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Chapter III

A Porter Framework for Understanding the Strategic Potential of Data Mining for the Australian Banking Industry

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ABSTRACT

This chapter employs Michael Porter's Five Forces model to understand the potential strategic value of data mining within the Australian banking industry. The motivation for examining the strategic potential of data mining is to counter balance the preponderance of process level arguments for adopting this technology (e.g., risk and fraud mitigation, market campaigns, etc.) with an industry level perspective of what the technology potentially means for competition between rival firms (i.e., industry behavior). In essence, this chapter explores how data mining can affect industry structure and attractiveness by assisting businesses such as banks defend themselves against forces such as those asserted by buyers, substitute products, new entrants, and suppliers. This chapter also explores the future implications of data mining for the banking industry, the operating models of those institutions and the underlying economics of the industry. The emergence of data mining presents banks with the opportunity to either continue to develop their core competencies around the design, manufacture, distribution and support of products and/or to develop critical

competencies around customer relationship management. A possible “contract banking” model supported through the application of data mining is discussed.

INTRODUCTION

Identifying the strategic potential of data mining represents a difficult and complex heuristic search. The territory occupied by the strategic application of data mining is by its very nature ill defined. Time limits are imprecise and the capacity to forecast long-term competitive benefits is contingent on the degree of volatility within the particular industry over time, as well as the management, planning and control structures that are critical to the deployment of new technology within a business environment. At an epistemological level, the concept of strategy, as it is represented in data mining literature, is also another factor causing confusion. The generally agreed understanding of strategy evident in management, business and strategy literature is that it is the point of mediation and interpretation between the organization and the external environment. Within data mining literature, however, notions of strategy are firmly fixed at the subunit or process level. Potential macroeconomic impacts of data mining technology (and data warehousing architecture) and its potential to change the underlying economics of information intensive industries are generally overlooked in deference to case studies of marketing, risk and fraud applications, where benefits are easily quantified and represent an attractive solution to managers under pressure to control costs and improve performance.

This analysis of the strategic value of data mining is based on the Five Forces model developed by Michael Porter (1980, p.4) and will focus on the Australian banking industry. The Australian banking industry is typical of information intensive industries where data mining is used at the process level. Much of the commercially available literature argues that data mining gives businesses “competitive advantage,” but does not explain what the phrase “competitive advantage” actually means. Generally, notions of competitive advantage, as implied by the available literature, are focused at the process level. This corruption of the original “strategic” or enterprise level meaning of the term mirrors an incremental concept of strategy within data mining literature and research that ignores the potential industry level or intra-enterprise level impact of the technology.

Porter’s model has been widely used by business, strategy and information technology researchers and practitioners as a framework of industry analysis (Christopher, Payne & Ballantyne, 1993), as a methodology for combining business and information technology strategy (Applegate, McFarlan & McKenney, 1996), and as a framework for understanding how technology can change industry structure (Porter & Millar, 1985). Evidence from the available literature, however, indicates that, in general, technology strategy research and literature has largely applied Porter’s model as post facto instrument of impact evaluation or planning methodology and have not addressed the potential of the model to clarify, at a conceptual level, the enterprise or strategic value of technology investment. In *Competitive Strategy: Techniques for Analysing Industries and Competitors* (Porter, 1980), Porter outlined various macroeconomic and technical industry characteristics (e.g., entry barriers, economies of scale and scope, capital advantages, etc.) that were critical to the strength of each of the Five Forces

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