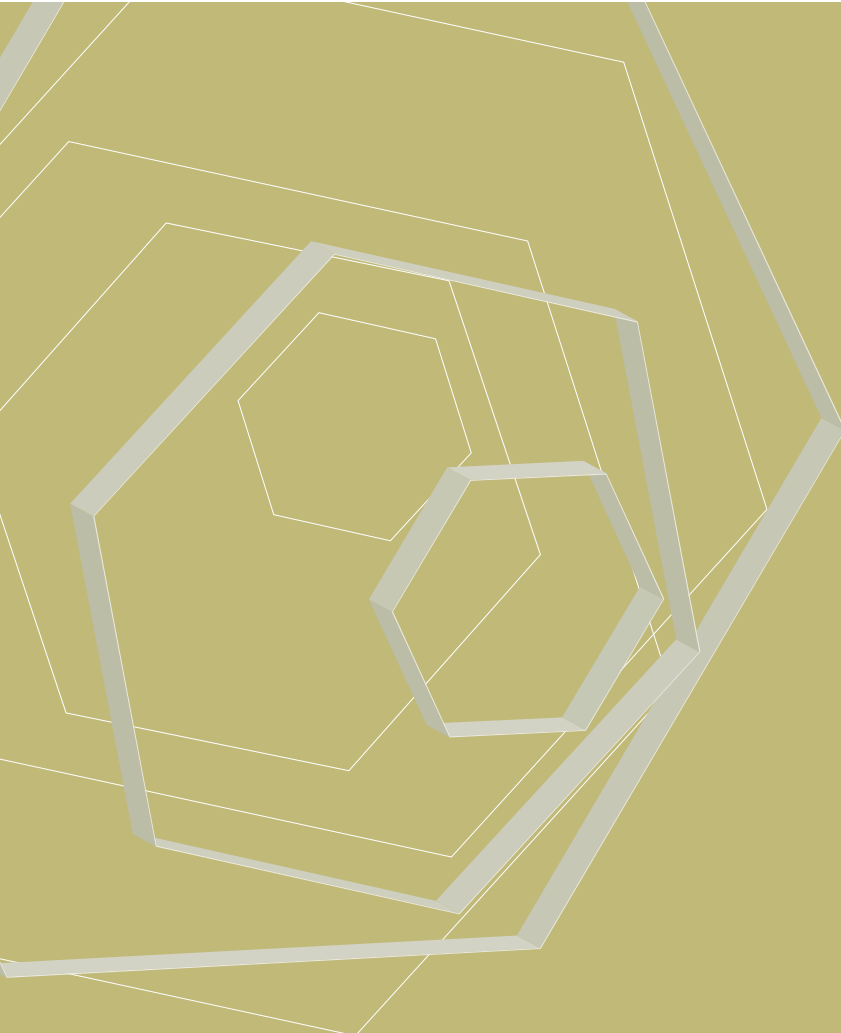
When an enterprise must totally change all aspects of its business in order to survive, this is called enterprise transformation. Outcomes from EPICS case studies show that there are generally two kinds of transformation involved, dramatic and gradual.

Dramatic transformation

An example of this might occur when a company operating in the arena of traditional publishing begins a new online service, associated with its products. The new service might become so popular and successful that the company decides to sell all its traditional book content to another interested party and concentrate solely on its new line of business. In this way, the company has transformed itself from being a traditional publisher to an online service.

Gradual transformation

A traditional digital typesetting company may decide to focus attention on a new service and technical expertise. For example, development of a technology platform in order to assist a publisher (in partnership) to translate content delivered in one mark-up language into another. Whereas traditional typesetters rely on expertise in desktop softwares such as Quark and MS Word, this development indicates a move into the arena of a content management business. The typesetting business may from here transform itself into a different type of company, with a new business model enabling profitable expansion and growth.



section 3

Key Industry Insights Arising from EPICS

section 3

Key Industry Insights Arising from EPICS

Pathways into the future for the book production industry

EPICS has confirmed that analysis of the Australian printing industry carried out through Print21's research has resulted in a rigorous review and new understanding of:

- The foundation of growth for the industry;
- The drivers of industry transformation; and
- Pathways to achieve growth available at enterprise levels.

This section attempts to map an overview of some key industry insights arising from both the IIGF and EDF components of EPICS.

One of the great benefits of EPICS was that it had an impact not only on individual companies improving productivity, performance and competitiveness but also had a cumulative benefit on the industry as a whole. This was evident particularly in the projects funded under the IIGF arm, designed to support industry infrastructure.

One area identified by research undertaken by Print21 was the need for leadership and education, and training opportunities for people working in the printing industry.

Leadership and the achievement of industry objectives

A number of EPICS initiatives at enterprise and industry levels have highlighted the importance of leadership. Strong leadership is fundamental to the adoption and implementation of strategies and projects that give rise to business sustainability and growth.

Print21's research papers affirm that companies need more than managers who can implement business processes and realise their business strategies; the industry needs "proactive and innovative leadership" to drive a company's business strategies and goals forward.⁹

An example of a project implemented to assist Australian print and publishing industries prepare leaders and develop a strong concept of leadership to take the industry into the future, follows.

CASE STUDY

Leadership 21

The Printing Executives Association [PEA(SA)] of South Australia has played a long-standing role in developing the careers of young people in the print and publishing industries. The membership of the PEA(SA) is drawn from a wide range of organisations within the industry, including book publishers, printers and suppliers, graphic designers and, in more recent years, multimedia and web-designers. In recent years, however, membership and support has dwindled, highlighting the need for development of a fresh and innovative approach to leadership development.

In response to the challenges faced by the PEA(SA) and by the wider book production industry in South Australia, EPICS funding was secured to develop and pilot a leadership development project. The project was called Leadership 21 and was divided into five stages:

1. Establish common understandings and objectives;
2. Research existing leadership programs locally and internationally;
3. Research industry and stakeholder issues and needs in leadership development;
4. Design leadership program framework and content; and
5. Implement the program and pursue continuous improvement.

Design of Leadership 21 program

During the research period, a program model emerged with three key areas requiring attention:

1. Leadership and the individual;
2. Leadership and the organisation (including teams and organisational excellence); and
3. Leadership and the business environment specific to the print and publishing industries.

Themes were developed under these categories, as follows:

FOCUS	THEME
SELF	<ul style="list-style-type: none">• Leadership Foundations• Leadership Skills and Techniques• Leading People and Teams
ORGANISATION	<ul style="list-style-type: none">• Business Fundamentals• Business Excellence
INDUSTRY	<ul style="list-style-type: none">• Customers and Competition• Current Issues and Future Trends; and• The Way Forward

section 3

Key Industry Insights Arising from EPICS

CASE STUDY

Leadership 21

Leadership 21 themes¹⁰

Theme 1: The individual's current leadership potential

Participants were encouraged to learn about the foundations of leadership, including his or her own leadership styles and preferences, strengths and weaknesses. The program set a foundation for participants to understand leadership skills and techniques, and their application in respect to leading staff and developing teams and teamwork.

Theme 2: Where is print and publishing heading for the future?

Leadership 21 encouraged participants to question where the print and publishing industries are headed in the future, in light of the key findings that emerged from Print21. Participants learned to question existing paradigms and values of the industry and to speculate about emerging and important trends. Participants were given tools to understand and deal with various uncertainties associated with the future of their industries. Importantly, these tools allow future trends to be seen as opportunities to be realised and not as threats.

Theme 3: How to lead the organisation into the future

The final focus of Leadership 21 encouraged participants to assume responsibility for each of their own organisations. This encouraged everyone taking part to understand the ways in which leadership techniques could be implemented in his or her own organisation and to recognise potential techniques necessary to carry that organisation forward into the future.

Delivery of Leadership 21

The Leadership 21 project framework was developed so that a range of modules were presented over a 12-month period, including monthly evening sessions and weekend workshops for participants.

Feedback from initial research indicated that participants wanted the structure of each Leadership 21 session to be dynamic and challenging. In order to meet expectations, and to satisfy the range of learning requirements of participants, the delivery approach incorporated four elements ranging from conceptual and workshop practice to workplace exercises and anecdotal presentations, as seen in Figure 3.



Figure 3
Leadership 21 delivery approach¹¹

Outcomes: Leadership 21

As a direct result of the Leadership 21 program, the future membership of the PEA(SA) will see:

- Young leaders who can act as positive change agents;
- Young leaders with an understanding of the challenges their organisations face; and
- Young leaders equipped with a framework of knowledge, tools and techniques to play a key role in leading their organisations into the future.

Indicators from the project predict that the overall outcome of the Leadership 21 program is the development and retention of leadership skills, enabling participants to confidently and capably lead the print industry into the future.

The future

Although it was not part of the original brief, the PEA(SA) arranged that accreditation for attendance in the program can be accessed by participants becoming involved in an industry study group that is held between monthly Leadership 21 sessions.

The idea of supporting the program on a national basis was also given consideration and it may be possible that the program be modified to run on a cross-industry sector basis. This could facilitate long-term collaboration and innovation linkages across industry sectors, which would be beneficial to all.

¹¹ Printing Executive Association (SA) Leadership 21 Project.

section 3

Key Industry Insights Arising from EPICS

Leadership: training and education

A crucial part of ensuring leadership continues into the future is education. The Australian printing industry, as the fourth largest manufacturing employer, has a major interest in maintaining effective staff training and development pathways. Usually, this has been achieved through apprenticeships/traineeships and other vocational training programs, in partnership with informal on-the-job training.¹²

It is also interesting to note that apprenticeships are traditionally based on technical areas, such as operating print machinery, ink applications, binding and finishing, etc. without components of business studies and without emphasis on conceptual, theoretical bases of printing and/or of the industry. No specific tertiary or degree-level course or qualifications existed prior to EPICS. Using IIGF grants, a print specific degree course has been developed at the Royal Melbourne Institute of Technology (RMIT).

A survey conducted by *Printing Industries* of 69 printers showed that employees of smaller companies tend to receive less training. Basic skilled employees from firms (of less than 10 employees) have less than two days of training per year on average. This can be contrasted to the level of investment in employee training and development in larger print firms (greater than 100 employees), who receive on average about 10 days of training per year.¹³

This was confirmed by the benchmarking study in 2002 showing that better performing companies provided their employees with three times (10 days) the amount of training than the industry average (3 days).

From creator to consumer

EPICS funding was used to launch a major project called Creator-to-Consumer Research Project (C-2-C). Funding was approved in 2001, and this project set out to predict the future of the book in Australia, in the context of radical and rapid changes happening in the publishing supply chain. In general, the project aimed to investigate the impacts of future technologies, markets and skills in the book production and publishing supply chain.¹⁴


C-2-C, which was a partnership between the RMIT and Common Ground Publishing, grew around three stages of research and development and the last of these led to three modules:

- Module 1 covered aspects of changing technology;
- Module 2 investigated new markets around print and non-print book products and related services; and
- Module 3, which commenced in April 2002, focused largely on the human skills and capabilities base for the newly emerging publishing supply chain. The objective of this module was to integrate the outcomes of

¹² *Analysis of Strengths, Weaknesses, Opportunities and Threats Print21 Paper 2, p. 11.*

¹³ *Op Cit. Reported in Print21's Paper 2, p. 11.*

¹⁴ *More information on the C-2-C project can be found at: <http://www.c-2-cproject.com/>*



Modules 1 and 2 with industry activities, export initiatives and educational programs.

Overall, the three modules, looking at technology drivers, business strategies and skills base of the book production industry, mapped against the three core areas identified in Print21's Agenda.

Digital interchange – C-2-C project

Historically, the Australian book industry has been characterised as a series of layers, each contributing to book production and/or distribution. These layers - from creator (author) to publisher, printer, wholesaler/distributor to consumer - have remained separate and the transactions between them have been underpinned by the physical exchange of products and services. The business models for each layer have been governed firstly, by publishers' mass marketing practices and secondly, by the need to minimise unit costs of production. Low unit costs have been achieved with the application of mass manufacturing techniques and offset printing technologies.

In contrast to these types of solutions relevant to the traditional industry, the C-2-C project sought solutions to secure new market opportunities becoming available through the adoption of digital technologies across the supply chain. It was working on the dynamics of an emerging industry structure based on networked relationships connecting creators with consumers in ways that were unimaginable even five years previously. The C-2-C project concluded that future business models are likely to be based on whole-of-chain workflow networks.

The prime function of these new networks is to coordinate workflow, with workflow being increasingly dictated by the interests and needs of end users and not only by decisions made by publishers. As the impact of digitisation

deepens, the exchange of physical goods between the various layers of the traditional industry will be reduced. In their place, digital transactions will electronically prepare, render and distribute content, on demand. This is the world of IT and increasingly the standards which govern these transactions will become the cornerstones of a reconfigured supply chain.

C-2-C and leadership for the industry

Module 3 of C-2-C aimed to provide leadership for the formation of new business models, particularly those which rethink the book production supply chain in the light of emerging 'digital economy'. It also aimed to educate, inform and train current members of the industry in the new dynamics of the digital supply chain: commercial (e-commerce); content management [file storage, transfer; Intellectual Property (IP) management] and; production process management (workflow, creating production efficiencies).

Outcomes included:

- A series of ten books exploring aspects of each module of the project;
- Accredited university courses online and classroom-based course materials offered as part of Certificate, Diploma, Bachelor, Masters and PhD programs at RMIT and partner universities offshore; and
- Industry Awareness Seminars held in Australia in 2002.

section 3

Key Industry Insights Arising from EPICS

CASE STUDY

Vocational Education & Training (VET),
Canberra Institute of Technology

Introduction and background

The ACT region of the Printing Industries, in conjunction with the Canberra Institute of Technology (CIT), identified that there was a need for formal training and development of young people in book printing for the ACT and Southern NSW regions.

In partnership, an industry-based cadetship was created which would provide industry-based training with emphasis on book printing.

To attract young people eligible for the program, Printing Industries and CIT promoted the concept widely throughout the region, emphasising the fact that a successful applicant would be attending an approved study that on completion attains a Certificate IV standard.

Objectives

The objectives of the project were to:

- Provide a comprehensive and specialised training program for a group of students;
- Produce a pool of skilled potential employees that could be accessed by the industry, providing continuity of employment for businesses with skills shortages or where gaps exist in terms of experienced employees;
- Provide pathways for ongoing study with recognition of workplace competencies and national qualifications;
- Produce a pool of skilled potential employees for the region, ready to make an immediate contribution to the production process;
- Provide adequate and progressive simulated “on the job” training that would qualify the students for both Certificate III and Certificate IV in Management/Sales;
- Combine theoretical and practical components of the course in order to create well-rounded graduates; and
- Provide an opportunity for potential employers to meet the students.

EPICS project

Once the project concept had been approved, Printing Industries embarked on an initial awareness campaign to attract interested potential students. Applicants were interviewed for suitability to the program and the first intake of students selected.

CASE STUDY

Vocational Education & Training (VET),
Canberra Institute of
Technology

It was very important that the course, and the broad objectives underpinning it, attracted sponsorship and support from the industry, in the form of a recognised authority. To fulfil this, a production manager's role was created assisting in development of the program (in conjunction with CIT management) and subsequently to lead the cadetship program ensuring that students encountered practical work based on industry experience.

The first intake of cadets embarked on their course in March 2001, initially studying three days per week. Once initial training was well underway and a designated level of competency reached, students also began site-based work experience at print facilities in and around Canberra.

The students were given additional support through a mentoring program which harnessed the time and skills of production managers from a variety of Canberra printeries. These managers met the students at CIT and at their work experience sites.

The cadets received training in a broad cross section of activities within a printing business, including print management, print production, sales and marketing, estimating, general office management, prepress and finishing/bookbinding. Some activities, such as four-colour printing, were transferred from the simulated work environment at CIT to various printing companies around Canberra. This provided actual on-the-job training where students experienced the commercial reality of time pressures, speed and accuracy of setup, monitoring wastage levels and quality of output as part of the job.

Project outcomes

The initial course provided a foundation on which future intakes and activities could be based to provide additional cadetships in the industry.

As cadets were given on-the-job training in a wide variety of aspects of the printing industry, the project itself attracted extensive support from print facilities throughout the ACT and Southern NSW regions. This support was particularly evident in those facilities which allowed work experience and the opportunity for specialised training, such as in four-colour printing. The cadetship program was also enhanced through the creation of the mentorship program which supported the students and created links between the printing industry in the region and the CIT.

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Key Industry Insights Arising from EPICS

CASE STUDY

Vocational Education & Training (VET),
Canberra Institute of
Technology

As a result of the cadetship training program, many cadets were offered full-time work as the first 30-week training program neared completion. Employers were impressed with the fact that graduates were shown to be productive from the commencement of their employment. The program has gone on to provide a model for implementation in other states.

The future

The CIT course was continued into a third year with financial support from the ACT Government. It is expected to be continued into a fourth and subsequent years. Additionally, interest in this project has been shown by other states as:

- *Queensland commissioned a study of the training received in the program and recommended that the CIT model be followed and implemented;*
- *The CIT model has been recommended for implementation in NSW and is being considered in other states; and*
- *The industry has praised the CIT program and is encouraging its future development.*

Collaboration: strengthening the industry by working together

Collaboration between companies across the industry brings mutual benefit and helps all those involved to achieve a common purpose. Collaboration can be structured to work in many areas – sharing technology, information or expertise.

It is based on the premise that a single enterprise alone cannot exploit growth opportunities, or move as quickly towards growth as when it is joined by others seeking a common goal.¹⁵

An example of the importance of collaboration in the industry arose out of Print21's Action Agenda. The first recommendation of the Agenda is gathering industry-wide statistical information on a quarterly basis, for the good of the industry. It reads:

"Develop, implement and maintain an information system to assist in monitoring the industry's performance across a range of financial and operational parameters including growth, profitability, competitiveness, resource and material use in printing processes."¹⁶

As the Action Agenda goes on to describe, the collation of industry-wide information will be useful in:

- Investigating current sources and levels of value adding in the industry;
- Producing and disseminating annual reports on industry performance; and
- Developing key operational benchmarks to assist firm-based planning and adjustments.

Obviously information on performance, changing trends, etc that can be gathered cross-industry is far more potent for each company receiving it, than analysis of single entities only.

A major outcome of EPICS was to bring together different parties within the value chain in a way previously not possible because of lack of knowledge, trust and understanding of how different parts of the chain can work cooperatively. An example of how this newfound cooperation can lead to a positive outcome is seen in a project currently underway. For the first time, an education service provider is talking to the printing and publishing industries about ways of channelling content into schools via workflow pathways to deliver flexible format options through e-books, print, the internet, CD-ROMS, etc.

ONline Information eXchange: ONIX

ONIX is an example of cross-industry networking.

It is a new industry standard for storing and sharing book information. The adoption of the ONIX standard in Australia's book production industry will assist with facilitating efficient data exchange across all parts of the book industry encompassing publishers, booksellers, library suppliers and bibliographic agencies throughout the world.

The Australian Publishers Association (APA) was successful in accessing an EPICS grant for the promotion of ONIX in Australia. The grant has enabled the APA to:

- Research, develop and enhance ONIX to suit the Australian market;
- Implement an accreditation scheme;
- Educate the market about the benefits of ONIX compliance; and
- Develop resources to assist organisations to become ONIX-compliant.

¹⁵ An interesting example of three companies brought together through EPICS to work on a common goal is shown in the Ken Duncan Panagraphs / Steve Parish / Chevron Publishing case study. This example of collaboration based on technology can be found in the Appendix.

¹⁶ The Printing Industries Action Agenda: Executive Summary, p. 13.

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Key Industry Insights Arising from EPICS

Benefits to the industry from the adoption of the ONIX standard will contribute to:

- Higher supply chain efficiencies through the automation of data exchange between various parties involved in retailing and management of industry inventory;
- Promotion of more efficient business-to-business and business-to-consumer transactions;
- Automation of industry information for marketing, population of online bookstores and other industry information needs;
- Streamlining business processes and reducing IT investment necessary to facilitate process automation between publisher and retailers;
- Increased opportunities associated with backlist management, and creation of further opportunities to open up print-on-demand solutions for titles that are out of print; and
- Enhanced ability to provide information on price and availability to industry customers.¹⁷

The Multi-channel Publishing Project

The Multi-channel Publishing (MCP) Project was formed to investigate the future structure of the Australian book and book production industry. The emergence of the new digital economy has had a profound impact on the diversity, direction and effectiveness of knowledge development, management and distribution within the printing industry.

It is also an example of a collaborative effort, forged through the commitment of the participants to the development of an open and decentralised book production industry. Partners in the project were: *Printing Industries*, Australian Booksellers Association, Fuji Xerox and IPR Systems.

The MCP Project was launched in the context of Print21 and the C-2-C study having shown the importance of the publishing industry adapting to the growth and high speed of knowledge and cultural content being generated along with digital integration. Its primary objective was to investigate five different publishing market segments, namely, tertiary education, primary/secondary education, specialist trade, professional/technical and out-of-print books, to:

- Enable market segmentation to allow consumers to express desired output formats (for the future) and methods of delivery;
- Allow representatives of each supply chain to choose and help create new production pathways in direct response to these consumer requirements; and
- Provide the basis for new investment points for future publishing and production systems consistent with creating these new production pathways.

The five market segments were selected because they were considered most likely to have customers not adequately serviced by traditional print technologies, or for whom current order quantities needed for a minimum economy of scale are too high to be viable. These segments also show highest potential for the development of new formats of book products and new methods of sourcing and delivery.¹⁸

¹⁷ *Australian Publishers Association, 2003.*

¹⁸ *For more information on the MCP Project, go to <http://www.Mcproject.com/> See also *New Pathways for Multi-channel Publishing June 2003, Australian Booksellers Association, funded by Department of Industry, Tourism and Resources EPICS IIGF.**

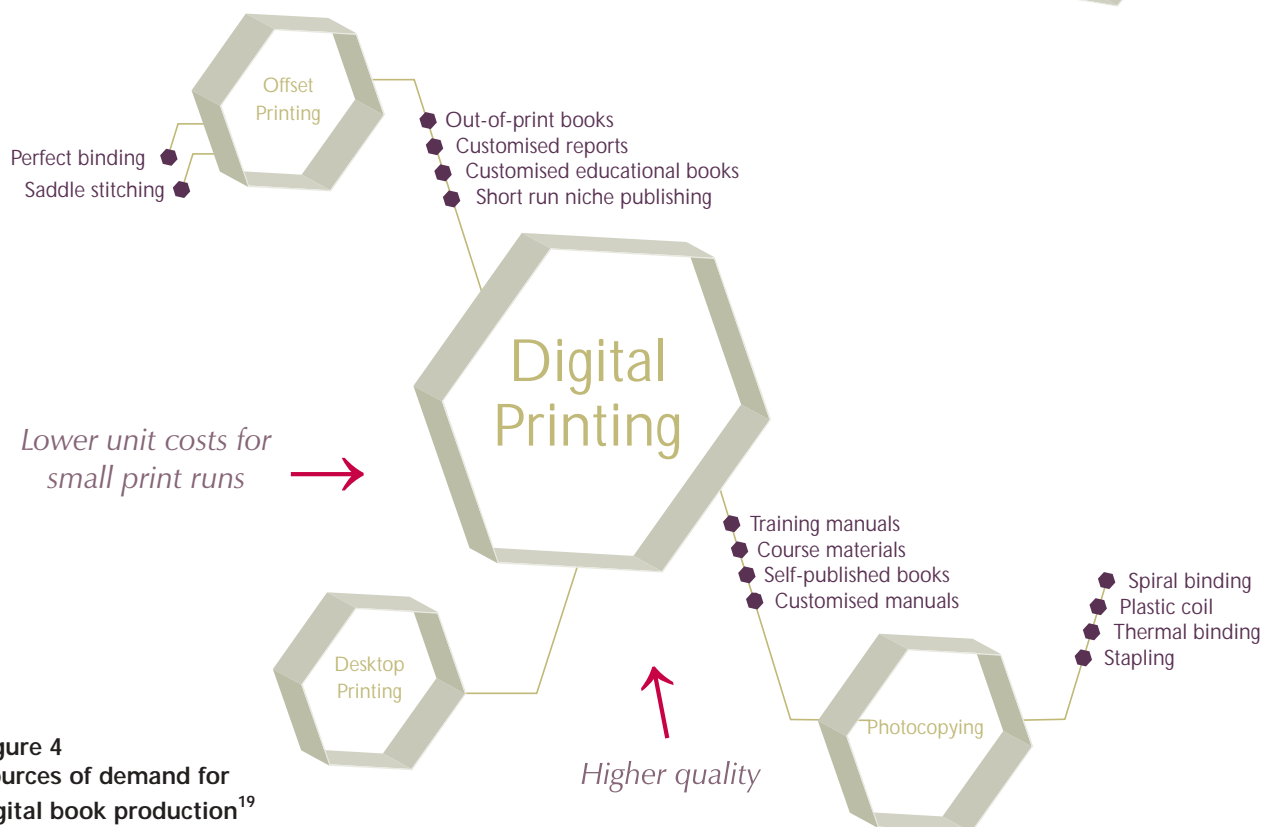


Figure 4
Sources of demand for digital book production¹⁹

This diagram from the MCP Project summarises the potential sources of demand for digital book printing into two major sources:

1. A demand for cost-effective alternatives to offset printed products for short run printing (with flexible binding options), that is, for niche content, customised content and for books that are going out-of-print or are already out-of-print; and
2. A demand for higher quality alternatives to inefficient, low quality photocopied products, that is, for university course packs, classroom resources, training materials, self-published books, etc.

The MCP Project also identified a third source of demand for digitally printed book products which is derived from the proliferation of

desktop printing, especially within educational institutions and corporations.

Desktop printing shows that consumers desire to be in control of on-demand print content, that is, not being delivered in printed form (for example, content in online journals or online course materials). Consumers may well be happy to receive the content online, but often want some parts of it in print, such as particular articles from journals or sections of course notes. The high costs of this desktop printing are very often disregarded within the corporation or institution. However, as organisations begin to recognise and properly account for these costs, many are deciding to set up in-house digital print facilities to deliver the required printed material in a more cost effective manner.

¹⁹ *New Pathways for Multi-channel Publishing*, Department of Industry, Tourism and Resources, Australian Booksellers Association, 2003, p. 2.

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Key Industry Insights Arising from EPICS

Benchmarking

Print21 highlighted a need to collate industry information, in order to facilitate the improvement of business processes across the industry. Another recommendation that emerged from research assessing the general level of industry information available, was the development of key operational benchmarks to assist enterprise-based planning and adjustments. This may involve surveying the industry for relevant data and information, and/or developing viable parameters for the industry and all its sectors.²⁰

Benchmarking provides a structure from which day-to-day business activities can be compared against those carried out by other types of businesses, from similar industries or from other industries altogether.

In line with the Print21 recommendations mentioned above, a national benchmarking project was implemented as part of EPICS, under the IIGF stream of funding. An Australia-wide benchmarking project was launched involving 170 companies from the industry. As a result, participating companies were able to identify key strengths and reform opportunities. The objectives of this project were for firms within the industry to see:

- Where they stood relative to other similar enterprises;
- What opportunities for improvement are available to them;
- Which of these options are most attractive; and
- How to get to where they want to be.

Categories covered in the project included:

- Prepress;
- Commercial printing;
- Book production;
- Bookbinding and print finishing;
- Web printing;
- Digital printing;
- Screen printing;
- Label and tag manufacture;
- Printed packaging;
- Stationery and forms manufacture;
- Magazines and newspapers; and
- Industrial products.

The consultants Benchmarking PLUS and Negotiation Pty Ltd were appointed to carry out the project under the guidance of *Printing Industries* and a Reference Group drawn from industry leaders from around Australia and from each major sector of the printing industry.²¹

The project also created the infrastructure for industry information to be collected on an ongoing basis. The most significant conclusions reached after analysis of the national project was that:

- There are wide gaps between the better and the poorer performers within Australia's printing industry, including book production companies;
- The reasons for this gap must be found and addressed in order for the whole industry to benefit; and
- Even within the best performing group of companies, reform opportunities are still available to lift improvement.

CASE STUDY

Expression Printing Group

Expression Printing Group is a general print company located on the Central Coast of NSW, with a staff of six plus one contract staff member who handles customer relations and sales. The business operates from 7.00 am until 11.00 pm and its annual turnover is about \$900,000. In addition to printing, Expression Printing also has its own art department with a prepress CTP facility.

The business opened in 1984 as a quick printing franchise which finished after three years and its printing operations relocated to a market area with more potential elsewhere on the Central Coast. In 1987, Expression Printing acquired a typesetting service provider which included the publishing and printing of real estate magazines and provided a growth spurt for the company.

Project objectives

This company's experience of benchmarking was extremely positive. Overall it was seen as an information tool showing pathways for planning into the future. An old reliance on traditional accounting had previously shown only trends from the past; a combination of both surrounds a company with information and options for business planning.

From the point of view of a company looking out at the industry, benchmarking can provide measurements on points of information that would not be measurable simply by looking at its own business processes. Benchmarks are most commonly used to compare the same factor across a number of businesses, giving each business a way of measuring its performance; the comparison of these measures gives the participating organisation some insight into its own operations.

Benchmarking outcomes

Initially, an early study was conducted into wastage, targeting paper but with the aim of later expanding it to include time, inventory and other areas. Out of that study and the entire project came better management practices. Benchmarking provided information for management to act on in order to target wastage.

Benchmarking also examined financial criteria including return on investment to determine if the continued operation of the business was worthwhile. This enabled management to determine if the purchase of new machinery and other capital goods was financially viable. The project itself encouraged the participants to question progress and how to find out whether the company is really moving forward.



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Key Industry Insights Arising from EPICS

CASE STUDY

Expression Printing
Group

On a more basic level, the benchmarking project also highlighted a need to upgrade Expression Printing's quoting system to provide a better basis for measuring individual items through greater emphasis on inputs for quoting and on source information.

The future

An additional benefit for those taking part in the project was that it forced participating companies to develop improved recording systems in line with those required. Benchmarking showed itself to be a relevant management tool for businesses of all sizes. It provides direction into the future, reveals whether the company is currently on the right path, helps identify competitors and their grade of competition, and consequently highlights areas that need improvement.

Market structure of the Australian book industry

The Ad Rem²² and the Book Production in Australia Joint Industry Study (JIS)²³, made important contributions to understanding the dynamics of this traditional industry.

Ad Rem highlighted that the total market size of the Australian book industry continues to grow, but that profitability is declining due to price competition and increased costs. For example, results estimated that the average annual profit margins for book publishing had fallen from 14% in 1994 to 8% in 2000. Profit margins for printing were estimated at only 1.3% in 2000. Across the whole book industry, margins were said to have fallen at the rate of 2% per annum over the period 1994 to 2000.

Significantly, Ad Rem identified a number of reform opportunities based on the existing structure of the industry and these can be considered critical to the future competitiveness of the book production industry. Recommendations were made from the report to support the development of a more internationally competitive book production industry.

Inventory levels

Ad Rem estimated that in 2000, publishers and booksellers had annual stock levels of \$825 million in the supply chain, equivalent to 317 days of supply. The report concluded that the inventory levels reflected the incentives of publishers to reduce unit costs through commissioning long print runs and for both publishers and booksellers to provide customers with high availability of stock.

Returns

Ad Rem estimated that in 2000, 13% of all books distributed in Australia were returned, representing an industry-wide cost of approximately \$101 million. Of this, Ad Rem identified that 82% was incurred by publishers and 18% by booksellers.

The JIS highlighted the following areas of potential reform and development for the industry:

Third party production specialists

Improving international competitiveness would be encouraged by the formation of strategic alliances with third party production specialists. It was noted that some of the most profitable businesses in the industry were those that offered specialist resources in production and design to ensure the most appropriate printing resources were allocated to each title.

Export development

The JIS noted that the most attractive export sales were being achieved by primary school publishers with successful literacy programs and that this trend was expected to continue.

Globalisation of printing services

The JIS highlighted that a significant portion of colour-book work continues to be sent offshore. It concluded that possibly the only way of reversing this trend would be to establish higher levels of collaboration between publishers, printers and specialist binders in order to reduce costs based on a whole-of-life-cycle costing model.

²² www.printnet.com.au/verve/_resources/Value_Chain_Analysis.pdf for full report. Accenture 2001.

²³ *The Book Production in Australia Joint Industry Study* was a partnership project between Printing Industries, Australian Publishers Association and Department of Industry, Tourism and Resources, 2001. Go to: www.printnet.com.au

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Key Industry Insights Arising from EPICS

Consolidation of services for small-scale publishers

The JIS indicated that small-scale publishers faced particular challenges in relation to controlling costs and maximising profitability. It recommended that clusters of publishers might come together to outsource production and design, market, distribution and even manufacturing services.

Both Ad Rem and the JIS investigated the market segments of the Australian Book Industry, identifying them broadly as books distributed through retail outlets and direct sales, and books distributed through alternative channels.

Books distributed through retail outlets and direct sales

The Ad Rem project estimated that this segment is worth approximately \$1.9 billion, \$1.2 billion and \$255 million at the retail, publishing and printing levels respectively. In most cases, this segment is categorised by the fact that book manufacture is commissioned by those whose core business is publishing. In this market segment GST is levied upon a book product.

This is the market segment that has been thought of as the “traditional book industry”. Workers providing services that comprise this market segment include:

- Content creators, including authors and artists;
- The publishing industry, encompassing multinational, small independent and self publishers, of which the education and information publishing markets are very important;
- Manufacturing industries that print, finish and bind books in all forms;

- Book distributors, the library sector and bibliographic information service providers; and
- Cultural content institutions such as the National Library that manages Australia’s legal deposit obligations.

This market segment is largely, although not exclusively, serviced via the use of offset printing technologies.

Books distributed through alternative channels

In contrast to books distributed through traditional channels, GST is not necessarily levied against a book product but rather upon the product or service to which the printed-book content is attached. This means the value of publishing activities in this market segment is contained within the value of the product service system of which the book is only one part. In this segment, publishing occurs to support core business activities, that is, the publishing itself is not necessarily the vehicle through which the organisation makes its livelihood.

This market segment is largely, although not exclusively, serviced via the use of digital technologies and is composed of:

- All industry sectors, and the employees within these sectors, that generate content classified as “book content” (according to the EPICS definition of what constitutes a book). The publishing activities that give rise to this type of book production are embedded within the industry sectors themselves and book production occurs to support the communication activities of these sectors. For example, the higher education and training sectors publish materials as part of the delivery of their research, teaching and training activities;

- In-house and commercial printers that provide services to support the manufacturing of book content published on an in-house basis;
- Software and equipment vendors providing products and services to run the publishing and printing activities within Australia's higher education and training sectors; and
- The education and Vocational Education and Training (VET) - based infrastructure that gives direction to education and training activities across all sectors of Australia's economy.

Digital technologies offer an entirely new process of manufacturing printed books where different cost structures apply. The delivery of small volumes at short notice is why digital technologies are having such an impact on the book industry.

Industry convergence

The adoption of digital technologies causes different business models to arise. For example, a business process underpinning offset printers, is different to that of digital printers. Offset technologies are built on the principle of economies of mass manufacturing, where key production decisions are made on the basis of unit cost of production and these are usually defined within specified limits of a value chain.

In contrast, digital technologies enable different types of service delivery models built on the principle of mass customisation. In this model, key production decisions are also built on the principle of unit cost of production. The difference, however, is that costs are usually defined on a whole-of-product-life-cycle basis. Unit costs are calculated to cover all value chain costs such as inventory management, warehousing and logistics.

The traditional book production industry has been built on the foundation of mass marketing and mass manufacturing. In this industry, publishers have the most impact over the value chain as they take the most risk and book publishing is their core business. In an evolving digital industry, much of the substantial growth is occurring in niche publishing. Digital technologies are enabling new business models to emerge, where lower economic order quantities make book publishing still viable. In this segment, the risk associated with production decisions are being borne by parties whose core business is not necessarily publishing.

Providing multiple format output solutions is consistent with Print21 recommendations

Print21 identified that printers have expertise in communicating images and that customers have a need to project a consistent, captivating and clear image of themselves to their own customers. To do this, Print21 stated that printers need to develop in-depth knowledge of customers marketing and strategic plans, as well as their business environment.

The underlying competence associated with being able to provide all types of format output options is the practice of content management. During the life of EPICS, the difference between content management and document management systems has become increasingly understood. Document management systems are concerned primarily with documents in their entirety. In contrast, a content management system manages, at a micro level, the individual units of information that go to making up a document.

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Key Industry Insights Arising from EPICS

The separation of the structure of a document (digitally embedded management information) from the visual manifestation of the document (what it looks like) is the key element of content management. It is this separation of the structure of data from its visual manifestation that enables the delivery of multiple format output options from single sources of material including the distribution of content via:

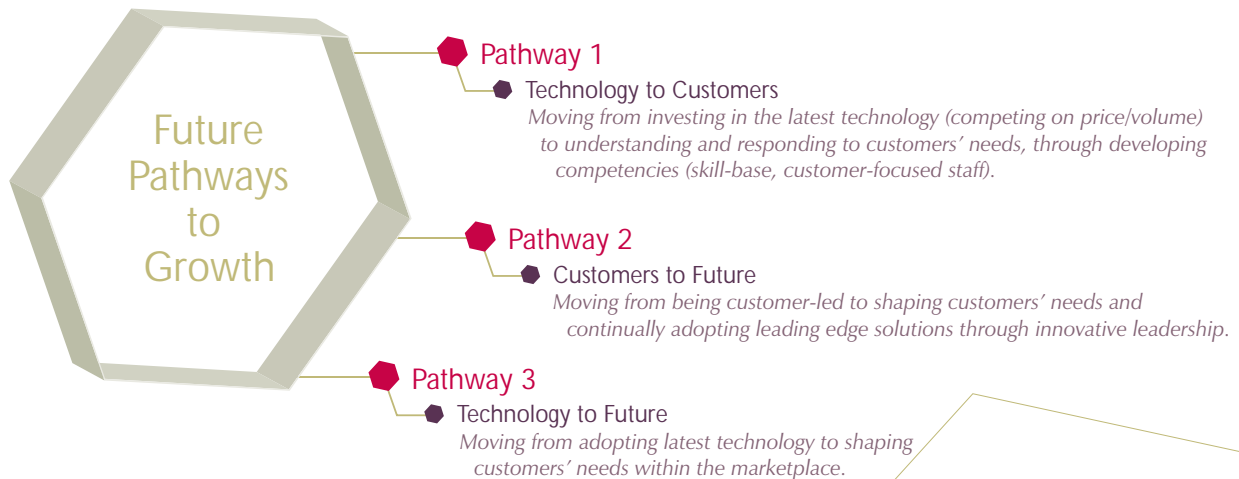
- Offset and digital printing;
- CD-ROMS;
- Web publishing via the internet; and
- Other multiple media options.

Digital Process Automation enables the content to be repurposed to different media in automated ways.

EPICS has highlighted that it will still be some time before the full impact of digitisation is realised in the print and publishing industries in Australia. However, the trend towards digital process automation across all parts of the industry will continue to accelerate.

Future pathways to growth

As we have seen before, Print21 has proposed three pathways to growth for the Australian printing industry.²⁴



Three Pathways to Growth

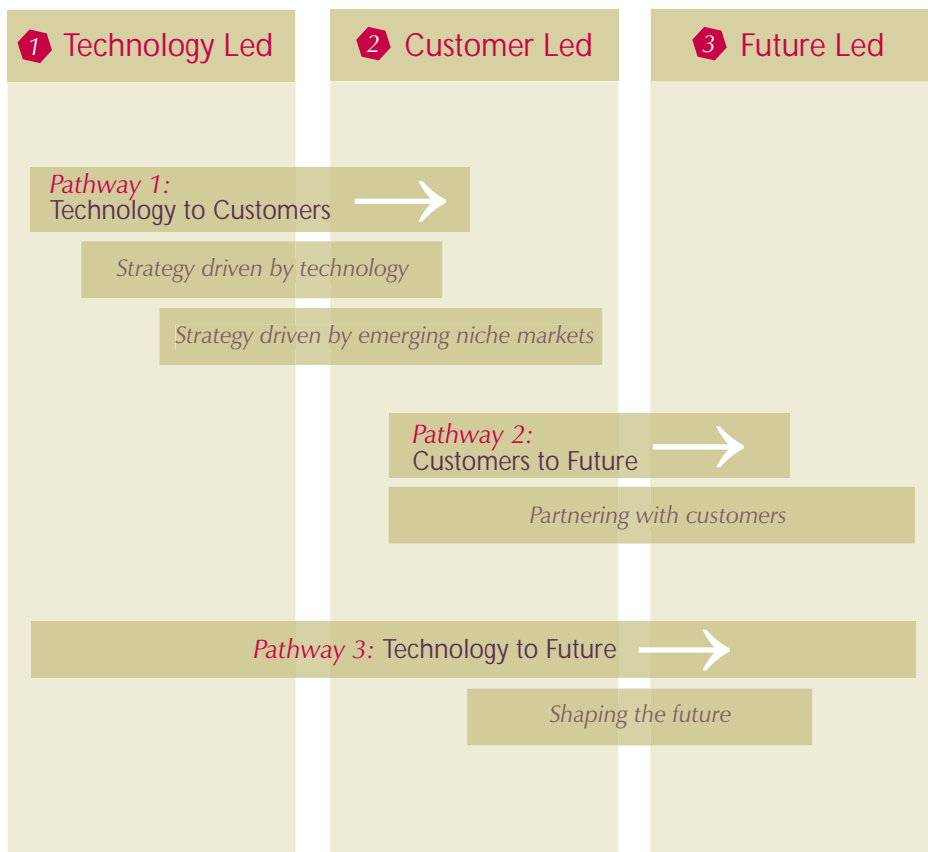
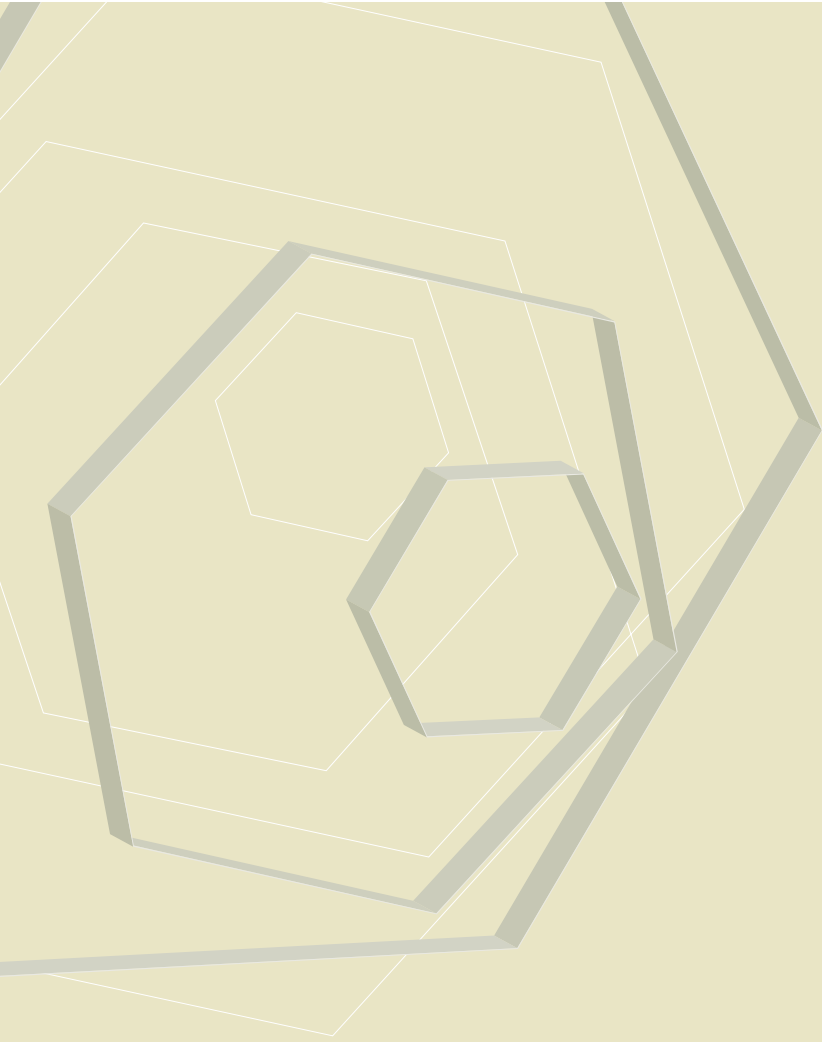
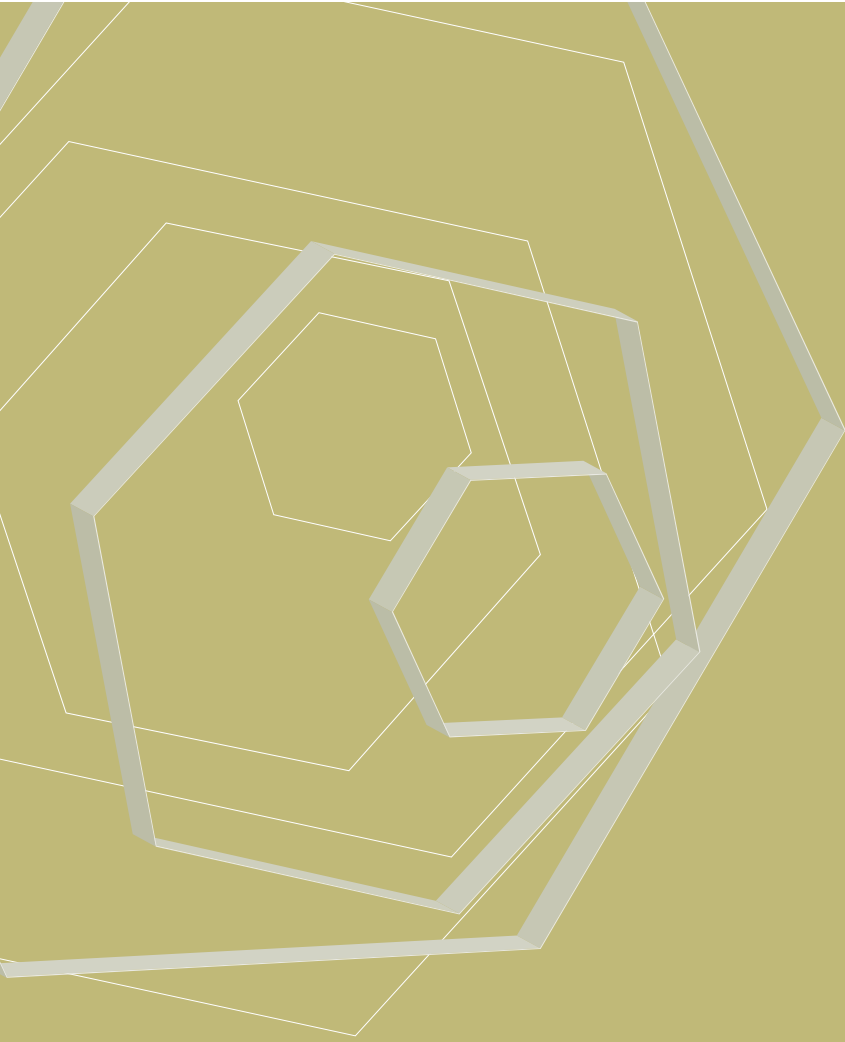


Figure 5
Three Pathways to Growth





appendix

appendix

CASE STUDY

Anglican Youthworks

Anglican Youthworks has been a publisher of Christian and general books for almost 100 years, specialising in school and church markets. Its books focus on religious education, moral issues and ethical values.

Initial objectives

From its initial EPICS-funded project, a Business/Strategic Plan was undertaken with a focus on developing marketing for the company. From this activity, Anglican Youthworks developed a better understanding of the areas of its operation and which of those required improvement. These areas included a marketing plan, database development, MIS development, export marketing and e-commerce.

In the early stages, the client developed focus groups to determine the future direction of its publishing. These indicated a need for more material for the schools' market and a greater concentration on that market. This resulted in the full-time employment of a writer to meet the specific needs of students in Years 10 to 12 of secondary school. The focus groups also indicated a possible market for a student newspaper to be produced regularly, and would aim to focus on social issues, current events and matters of particular interest to senior high school students.

EPICS projects

From its Business/Strategic Plan, Anglican Youthworks determined that it needed to improve some sectors of its business in order to assist marketing. The existing MIS was inefficient: it did not assist marketing by providing access to customers' individual interests and also provided inadequate support for accounting and other functions. Similarly, Anglican Youthworks found that it needed a better website to enable continuing customers to select and purchase books and to develop an e-commerce function to upgrade business relationships, particularly with printers.

Outcomes

For this client the major measurable outcome was a 40 % increase in educational sales, mainly from domestic demand. This occurred despite the elimination of some titles. The marketing team was increased in size with a new Marketing Director being appointed and a new approach was developed from the findings of the subsequent Marketing Plan project.

In addition to the sales increase, Anglican Youthworks has entered into a renewed relationship with a distributor in the UK, in accordance with its Export Marketing project and this is expected to lead to increased sales in that area also. In other export markets the client is acting more cautiously, as in USA, where the possible outcome may be the sale of the rights to the material rather than developing the material in Australia for the American market.

CASE STUDY

Anglican Youthworks

An unexpected development was the interest shown from Chile and Argentina with religious education books being translated into Spanish. Interest has also been shown by some Asian countries.

To widen its scope of publications, books for adults which have been commissioned will also be developed. Better relationships are also being worked on with high school religious education teachers, through the deployment of specific staff to specialise in those relationships.

Overall, Anglican Youthworks has lifted performance enormously through:

- *Provision of better information delivered more quickly;*
- *Improved marketing expertise; and*
- *Greater staff confidence in all areas.*

It believes that EPICS grants it received enabled change through the implementation of an Enterprise Improvement Program, which only a single grant would not have done. The projects undertaken set higher standards for the organisation, made it work harder and aim more effectively at the right markets.

appendix

CASE STUDY

Western Graphics

Western Graphics is a small diversified printer with an annual turnover of about \$3.5 million. The business operates out of three separate premises under cramped and less than ideal conditions. Management of Western Graphics aimed to maintain high quality output to differentiate their product from that of competitors. Major corporate clients of the company tend to be from the finance industry, especially credit unions but with mergers and increased competition in that industry the demand for print has declined.

Marketing by Western Graphics was largely from purchased mailing lists with information about the client's print abilities being mailed to all on those lists. This approach was less than successful in attracting new customers.

Initial objectives

Western Graphics undertook a Marketing Plan to improve its chances of gaining new business. The Marketing Plan showed that its customer base could be widened through telemarketing. The client decided to continue with the same types of printing while seeking some additional print areas and developing greater use of the newly installed graphic design studio and developing new promotional material.

EPICS projects

The Business Plan indicated a need for a better approach to marketing and also for cost cutting. Areas like Occupational Health and Safety (OH&S) have been improved. Procedures, functions, rules and regulations have been put in place, staff have been trained in safety consciousness and overall efficiency has increased. Higher standards have been set for all to meet.

Western Graphics has been accredited with QA, and new quality procedures interlock well with the OH&S requirements. QA has proved to be an excellent marketing tool, especially with businesses which are also Quality Assured, and so need to acquire input from similarly qualified suppliers. QA and OH&S together are worthwhile tools for staff who now have formalised, documented activities to maintain as well as being essential marketing tools.

Results of the marketing plan

Telemarketing has replaced the ad hoc use of purchased mailing lists. This has meant a process of identifying possible new customers, approaching the appropriate person by telephone, sending samples and then following up with visits by a salesperson. From this process, 12 new sizeable continuing customers have been achieved and the number is growing slowly. While this has not meant an increase in turnover, it has enabled Western Graphics to maintain its level of turnover at a time when it would have been expected to decline. The decline in work from their traditional clients in the finance industry has reduced the amount and quality of their printing while the number of members within that industry also declined through mergers. In addition, there is strong competition from the newer, higher quality in-house copiers.

CASE STUDY

Western Graphics

For its new, one-off and continuing customers Western Graphics provides the same type of book and general printing. One new area which has had better than expected acceptance has been point of sale printing. By offering short runs of specially printed high quality carry bags Western Graphics has managed to capture part of the market which is ignored by the offshore long run printers. These items, which began as one of the client's own marketing tools, have become a worthwhile addition to its print operations. As with so many other areas where local printers are competing with imported product, the attractions to domestic consumers are short runs, short lead times and high quality. For the printer it means that these items open the doors to other printing jobs.

At the time the Marketing Plan was being undertaken, Western Graphics opened its own graphic design studio so the new activity was marketed along with the traditional print processes, enabling Western Graphics to sell itself as a "one stop" printer for all print needs.

With its new approach of offering to provide a wider range of print products Western Graphics is now seeking to offer existing customers, particularly those in the pharmaceuticals, travel, finance and real estate industries, a more complete service. For example, the client's pharmaceuticals customers tend to use different printers for different products but Western Graphics are offering to undertake all of their print needs with quality guarantees.

The future

Prospects for sales growth over the next 12 months appear to be positive. Rather than purchasing new equipment Western Graphics proposes to farm work out initially. It is proposed that an existing four-colour press could be traded in for a used five-colour press although such machinery is becoming difficult to obtain as so much used machinery is being exported.

Due to its EPICS projects, Western Graphics has improved efficiency to such an extent that staff numbers have been reduced from 24 to 16 through natural attrition. This will enable the company to increase staff numbers relatively easily when demand improves without any stress on existing facilities.

appendix

CASE STUDY Scanlon Printing

Scanlon Printing was established in 1993 as a two-person business and following a commitment to leading edge technology, investment in people, and continuous process improvement, the business has grown significantly and now employs 55 people.

Like many small and emerging businesses, Scanlon Printing identified the need for formal business planning and because of the growing importance of book printing to the mix of its business, successfully applied for an EPICS EDF grant for its initial business plan. NBS Consulting was retained as an external business planning consultant to work with the senior management team to build a new plan and strategic direction and to identify opportunities to change the way in which Scanlon Printing operated.

One of the outcomes of the business planning process was to identify the areas in which Scanlon Printing could streamline its business, reduce costs, and pass on savings, which might enable the company to expand the relative importance of its book printing to overall operation. A project team was created to identify needs and to frame a further EPICS funding application.

Initial objectives

The initial objective of the project was to identify points within the business which could be modified in terms of cost reduction. The team identified the need to:

- Map current workflows and identify bottlenecks;
- Identify people links with current workflow;
- Identify shortcomings in current workflow; and
- Identify ways the organisation could be improved with new workflows.

Similarly, the project was seen as a learning experience for the staff involved so that the process would provide staff with new skills.

EPICS projects

Using the approved support from EPICS, the project team, in addition to the points above, also:

- Provided every member of the organisation with clear role responsibilities and accountabilities, and mapped individual relationships to the total workflow;
- Identified the method by which the new systems could be communicated to staff;
- Identified the training needed for all staff to enable rapid acceptance and change;
- Identified the potential savings in production that could be passed onto clients – while maintaining its own corporate profit objectives; and
- Identified the manner in which the new workflows would be adopted by all staff on an ongoing basis.

CASE STUDY

Scanlon Printing

Outcomes

A comprehensive mapping of all existing processes and relationships formed the basis of further discussions and planning. Further, a detailed and methodical action plan was created for the benefit of the project team to ensure ease of understanding and implementation of the project. In conjunction with the action plan, the team developed a comprehensive resourcing commitment.

A planning and implementation phase was instituted by the project team with support from senior management and comprehensive briefing provided for staff throughout the organisation.

New workflow procedures were identified, mapped and implemented throughout the business to speed production, minimise waste and reduce costs during the production processes.

The future

Participation in EPICS has enabled Scanlon Printing to emerge as a more robust operation with lean manufacturing practices and identified cost reductions being passed onto its clients.

The project has been seen as a key influence on the company's ability to produce more books in a faster and cheaper manner – resulting in a greater contribution of book printing to total sales. Also, the new systems and technologies adopted by Scanlon Printing allow the company to focus on its “manufacturing” techniques in a streamlined and cost-efficient manner.

Book printing continues to emerge as a strong growth opportunity within the business, based on strong leadership and the efficiencies in lean manufacturing derived as a result of EPICS projects.

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CASE STUDY

Hawker Brownlow Education

Hawker Brownlow Education commenced business in 1985 as an educational book distributor marketing a range of imported books directly to Australian schools. By year's end, the business took a major sidestep by electing to purchase the rights from its US and UK publishers rather than importing physical product. This allowed Hawker Brownlow Education to locally publish, print and distribute titles to the Australian market and allowed the company to take control over the content in order to best reflect the culture and demand from the Australian educational system.

A major element of the rights agreement in 1985 was that it separated Hawker Brownlow Education from other publishing houses with the integration of an in-house 'print-on-demand' output facility. In theory, books only needed to be printed after the order was received. Physical stock requirements were minimal and, as a consequence, were not a major drain on working capital. Waste was minimised, and titles would never again be out-of-print.

However, in 1985 the technology was unable to fully support and exploit these alternative delivery models. In the following 18 years to 2003, Hawker Brownlow Education constantly upgraded and extended the very latest printing and finishing technologies, often pushing the equipment beyond the manufacturers own design specifications. At the same time, Hawker Brownlow Education fostered a mutually beneficial alliance with its equipment vendor supplier, Xerox. This relationship cannot be understated and remains critical to Hawker Brownlow Education given their commitment to offer new and innovative solutions for their customers.

Hawker Brownlow Education currently have more than 3,000 titles in publication that can be accessed and produced in minimal run quantities. Hawker Brownlow Education licenses overseas content and adapts it to the Australian context, as well as giving support to local authors who write on specific content areas.

Hawker Brownlow Education prepared a Business Plan in 2002 and clearly identified (amongst other things) that they needed to: -

- Introduce the latest technological solutions in data manipulation, transmission, storage, and output;
- Review the work environment to promote further workflow efficiency reforms;
- Implement an appropriate web-based B-2-B solution that would streamline order fulfillment, production, administration, costing and e-management; and
- Embark on a skills development training program with existing and new staff.

Hawker Brownlow Education applied to the EPICS program for financial support to help implement these strategies.

CASE STUDY

Hawker Brownlow
Education

EPICS project objectives

The Hawker Brownlow Education project objectives were as follows:

- To synchronise the print room technology across its two output devices. Hawker Brownlow Education was using two distinct solutions for the storage and output of content;
- Adopt a full-blown PDF workflow that would promote production efficiencies through improved systems for electronic transfer of files, manipulation, content management, storage, retrieval and output;
- Install a new web-based order process management software solution to provide contract evaluation, editing, graphic design, content management, production, and warehousing activities; and
- Incorporate an appropriate training program into every stage of this program to ensure ownership and responsibility of the new systems remained with the staff at Hawker Brownlow Education.

Implementation of project

The project was broken up into four deliverables:

1. Installation of new NT server hardware and backup systems, as well as the upgrade of Xerox hardware in the print room;
2. System development of the Spitfire Production Management software incorporating a detailed analysis of existing systems, automation of processes, and the integration of the solution developed exclusively around the Hawker Brownlow Education business model;
3. Adoption of an enhanced PDF workflow incorporating the conversion of data from old systems into PDF files; and
4. Company-wide training program incorporating the new systems and hardware, and finishing with a lessons learnt activity to evaluate the entire project from a project management perspective.

The project took more than 12 months to complete primarily because the integration of traditional work practices to the new realm was an extremely difficult task.

Project outcomes

The revolution in technology through this project allowed Hawker Brownlow Education to convert 2,500 titles to be stored electronically on a central server as PDF files. This has effectively become their inventory as they can now produce a finished book in less than a minute of receiving the order.

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CASE STUDY

Hawker Brownlow
Education

The EPICS project also allowed Hawker Brownlow Education to rationalise its technologies in the print room. It is now far easier to train staff and has allowed for more efficient utilisation of both printing machines. Previously, the newer technology printing equipment had much more throughput and the older equipment was under utilised. The new plant synergy now means that one machine could possibly be out of service and yet production could continue on the other machine.

In addition to these major project outcomes, the following associated workflow improvements have been noted:

- Print room staff now have access to all job details online;
- An Electronic Production Report will only allow operators to produce specified quantities according to sales orders received, reducing wastage and preventing stock sitting on the shelves;
- Efficiencies in the workflow of the print room and customer service have improved turnaround time for order fulfillment. With these efficiencies, Hawker Brownlow Education are able to increase their offerings to schools and publish resources in a broader field, giving wider choices to their clients;
- The Spitfire Management Control System provides comprehensive data, which has allowed Hawker Brownlow Education staff to more efficiently service their customer's queries. Spitfire has enabled Hawker Brownlow Education to access and use e-mail for communication for statements, copy invoices and pro forma invoices;
- Electronic recording of time taken on jobs and tracking of where jobs currently sit have allowed for more accurate costings and improved staff efficiency as time budgets can be set for each job and actual time spent can be monitored; and
- Improved accuracy in tracking jobs.

The future

The Digital Integration project has provided enormous stimulus to the business to pursue new and emerging business opportunities. Building blocks, with a production emphasis, are now in place as a consequence of this project. Hawker Brownlow Education now need to change their focus to developing tools to fully exploit the opportunities that technology has unleashed.

The next phase of development will enable Hawker Brownlow Education customers to search for products and order online with an e-commerce transaction. The company now also has the capacity to greatly increase its publication list.

CASE STUDY

Openbook Publishers

Introduction to Openbook Publishers

Openbook Publishers operates across the entire book industry value chain encompassing book retailing, publishing and manufacturing. The business was established in 1913 originally acting as an importer and distributor of Lutheran books and resource materials. Since that time, the organisation expanded its activities to encompass local publishing and in 1966 the print division (Openbook Print) was established.

In around 2000, Openbook Publishers recognised that a considerable amount of working capital had been tied up in retailing outlets and inventory stocks which led to some major changes in approach including:

- Sale of its eight retail sites located across Australia;
- Establishment of a national service centre and website to support the delivery of products and services to customers – across Australia and on an international basis in the future; and
- A focus on print management and logistics fulfillment.

With these types of challenges in mind, the Openbook Publishers print division undertook a Business Plan under EPICS.

Four major development needs were identified in Openbook Publishers' EPICS sponsored Business Plan. These were:

- To facilitate a shift towards customer alliance formation and publishing service systems;
- Development of production on demand capability that involved embracing digital technologies and workflow management;
- Development of new markets; and
- A review of binding requirements.

The Business Plan concluded that the highest priority project was the implementation of a print management system to interface with Openbook Publishers e-commerce enterprise management system and Microsoft Navision was chosen for this purpose.

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CASE STUDY

Openbook Publishers

Objectives of EPICS project

After an extensive evaluation of print management software solutions available in Australia, the Board of Openbook Publishers selected one that they had researched in order to:

- Adopt a print management system capable of interfacing with Openbook Publishers' e-commerce enterprise management system software;
- Provide clients with a complete supply chain management solution for book production from electronic ordering, through editorial, design, print, digital file management, warehousing, order fulfillment and including promotional opportunities to focused markets; and
- Improve the management of internal information and processes in order to reduce turnaround, errors and production costs associated with print.

Outcomes

Openbook Publishers' evaluation of software application they ultimately selected, at the commencement of the project, was exhaustive by comparison to most evaluations that occur. But even with discerning eyes, it was not until nearly eight months after the commencement of the project that Openbook Publishers discovered that the software application was not developed to the extent that it understood to be the case.

One of the vendors in the original project located in South Australia – Open Systems – saw the need for the print industry to develop a functional print management system that was capable of interfacing with the Microsoft Navision product. As a result, Open Systems chose to partner with Microsoft and Openbook Publishers to develop a fully functional print management system for the print industry. Openbook Publishers agreed to be a test site for the development of this software solution on the basis that it would incur no extra costs.

After 12 months, Open Systems and Microsoft are now in the position to release Version One of the new software system, DELTA. This has been a major achievement for all concerned.

Decisions to procure print and enterprise management systems should be seen as more than a major purchase as they are, in fact, a choice about a long-term alliance partner. As a result, enterprise owners should ensure detailed agreements are reached with vendors as to how new technology systems can be supported both in ongoing developments and also in localised support.

CASE STUDY

Openbook Publishers

Project outcomes

Staff time devoted to quote management and other administrative activities, as well as time wastage due to rework, has been significantly reduced. Redeployment of resources to more productive activities such as marketing will enable Openbook Publishers to refocus on strategies identified as important in the Business Plan and as required in the shift towards online book retailing.

The overall impact is that Openbook Publishers will be able to compete more effectively, will allow it to service its customers on a global basis and create flexible responses when new opportunities are identified.

The future

The EPICS project is enabling Openbook Publishers to embrace a new type of value adding model – both as a publisher in its own right as well as an organisation providing publishing services to other publishers. These new service models are described as follows:

Publishing services

Openbook Publishers are planning to offer services to support the production, marketing and logistics management for and on behalf of 35 other small-scale publishers. In this way, Openbook Publishers are aggregating volumes on behalf of a network of publishers, as well as providing marketing resources to enable small-scale publishers to more effectively interact with the retail bookselling sector.

Communication services

In this model, Openbook Publishers are offering services to a range of private sector customers such as the Uniting Church, Yalumba Wineries and Solar Optical. With its skills in coordinating content development, Openbook Publishers now offers a unique value adding service that includes:

- Researching and writing histories for and on behalf of customer businesses;
- Preparing sample chapters and mock-up products (both paperback and high quality and high margin) leather-bound versions of books;
- Publishing history books to support the PR/marketing positioning requirements of its customers; and
- Managing small production runs and inventories.

Custom retailing

Distinct services under this model include customer profiling, e-commerce solutions, marketing and promotion for and on behalf of small-scale publishers and web-consumer interface management.

appendix

CASE STUDY

Ken Duncan
Panagraphs, Steve Parish
Publishing and Chevron
Publishing.

Three companies with similar goals and objectives each sought EPICS support in an effort to streamline systems and reduce overall costs of production.

Ken Duncan Panagraphs® Pty Ltd (NSW)

Ken Duncan is one of Australia's leading photographers, particularly in the area of panoramic landscapes. Ken has used his talents in photography and then, as a result of the photographs, published a wide variety of books, poster prints, cards and souvenirs.

Ken Duncan has taken hundreds of thousands of photographs and transparencies – for which he receives numerous requests and orders ranging from individual photographs to mass orders. His works have been published in books all over the world.

Steve Parish Publishing Pty Ltd (Qld)

Steve Parish is a prolific photographer and an extensive publisher of books on Australia and Australian wildlife. In addition to books, the Steve Parish Publishing company also creates calendars, postcards and cards from a wide range of photographs, however, the books they have published create the cornerstone to the business.

Steve Parish has an extensive collection of books published in Australia as coffee table books, educational books and student learning materials. The company is contacted from around the world with requests and orders to publish its unique photographs from the hundreds of thousands in its library.

Chevron Publishing Pty Ltd (NSW)

Chevron Publishing has the greatest collection of motor racing and automotive film and transparencies in Australia. Chevron Publishing has been the official publisher of the Bathurst car race for 30 years. Following the race in October each year, Chevron Publishing has published a comprehensive record of the event. Chevron Publishing produces books promoting major race car events in Australia each year and also publishes programs and official record books for other major events from bike racing to historic air shows.

Chevron Publishing receive requests on a daily basis from around the world for information and photographs of the Australian motoring industry and Australian car race events.

Background

Duncan/Parish/Chevron are each in the unique situation of having hundreds of thousands of traditional photographs and film transparencies in their respective archives and libraries. Each of these film libraries is based on traditional photographic media, traditional storage facilities and with traditional manual search procedures.

CASE STUDY

Ken Duncan
Panagraphs, Steve Parish
Publishing and Chevron
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Requests for multiple photographs from any of these libraries must be done manually. If the image is required for an external publishing request, it may require low resolution scanning and transmission for consideration. Historically, when selected for publication, the original film would be carefully packed and despatched. When returned the film was checked, recorded and returned to its appropriate storage. This process is time-consuming and the risk of damage, with the potential for loss of image, is high.

The companies identified that they each had separate needs and different objectives but each, individually (and at different times), sought support through EPICS EDF grants.

Initial objectives

The objectives of each company were similar in reducing costs of production and the need to develop their respective business into more digitally-based organisations.

The objectives were to:

- Reduce overall costs of production;
- Reduce the potential risk of damage to delicate photographic material;
- Provide a fast (cost saving) photo retrieval system;
- Provide digital choice from the traditional photo library;
- Identify the photographic material which should be digitised;
- Develop a computerised record of photographic material for on-site and off-site storage; and
- Develop a low resolution, web-based photo library to which other global book publishers could gain access, select with speed and request a single image high resolution scan which would enable reduced cost of production through CTP technology.

EPICS projects

Each of the companies sought financial support from the EPICS program on their similar projects. In each case, the support enabled concentration of effort and resources to achieve the desired outcome.

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CASE STUDY

Ken Duncan
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The three companies had identified that they needed protection for the film and image/s and each had identified that traditional film was inadequate when it came to working with more modern book publishing systems; most importantly in proofing and CTP technology. Through low resolution scanning and digital file storage, they could provide their own simple record of photographs and a database to which speed of access, photographic comparison and selection would significantly reduce costs.

This access system would provide an important control for digital proofing through consistency of scan-file-proof output and provide accurate and controlled links to preparation for final print materials.

Each of the companies recorded comprehensive database details about each photograph, its geographic location (or event), the photo content and image, background and its own technical information as well as any narrative of importance for their own organisation or other potential publishers.

Summary of outcomes

The overall cost savings provided by speed of access to digital photographs, particularly on photographs which may have been one of a series of similar shots, is high. One of the companies indicated that this outcome alone would enable them to generate a number of additional new books each year, all printed in Australia and providing additional work for Australians.

The companies each experimented with high and low resolution scans to determine their best needs and storage requirements on their own networks. Each reported that dual storage of digital files, both on-site and off-site, was ideal and prevented risk in sending photographic materials around the world.

This project for the three companies demonstrated the outcomes in digital technology and the cost reduction processes associated with scanning and photo/picture retrieval, scanning and digital file storage, and the collaboration with printers and prepress to ensure the correct reproduction of colour photography in books and for other printed materials.

The future

The recent development of CTP technology and the use of digitised photographic materials is ensuring that costs can be reduced through collaboration from photographer to publisher to printer and that satisfaction of print outcome is of the highest of standards for all concerned.

The future demands of technology will continue in this way and there is potential for instant access to photographs, instant download to printers, instant output from printers and instant read/view access for consumers.

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