

**CRITICAL PREDICTORS OF BUSINESS
PROCESS REENGINEERING (BPR) SUCCESS IN
THE AUSTRALIAN FINANCIAL SECTOR**

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ABSTRACT

In the last decade business practitioners have been bombarded with new tools and techniques to improve business performance. Business process reengineering (BPR) was one of a number of these tools. However, Holland and Kumar (1995) noted that 60-80 per cent of reengineering programs have been unsuccessful. A review of existing BPR literature in the Australian Financial sector has uncovered a relative absence of empirical research that characterises successful reengineering efforts. Attempts to describe successful BPR have manifested themselves as either case studies (Caron et. al, 1994), highly criticised by Cole (1994), or as conceptual frameworks (Lockamy III and Smith, 1997). The aim of our study, therefore, was to examine the relationship between strategic factors of the reengineering concept as postulated by the Lockamy III and Smith (1997) model and performance outcomes identified from the literature as benefits of BPR programs.

This paper reports on a study based on a survey questionnaire and five mini-case studies. 156 questionnaires were sent to 52 organisations selected from the Dunn & Bradstreet Top 500 Companies. A questionnaire was sent to three separate Strategic Business Units (SBUs) within each organisation. A response rate of 32.3% was obtained. The central finding is that the proactive implementation of BPR as part of the organisation's strategy, coupled with focusing redesign efforts on core customer business processes are the most significant predictors of BPR success, explaining more than 30 per cent of the variance in organisational performance. The paper concludes that BPR in the Australian financial sector is playing a key role in business performance improvement.

Keywords: Business process reengineering, performance, strategy, information technology, customer focus, Australian financial sector

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INTRODUCTION

In the last decade business practitioners have been overwhelmed with new tools and techniques to combat a turbulent business environment. Business process reengineering (BPR) was but one of a number of management interventions. BPR's apparent "radicalness" was what set it apart from other management tools. It was defined by Hammer and Champy (1993) as the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service and speed, whilst being able to dramatically reduce work force numbers.

Ligus (1993, p.58) claimed that a '30-35% reduction in the cost of sales; 75-80% reduction in delivery time; 60-80% reduction in inventories; 65-70% reduction in the cost of quality; and unpredictable but substantial increase in market share,' were all possible through effective reengineering. BPR however, has failed to meet the expectations that were placed on it, according to Holland and Kumar (1995), 60-80% of reengineering programs end unsuccessfully. A Deloitte Touche survey of 500 Chief Information Officers found that reengineering projects consistently fell short of expectations (Moad, 1993). Other critics claim (Cole, 1994) that the "birth" of BPR was just a repackaging of old ideas used to drive growth in the consulting industry.

Despite the mixed experiences and expensive disappointments there is a relative lack of empirical data characterising successful reengineering efforts. Initial reengineering studies involved investigation through case studies and the construction of general reengineering principles from these studies (Hammer, 1990; Hammer and Champy 1993; Caron et al., 1994). Latter empirical research (Guimaraes and Bond, 1996; Zairi and Sinclair, 1995; KPMG Australia survey, 1996; O'Neill and Sohal, 1996) largely reinforced the principles established in earlier BPR research.

Of the research that has been conducted into success factors of BPR a number of themes have consistently appeared as critical for reengineering success:

Strategy

Most authors argue that if reengineering is to be successful it must be driven by strategy (Zucco, 1996; O'Neill and Sohal, 1996; Zairi and Sinclair, 1995 and Carr and Johansson, 1995). Chan and Choi (1997) attributed the high failure rate of BPR to a failure of organisations to incorporate BPR in their vision and strategic objectives.

Sarkis, Preseley and Liles (1997) argued that organisations failing to take a strategic perspective on BPR was the cause for program failures. Sarkis *et al.*, (1997) argued that BPR needs to be viewed as a strategic program, as "any process that is reengineered will not only have an impact on the function that has direct control over that process, but other functions that will necessarily support the reengineered process. These two characteristics point to a strategic change" (p. 262) for organisations undergoing BPR. Considering the findings of Chan and Choi (1997) it is evident that a framework for the evaluation and selection of processes for BPR implementation is required, born out of the specific direction given by the company's vision and strategy. Such an approach, Sarkis *et al.*, (1997) argue is evidence of a careful, considered and direction driven approach rather than a piece-meal, knee jerk reaction to competitive pressures.

Top Management Commitment

Respondents to the Guimaraes and Bond (1996) and KPMG (Zucco, 1996) study emphasised the need for top management commitment. A lack of commitment in organisations surveyed resulted in a lack of resources and funding culminating in redesign teams feeling "swamped" by the changes required.

Information Technology and Process Redesign

Markus and Benjiman (1997) noted that IT and business process redesign are highly interdependent, with each being the key to the other. Davenport and Short (1990) believed that IT and process redesign could 'transform the organisation to the degree that Taylorism once did' (p. 11).

A predominant theme in all BPR literature has been the importance of using IT as an enabler and a tool to build new processes with, rather than building around old IT (Hammer, 1990; Hammer and Champy 1993; Gunasekaran and Nath, 1997). Realising this was achievable by using the "clean slate" approach where organisations obliterated old processes and started from scratch, building the most ideal organisational processes. This approach was seen to be the key to realising the single dramatic gains of radical process redesign', (Cole, 1994, p. 6) with information technology being the main supportive tool. However Caron *et. al.* (1994) argued that commercial reality meant that using a total clean slate was impossible and that successfully reengineered organisations had learnt to re-configure and use existing IT for strategic impact.

Customer focus

Scherr (1993) saw that the importance of customers was enough to warrant using them as a perspective point when examining core processes. Sheehy (1997) interprets reengineering's purpose as finding new ways of adding value to customers. Without this customer focus, Sheehy (1997) argues, 'reengineering pulls inevitably towards a cost cutting exercise, this emphasis eventually reengineering the customer out of the picture' (p. 7).

Hall et al. (1993) argued that if BPR was to be successful redesign efforts had to be concentrated on areas that have the most direct impact on customer value and cost. A failure to do so will result in operational but not strategic benefits.

Absorbing reengineering into a continuous improvement program

Learning from failure and success was seen as Caron et. al (1994) as integral to the ongoing success of BPR. The incorporation of this learning and the creation of formal feedback loops was viewed by Butler (1993) as forming an integral part of any BPR framework. Constant on-going redesign was seen as necessary to achieve the most optimal operating processes. The strategic incorporation of BPR was seen as the best way of ensuring on-going re-design

Performance Outcomes

Gunasekaran and Nath (1997) identified the benefits of IT in BPR as reduced cycle times as IT dramatically reduces the amount of tasks required to carry out processes. Quality improvement as a result of the removal of inconsistent human input and substantial cost savings were also identified as benefits of a BPR program. These benefits are all reinforced with increased communication flow throughout the organisation from new technologies.

According to Cummings (1993, p. 27) "the highest realised benefits of BPR are for improved customer service, faster processes and increased quality, while the lowest improvements are increasing sales and revenue". Teng, Grover and Fiedler (1994) cited case examples of successful reengineering at Eastman-Kodak, AT&T, Cigna RE and Hallmark. All of these organisations reported increases in productivity as well as a reduction in staff members after reengineering.

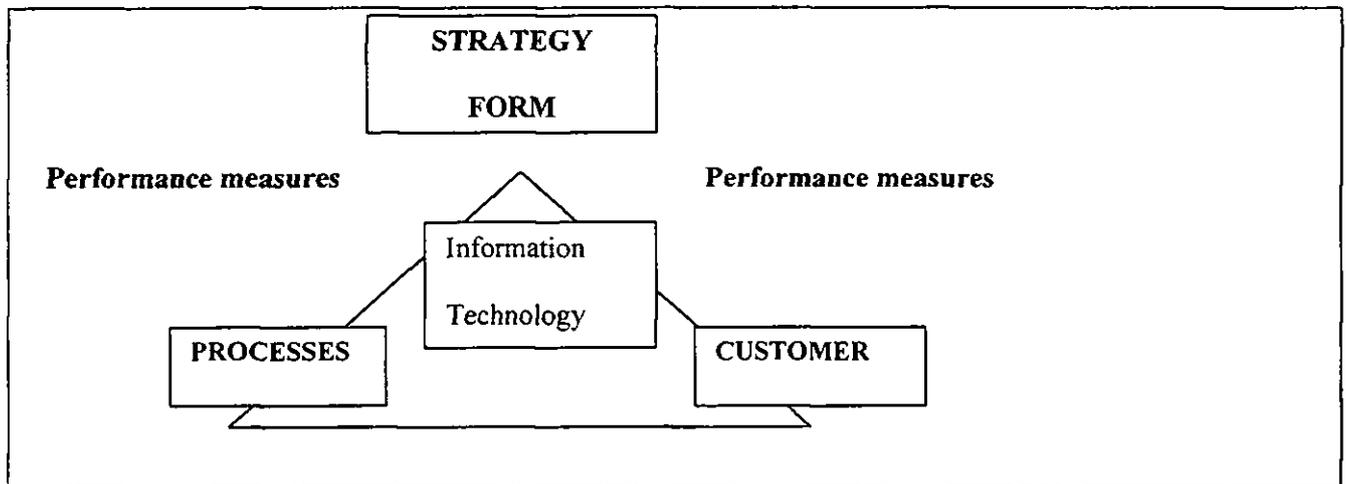
A review of the literature does uncover an absence of studies that characterise successful reengineering efforts. Attempts to describe BPR have manifested themselves as either case studies, which were highly criticised (Cole, 1994) or as conceptual frameworks. There is an obvious requirement to test certain aspects of reengineering and their relationship to performance improvement measurements of reengineering programs.

RESEARCH FRAMEWORK AND HYPOTHESES

Lockamy III and Smith's (1997) article *A Strategic Alignment Approach for Effective Business Process Reengineering* typifies more recent developments in BPR literature. The article provides a framework that characterises successful reengineering and is a clear and simple synthesis of existing literature on BPR. It is this framework that will form the basis for the present research.

The model breaks down and categorises reengineering practices into five component parts. Strategy, processes, customers, information technology and performance measures and is the most comprehensive incorporation of practices that ensure successful reengineering.

Figure 1 Strategic Alignment Model (Lockamy III and Smith, 1997 p. 142)



All four factors in Lockamy III and Smith's (1997) model are supported by and in theory, impact on performance measures. The premise of Lockamy III and Smith's framework is that the four reengineering factors influence the outcomes of these performance measures, the implication being that they can be monitored and evaluated to make the requisite adjustment to reengineering practice to ensure project success. To adequately presume that certain factors can influence performance measures/outcomes requires empirical testing.

RESEARCH QUESTION AND HYPOTHESES

Considering the literature review, the following research question and hypotheses were formulated in relation to reengineering in the Australian financial sector:

"Which reengineering strategic factors directly impact on the various performance measures used to monitor and evaluate the success of a business process reengineering program?"

Hypothesis 1: There is a significant positive relationship between the perception of reengineering as a corporate strategy and profitability

Hypothesis 2: There is a significant positive relationship between increased use of information technology in a business process and cycle time reduction.

Hypothesis 3: The redesign of processes has a significant positive effect on reducing work force numbers.

Hypothesis 4: There is a significant positive relationship to using customer feedback when redesigning processes and an organisations' ability to satisfy customers.

METHODOLOGY

The population studied was the Australian finance industry. A sample was drawn from organisations identified as banking or finance from the Dunn and Bradstreet (1996) list of Australia's Top 500 Companies. In total 156 possible respondents were identified. Three responses were sought from each organisation in an effort to gain organisation-wide perceptions of BPR. In total 49 questionnaires were returned for a total response rate of 30.2%.

Follow-up interviews were also conducted. These were used to create mini case-studies to give a more in-depth understanding of BPR experiences and help explain the quantitative findings.

KEY FINDINGS

Performance Outcome	Variance explained	Explaining variable
Performance construct	30.9%	<ul style="list-style-type: none"> - Proactive implementation of BPR. - BPR efforts are driven by core-customer focused business processes.
Cost to income	14%	<ul style="list-style-type: none"> - Proactive implementation of BPR.
Return on equity	8.2%	<ul style="list-style-type: none"> - Proactive implementation of BPR.
Reduction in cycle time	27.1%	<ul style="list-style-type: none"> - BPR efforts are driven by core-customer focused business processes.
Reduction in workforce numbers	12.2%	<ul style="list-style-type: none"> - IT is a more integral part of reengineered business processes.
Organisations' ability to satisfy customers	39.6%	<ul style="list-style-type: none"> - Proactive implementation of BPR. - BPR efforts are driven by core-customer focused business processes.

The variable "performance construct" was created from a factor analysis with a conservative cut off point of 0.45. All performance variables fell within this level and the aforementioned construct was created. This was included for direct testing in Hypothesis 1 as it measured overall performance. The predictive power was greatest for this variable compared to the more direct measurements of profitability of cost to income and return on equity. The case study data indicates that this hypothesis can be supported. Organisations that had implemented BPR in a reactive fashion have had more difficulties than those that have it as a permanent part of the corporate strategy. A failure to incorporate reengineering into the groups' strategic direction was identified by a BPR team of as the primary cause for implementation difficulties.

The case studies both supported and contradicted the quantitative findings. Many of the smaller non bank financial institutions in the sample had reconfigured existing processes without using IT. The larger banks, however, had utilised the power of IT to significantly change processes to achieve cycle time reduction. The inconsistency in qualitative and quantitative findings could be attributed a misconception amongst

respondents of the value of IT to the business. This is likely considering the high IT investments in the financial sector and the belief of its inevitable value.

The quantitative data supported the hypothesis, however the qualitative findings both supported and contradicted it, perhaps explaining the relatively low explanatory power. The smaller non-bank financial institutions investigated were experiencing tremendous growth and thus cuts in work force numbers had not been required. However the larger banks had significantly reduced work force numbers. It would be reasonable to assume that as the market growth abates that work force cuts will feature more prominently in any redesign activities.

Reengineering efforts are driven by core customer focused business processes, whilst not a direct measurement of customer feedback still indicates that some form of feedback or thorough customer research would be undertaken to concentrate on these processes. This variable was able to account for 39.6% of the variance along with the proactive implementation of BPR. The qualitative experiences of organisations who had implemented BPR reactively believed that this pulled their redesign efforts towards a pure cost focus without any regard to adding customer value. Alternatively those organisations that had incorporated BPR as a permanent part of the business' corporate direction, facilitating proactive implementation more actively sought customer perceptions and were aimed at increasing customer value.

MANAGERIAL IMPLICATIONS

Whilst the evidence supports the proactive implementation of BPR, realising it is more difficult. For the purposes of this research proactive implementation was defined as the introduction of BPR to prepare the organisation for the future, rather than exploiting it as a "quick fix" tool as a result of competitive pressures. This was achieved by organisations in the mini-case studies by incorporating BPR into the groups' strategic direction. A failure to do this resulted in the change project becoming too difficult to manage. The redesign teams lacked resources and top management commitment and felt that if they had achieved 30%-50% of their initial targets that they had been successful. These are similar problems to be avoided identified by Hammer and Champy (1993); Guimaraes and Bond (1996); KPMG's (Zucco, 1996) study and O'Neill and Sohal (1996). Top management commitment in terms of time spent championing the change effort as well as allocating the necessary resources is a critical role for management responsible for BPR changes.

Case studies also revealed that the strategic incorporation of BPR was complemented by guiding principles or frameworks that drove and directed the reengineering efforts. Managers need to give their redesign efforts a clearly defined direction. This is partly achieved through the strategic incorporation of BPR and guiding principles.

The other significant predictive variable identified by the quantitative data was, "reengineering efforts are driven by core customer focused business processes". Contrary to popular perception, IT is not the main cause for improvements in firm performance and cycle times. The power of IT can only be exploited if the right processes are targeted. This is consistent with assertions of Hall *et al.*, (1993) who argued that processes will only have business wide effect if the processes redesigned have a significant impact on customer value or business cost. Once these critical processes have been identified, comprehensive transformation of "depth levers" is required.

Depth levers were defined by Hall *et al.*, (1993, p. 119) as roles and responsibilities, measurements and incentives, organisational structure, IT, shared values and skills". Change of these support functions will ensure organisational wide process changes and avoid new operations being "slowed down" by more outdated processes within the organisational system. Widespread change especially in structure and shared values and skills will also promote a paradigm shift that Guimaraes and Bond (1996) argued was necessary for successful BPR. The careful identification of processes could also be facilitated by the use of guiding frameworks and principles previously mentioned.

Qualitative data revealed that organisations were still redesigning processes within existing business information technologies. KPMG's (Zucco, 1996) study found that this was a significant limiting factor of reengineering in major Australian banks and is not consistent with the lesson learnt from CIGNA

Corporation (Caron *et al.*, 1994). Organisations must whenever possible exploit clean slate opportunities. The qualitative data, however, did reveal that the exorbitant cost of banking infrastructure makes using a total clean slate approach commercially impossible. Company D however, realising this limitation of its BPR program, built flexibility into its existing support systems at a cost that was reasonable which gave them many leverage points for their redesign efforts.

The use of customer feedback is an absolute imperative for any BPR program (Hammer, 1990; Hammer and Champy, 1993; Grint, 1994). The quantitative data revealed that 39.5% of the variance in an organisations' ability to satisfy customers was explained by the levels of customer feedback. A failure to reengineer from a customer perspective has been blamed for disappointing BPR results (Grint, 1994 and O'Neill and Sohal, 1996). The qualitative data revealed that there were many variations of customer feedback including a less direct surveying of customers by questionnaire to the more direct involvement of customers in the actual redesign of processes and the use of focus groups. Scherr (1993) advocated the direct use of customers in the redesign of processes. One organisation that participated in the interview component of the research also used internal staff surveys to monitor the change program and found the information helped them manage the change effort more effectively. This comprehensive internal and external customer focus was deemed as necessary for success by Sarkis *et al.*, (1997).

The most important implication of this research for managers is to ensure that BPR is incorporated as a permanent function of business operations to enable on-going redesign of the business. Accomplishing this will facilitate the proactive implementation of BPR and focusing redesign efforts on core customer focused business processes. These variables were significantly related to each other. These critical factors of a BPR program lay the groundwork and created the environment in the organisation that actively seeks customer feedback and carefully identifies redesign opportunities.

CONCLUSION

This research has revealed that BPR in the Australian Financial Sector is playing a key role in business performance improvement. Intense competition has forced organisations to adopt on-going reengineering just to remain competitive. No longer can organisations compete on products and dominate market segments. The rules of competition now revolve around the anticipation of market trends and quick responses to changing needs (Stalk, Evans, and Shulman, 1992).

Mini case studies formulated from the follow up interviews revealed that reengineering is being used for the purpose of anticipating market trends and adjusting quickly to changing consumer needs. BPR is a permanent fixture in their corporate strategies, the benefit of reengineering to these organisations is BPR's utility, it can be utilised for varying purposes adapting the organisation to existing market pressures.

These findings reassert the arguments put forward by earlier authors (Chan and Choi, 1997; O'Neill and Sohal, 1996; Zairi and Sinclair, 1996, Zucco, 1996; Carr and Johannson, 1995) regarding the necessity to incorporate BPR into the organisations corporate strategy in order to realise business success.

REFERENCES

- Butler, C. (1993), "The role of IT in business process redesign: Observations from the literature", *Melbourne Business School Working Paper*, No. 18, December.
- Carr, D. and Johansson, H. (1995), *Best Practices in Reengineering*, McGraw-Hill: New York.
- Caron, J.R., Jarvenpaa, S. and Stoddard, D.B. (1994) "Business Reengineering at CIGNA Corporation: Experience and Lessons Learned From the Last Five Years", *MIS Quarterly*, Vol. 18, No. 3, September, pp. 233-250.
- Chan, S.L. and Choi, F.C. (1997), "A conceptual and analytical framework for business process reengineering", *International Journal of Production Economics*, Special Issue on Business Process Reengineering, Vol 50, pp. 211-223.
- Cole, R. (1994) "Reengineering the Corporation: A Review Essay," *Quality Management Journal*, July, Vol.1, No. 4, pp. 77-85.
- Cummings, J. (1993), "Reengineering falls short of expectations, study finds", *Network World*, 22 March, p. 27.
- Davenport, T and Short, J. (1990) "The New Industrial Engineering: Information Technology and Business Process Redesign", *Sloan Management Review*, Summer, Vol. 31, No. 41, pp. 11-27
- Dunn and Bradstreet (1996), *Australia's Top 500 Companies 1996-97*, 10th edition, Sydney: Dunn and Bradstreet (Australia) Pty. Ltd.
- Grint, K. (1994), "Reengineering History: Social Resonances and Business Process Reengineering", *Organization*, Vol. 1 No.1, pp. 179-201.
- Gunasekaran, A. and Nath, B. (1997), "The role of IT in business process reengineering", *International Journal of Production Economics*, Vol. 50, 1997, pp. 91-104.
- Guimaraes T. and Bond W (1996)., "Empirically Assessing the impact of BPR on Manufacturing Firms.", *International Journal of Productions and Operations Management*, Vol. 16, No 8, pp. 5-28.
- Hall, G., Rosenthal, J. and Wade, J. (1993), "How to make reengineering really work", *Harvard Business Review*, November-December, pp. 119-131.
- Hammer, M. (1990) "Reengineering Work: Don't Automate, Obliterate", *Harvard Business Review*, July-August, pp. 104-112
- Hammer, M and Champy, J.,(1993) *Reengineering the Corporation: A Manifesto for Business Revolution*, London: Nicholas Brealey.
- Holland, D. and Kumar, S. (1995), "Getting past the obstacles to successful reengineering", *Business Horizons*, pp. 79-85.
- Ligus, R.G. (1993) "Methods to help reengineer your Company for Improved Agility", *Industrial Engineering* (January)
- Lockamy III, A. and Smith, W. "A strategic alignment approach for effective business process reengineering: Linking strategy, processes and customers for competitive advantage: *International Journal of Production Economics*, Vol. 50, 1997, pp. 141-153.

- Markus, L.M. and Benjamin, R.I., "The Magic Bullet Theory in IT-Enabled Transformation", *Sloan Management Review*, Winter, 1997, pp. 55-68.
- Moad, J.,(1993) "Does reengineering really work?", *Datamation*, 1 August, pp. 8-22.
- O'Neill, P. and Sohal, A. (1996) "Business process reengineering: Application and success in Australia", in Griffin, G. (ed.), *Management Theory and Practice*, Melbourne, MacMillan Education.
- Sarkis, J., Presley, A. and Liles, D. (1997) "The strategic evaluation of candidate business process reengineering projects", *International Journal of Production Economics*, Special Issue on Business Process Reengineering, Vol. 50, pp. 261-274.
- Scherr, A.L. (1993), "A new approach to business processes" *IBM Systems Journal*, Vol. 32, no. 1, pp. 80-98.
- Sheehy, B. (1997), "Quality Comeback", *Executive Excellence*, Vol. 14, No. 5 May, pp.7-8.
- Stalk, G., Evans, P. and Shulman, L.E. (1992), "Competing on Capabilities: The new rules of corporate strategy", *Harvard Business Review*, March-April 1992, pp. 59-71
- Teng, J., Grover, V. and Fiedler, K.D. (1994), "Exploring the success of information technology enabled business process reengineering", *IEE Transactions on Engineering Management*, Vol 41; No. 3, pp-276-284.
- Zairi, M and Sinclair, D., (1995), 'Empirically assessing the impact of BPR on Manufacturing firms', *International Journal of Operations and Production Management*, Vol. 16, No.8, pp. 5-28.
- Zucco, N. (ed.), "Reengineering in Australian Banks – Achieving a Quantum Leap in Performance", *An Internal Study Paper*, KPMG, 1996.

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