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The Grid and CRM: from 'if' to 'when'?

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Abstract

The 'Grid', an initiative of the distributed computing community, offers unprecedented levels of computing power for organisations to apply to solving their business problems. Uniquely it also offers the communications infrastructure required to overcome the 'tyranny of distance' observed by Blainey (The Tyranny of Distance, Melbourne: Sun Books) in his analysis of the socio-economic development of Australia. However, recent reports of the 'death of distance' and consequent strategies of trans-national companies to centralise their operations are tempered by reports of a growing 'psychic' distance with their customers. This paper reports the application of high-performance computing (HPC) to modelling consumer behaviour within a large UK financial services company in order to predict not only 'if' a certain type of customer behaviour was likely to occur, but also 'when'. The resultant impact on their customer relationship management strategy leads to the observation that Grid Computing should offer many new opportunities for managing the problem of 'psychic' distance that attends a strategy of revenue growth through widening the geographic scope of operations, and scale efficiencies through physical centralisation.

Keywords: Grid Computing; Consumer behaviour modelling; Customer relationship management; CRM; Financial services

1. Introduction

Geographic distance has been identified as a major factor in social, technical and economic development. In *The Tyranny of Distance*, Blainey (1966) describes how relative geographic

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isolation (from Europe) has shaped the course of Australia's development since colonisation. Whether geographical factors continue to mould Australia's future is a subject to debate. The communications revolution and convergence with information technology has diminished the perceived importance of distance, notably in *The Death of Distance* (Cairncross, 1997) which was inspired by Blainey's earlier work. As international and local communications costs converge, the impact of sender and receiver location is dominated by concerns of access to quality communication channels and time zone differences. Globalisation of markets has also been argued to reduce the historic restrictions of distance through fewer economic and information transfer barriers, enabling international sales and economic growth for countries with small domestic markets (Latham, 2000). As distance becomes less of a competitive barrier, Australian companies may compete more equally in international markets but are also exposed to greater competition both overseas and domestically. This aspect of 'distance' has also been observed to have had an impact on industry structure and is referred to by Turnbull (2002) as the *Tyranny of Proximity*: "if you have a seamless, borderless global business environment with instantaneous telecommunications and cheap fast air travel there is an inevitable tendency, all other things equal, for business and talent to concentrate in the largest, most economically powerful centres. It is our challenge to ensure that Australia is one of those centres. We cannot allow Sydney to become to New York what Adelaide has become to Sydney."

Distance can be manifest in many ways beyond physical geography. Notions of distance may also embody logical, cognitive or cultural dimensions, all of which can affect communication effectiveness (Lundin & Schkade, 1997). For example, cognitive distance has been identified as a challenge for Australia's US market for tourism (Harrison-Hill & Faulkner, 1998). If US customers perceive Australia to be more distant than it actually is, they may choose an alternative, but equally distant, vacation destination in preference—for example Italy.

2. Customer distance—the need for data analysis

Oracle's 2002 consolidation of more than 100 worldwide data centres into two locations: Colorado and California, allows it to run all core operations from the US and is reported to significantly improve both service levels and operational efficiency (FCIA, 2002). This strategy is emulated in recent moves by companies such as IBM Global Services, HP, and Veritas, and yet the benefits to trans-national companies of centralising operations are tempered by reports of a growing psychic distance between organisations and their customers (Johanson & Wiedersheim-Paul, 1975; Johanson & Vahlne, 1977; Evans & Mavondo, 2002). As companies expand across national borders and as communications channels become increasingly impersonal, psychic distance, the prevention or disturbance of information flow between suppliers and customers (Vahlne & Wiedersheim-Paul, 1973) has become amplified. This can be in the form of culture or language across international divides. At the same time, both international and domestic customers are becoming more educated, sophisticated, and demanding as a result of increased marketing activity, regulation, and media and consumer group attention (Smith, 1987; Knights, Sturdy, & Morgan, 1994; Lewis & Bridger, 2000; Valentine & Gordon, 2000).

Multinational companies with large numbers of customers are less able to replicate the intimate customer understanding of traditional local grocers that would allow alignment of processes and