

A Decade of IT Outsourcing in Australia: A Corporate Social Capital Perspective

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IT outsourcing in Australia is just over a decade old, launched in spectacular fashion by the South Australian “whole of government” outsourcing contract with EDS in 1995. In this time, over 220 organisations have entered into some 350 IT outsourcing contracts with over 112 vendors, for contracts totaling over \$21.2 billion. Coincidentally, this period of IT outsourcing parallels our experience of the Internet, the ubiquitous network of information resources that now underpins modern life around the world. This publication draws insights from a five-year research project, conducted by the author, on the links between the corporate “social capital” of firms in the global IT services sector and firm performance. A key finding from the research is that like the Internet, the power does not exist with any individual entity; rather it is in how an entity is positioned in terms of relationships with other entities and in its ability to influence its position in that network.

This report is structured into four sections. The first section identifies key phenomena that are shaping today’s market places and that provided the impetus for researching social capital effects on the global IT services market place.

The second section explores how these phenomena are playing out in the Australian IT services sector by providing an analysis of the Australian IT services market from a network perspective, looking at how firms and their senior executives are becoming increasingly interlinked. The third section takes a step back to look at the global IT market, reporting on empirical research conducted at the global IT services level. The final section provides specific outcomes from the research in the form of guidance for IT firms and clients on how to prosper in an increasingly networked IT market place.

Intangible Assets, Social Capital and Theory of the Firm

The events leading up to the dotcom boom and subsequent bust held some compelling lessons for those that had lived through it. Firstly, we learnt that incredible share market value could be generated based on future value potential, more so than past performance. While the dotcom bust added a reality check to this phenomenon, it is worth noting that today, share market valuations, especially in the IT sector, continue to grow on the back of so called “intangibles”, more so than past financial performance. For shareholders, returns have substantially focused on market value appreciation as increasingly firms have chosen to invest their profits in their own growth, rather than to return dividends to shareholders. These intangibles include a firm’s reputation, relationships with customers and partners, its human capital and other internal resources/capital. For the research conducted, a firm’s intangibles were examined through the lens of its corporate social capital, which is defined as “the set of resources, tangible or virtual, that accrue to a corporate player through relationships, in attaining its goals.” Corporate social capital was taken to include a firm’s relationship networks, absorptive capacity, human capital, internal capital and financial soundness.

A second phenomenon is the blurring of what now constitutes the “firm”. As firms increasingly enter into alliances and joint ventures, what is considered “inside” the firm versus “outside” the firm is becoming increasingly contentious. Just 750 equity alliances and joint ventures were formed in the USA throughout the 1970s, and

now thousands are formed annually in the USA alone¹. The networks that form from such alliances alone would indicate that corporate social capital will play a key role in a firm’s success. A good illustration of the blurring of firm boundaries was illustrated by John Taylor, the former deputy CIO for Dupont:

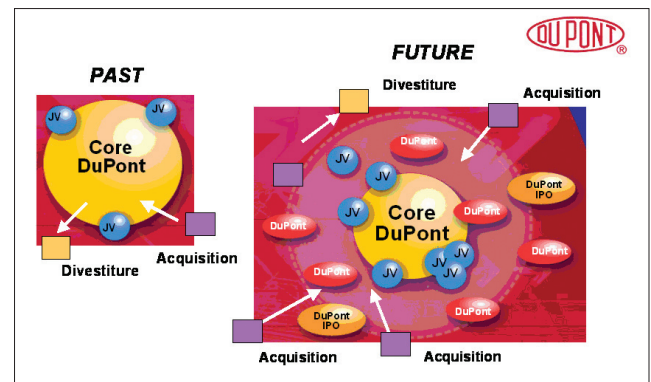


Figure 1 – The Changing Business Model at Dupont (source: John Taylor, Dupont)

The early “theories of the firm” were based on transaction cost economics, which proposed that tasks would be outsourced to external providers when the cost of providing the service internally exceeded that available in the market place. Subsequent resource-based theories of the firm have broadened the outsourcing decision from simply a financial one to include resources such as core competencies, knowledge and now social capital. This is indicative of the IT outsourcing market today, where many factors other than financial considerations play a part in the outsourcing decision. In a highly networked market place, where the trend is now more toward multi-sourcing than sole-sourcing, it is now conceivable that how well a vendor is networked in the market place could be one of those considerations. This research therefore explored the maxim of “it’s not what you know but who you know” to the IT services market.

¹ Pekar, P., & Margulis, M. 2003. Equity alliances take centre stage: The emergence of a new corporate growth model. *Ivey Business Journal* (May/June): pp.1-9.

Social Network Analysis – A Short Tutorial

Social Network Analysis (SNA) is a technique used primarily for the analysis of public welfare applications in the field of sociology. SNA has been used here for analysing the relationship networks of markets. SNA provides a visual representation of who is connected to who. Measures can be calculated to identify those preferentially placed in the network. According to social network theory, the most prominent roles are those of the “centrally connected”, who command attention through being highly connected, and those of the “broker” or “bridge”, who bridge different clusters or cliques. Central connectors exert influence through their central role in their cluster of alliance partners. Brokers or bridges are often the source of innovation, facilitated by their ability to view across often disparate clusters. Both the roles for central connector and broker/bridge have negatives as well as positives. Central connectors can be

locked in to their own clique, making it hard for them to innovate. Bridges and brokers could lack the power to take advantage of their unique positioning in the network. The following graph provides a simple illustration of these roles in a network map:

The software used to spatially lay out the network maps attempt to minimize the link lengths and therefore nodes with common connections tend to cluster together. While not foolproof, visual inspection of the maps can provide some early insight into areas for closer inspection and analysis.

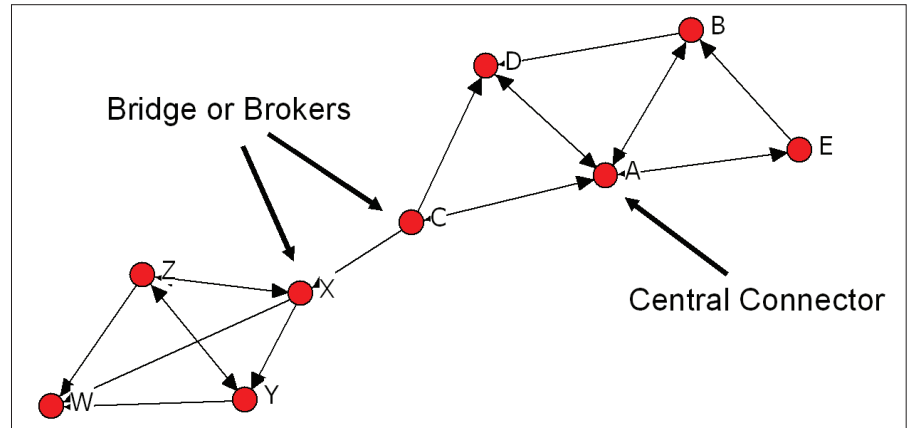


Figure 2 – Social Network Analysis Basics

The Australian IT Services Market

The past decade of IT outsourcing in Australia has seen the industry evolve from a substantially sole-sourcing market

to one where the mature outsourcing clients are adopting multi-sourcing strategies and therefore increasing the

connectedness in the marketplace. The following graphic traces the evolution of the IT outsourcing market in Australia.

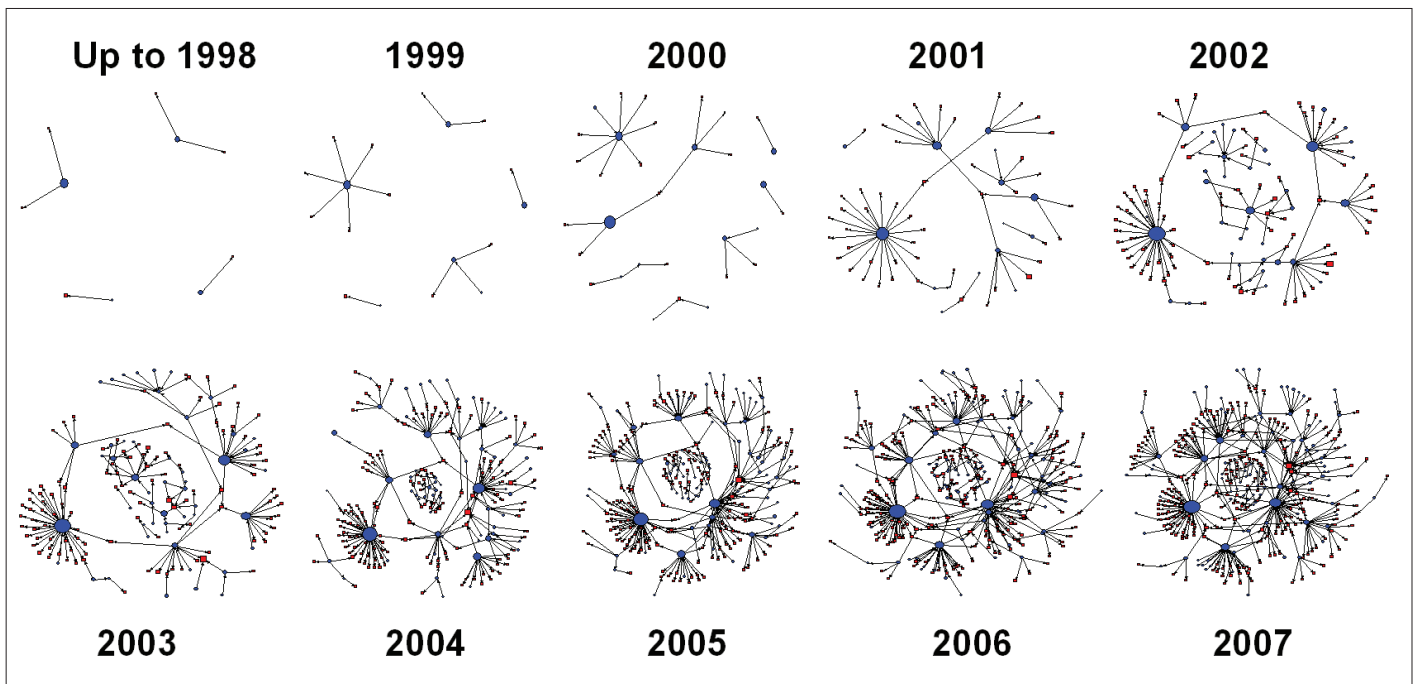


Figure 3 – A Decade of IT Outsourcing in Australia

The blue circles represent vendors and the red squares represent clients. Linkages represent a contractual agreement between vendor and client or vendor and subcontractor. As can be seen from Figure 3, as the volume of outsourcing contracts increased over the

decade, so did the interdependencies between vendors and clients. This has led to the situation today where a majority of vendors and clients are connected either directly or indirectly. The following map of current contracts shows the existence of a two-tiered market, where the major

vendors and multi-sourcing clients are now interconnected. However, in the centre of the map is a disconnected cluster of smaller second-tier outsourcing contracts (there is a minimum cut-off of \$1 million for all contracts on these maps).

The size of the nodes is related to the number of contracts the node is involved in. Therefore the larger blue nodes are the vendors with the most contracts. The size of the red squares reflects the relative use of multi-sourcing by the client firm. The thickness of the connecting lines reflects the relative sizes of the contracts involved. In terms of contract value, the top five vendors are still responsible for 80% of the total contracted value as shown below in Figure 5 :

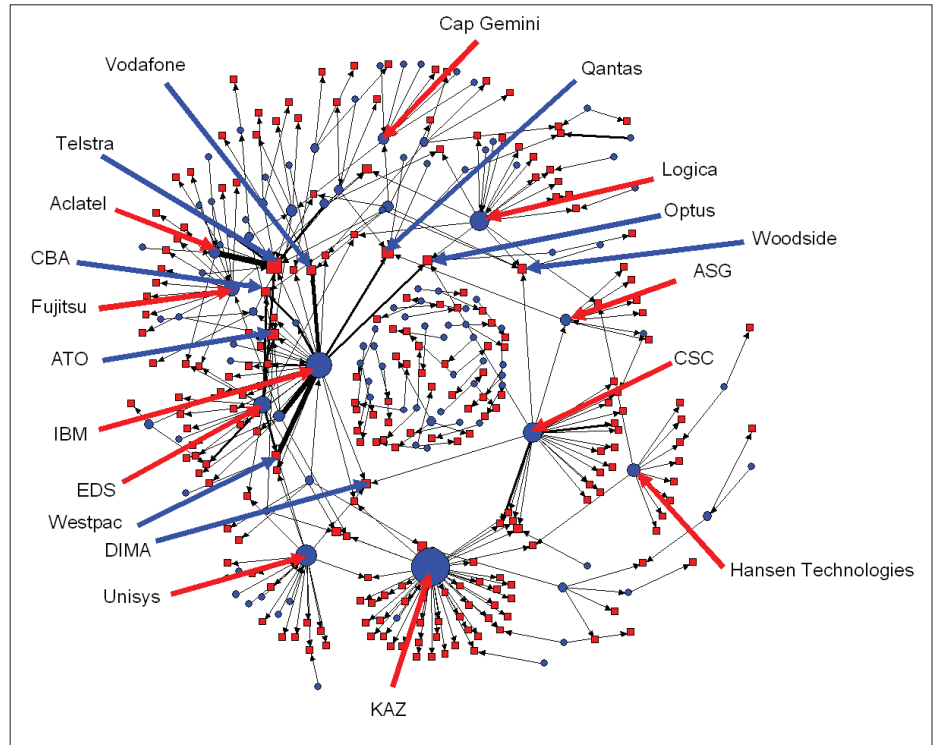


Figure 4 – Current IT Outsourcing Market (Current contracts over \$1million)

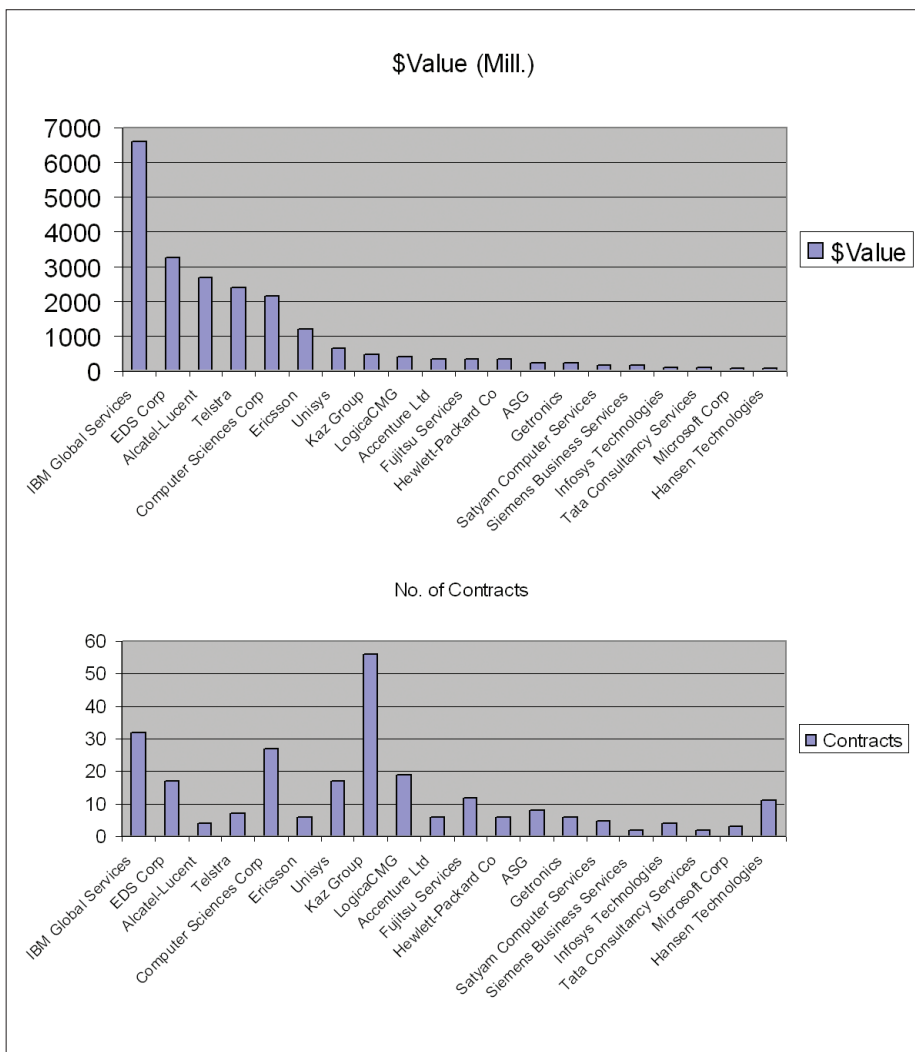


Figure 5 – Market shares by value and number of contracts

Market share statistics are a popular means for assessing the relative success of competing firms. However, it does little to provide insight into the important business relationship aspects that may be driving success or failure. In a multi-sourcing environment, it is insightful to be able to look for patterns where client organisations are using the same cluster of vendors. The network maps on the following page show firstly how vendors are related through having common clients. The thickness of the connecting lines show the relative number of clients shared. An association could indicate complementary services and an ability to work together for a single client, which is important in a multi-sourcing environment. On the right is a similar affiliation map, but this time shows how outsourcing clients are connected through the sharing of common vendors. This might provide some insight into the buying patterns of clients in terms of common needs. Again the thickness of the lines represents the relative use of common vendors. The affiliation maps shown have been filtered to show only the strongest affiliations.

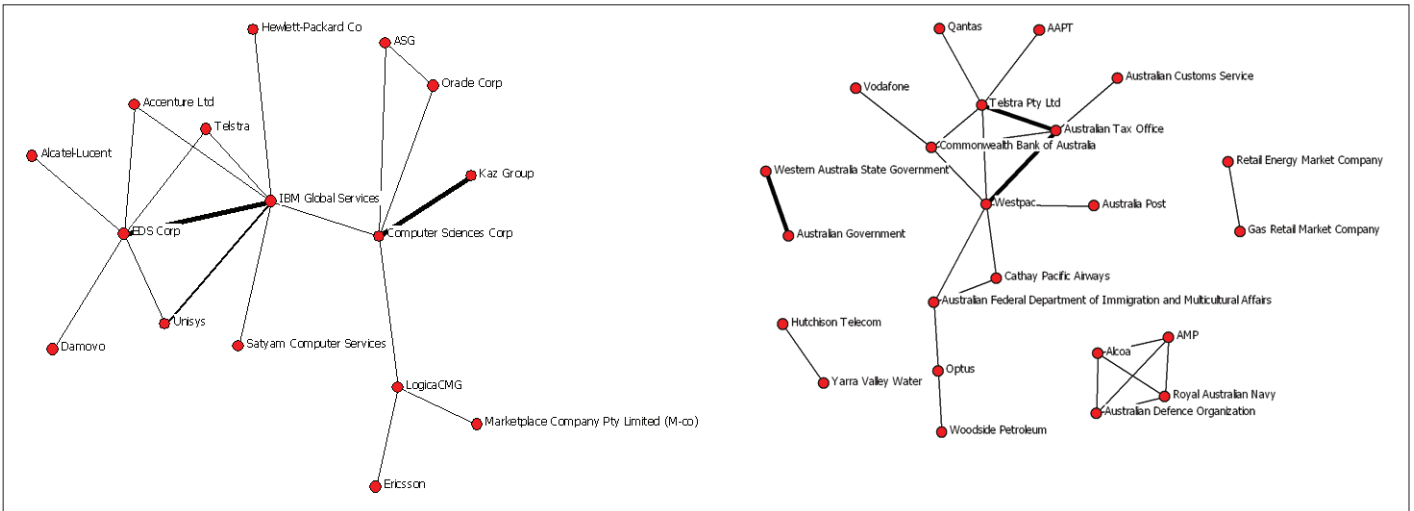


Figure 6 – Affiliation maps for vendors and clients

The network analysis above has relied on data on specific outsourcing contracts². However, relationships are formed at a personal level. We all intuitively know that it is the personal relationships that ultimately create great company or client relationships. The most influential people in forming company relationships are the senior executives. Vendor CEOs have the ability to form multiple relationships with their client companies. In contrast, client

CIOs can usually only build relationships with the small number of vendors they contract with. However, private sector client firms are often interconnected through common board memberships. For public sector clients, movement of the executive between different agencies provides that shared market intelligence.

By using network analysis of affiliations it is possible to infer personal relationships through the existence of contracts

between vendors and client firms and also between client firms through common board membership. Senior executives also tend to have a public employment history which can be a source of inferred contacts. The following map has been developed through data mining the employment histories of vendor CEOs and client CIOs, CEOs and company directors³.

³ Data on IT executives was sourced from OneSource (www.onesource.com)

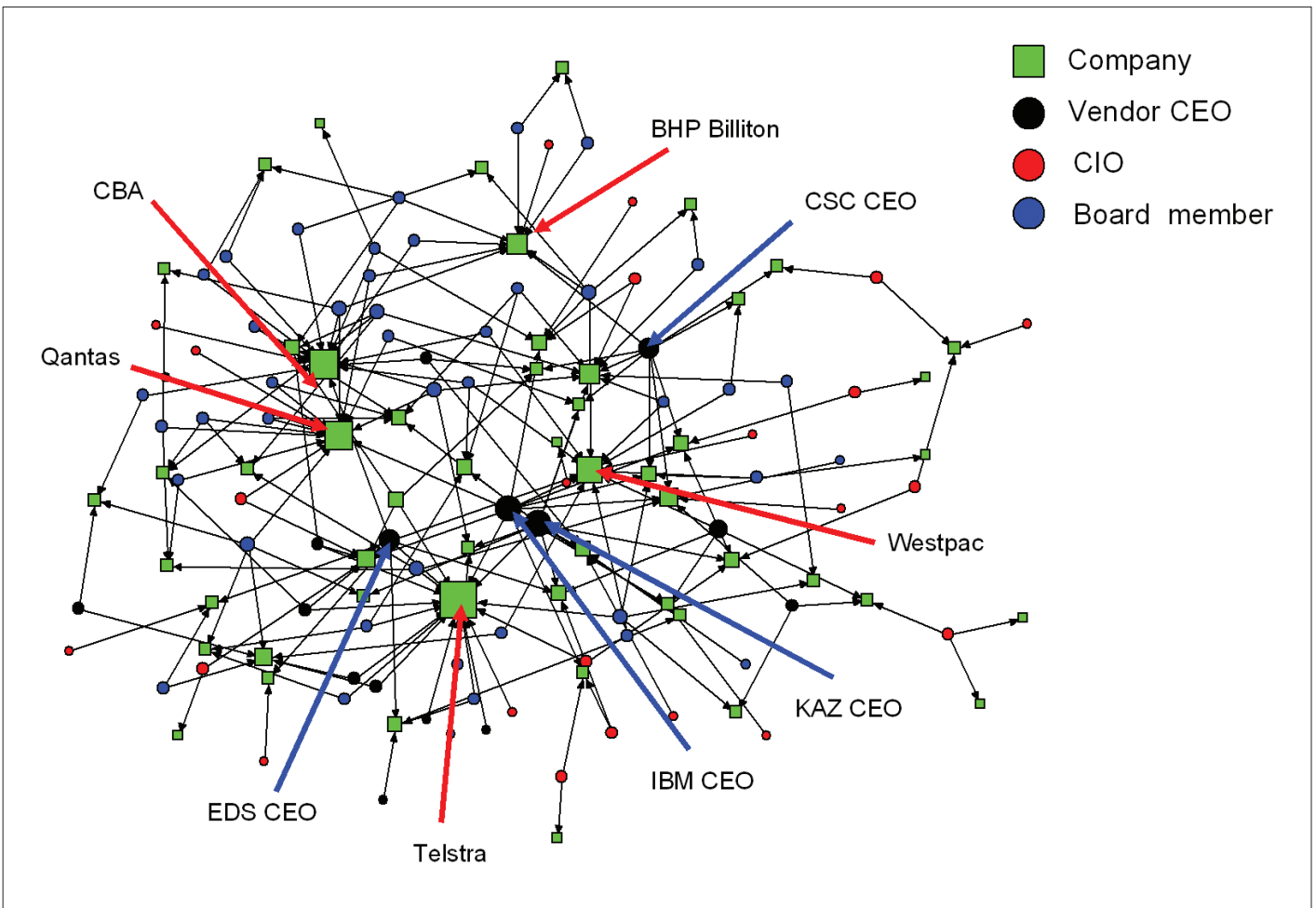


Figure 7 – Affiliation Map, Vendor CEO, CIO, Directors

² ComputerWire contracts data base from Datamonitor (www.datamonitor.com)

What can be seen from the previous map is that the major Australian corporations are relatively well connected via board of director interlocks, meaning that intelligence can be easily shared at the most senior levels. The client CIOs appear relatively less connected, though this could be the lesser public profile and therefore lower level of data available on them. At this time the board interlocks do

not appear to be impacting on outsourcing decisions as there appears minimal commonality between board interlocks and outsourcing contracts.

To further illustrate the relative disconnect between board level relationships and outsourcing relationships, a personal affiliation map was built between vendor CEOs, CIOs and client board members. Links were built between the vendor CEO

and the firms they have existing contracts with. CIOs had links with their current employers. Both vendor CEOs and CIOs could have previous employer links as well, but rated at a lesser strength. Client board members had links to each company that they were a board member of. The resulting affiliation map calculates a link between individuals based on common company affiliation linkages.

³ Data on IT executives was sourced from OneSource (www.onesource.com)

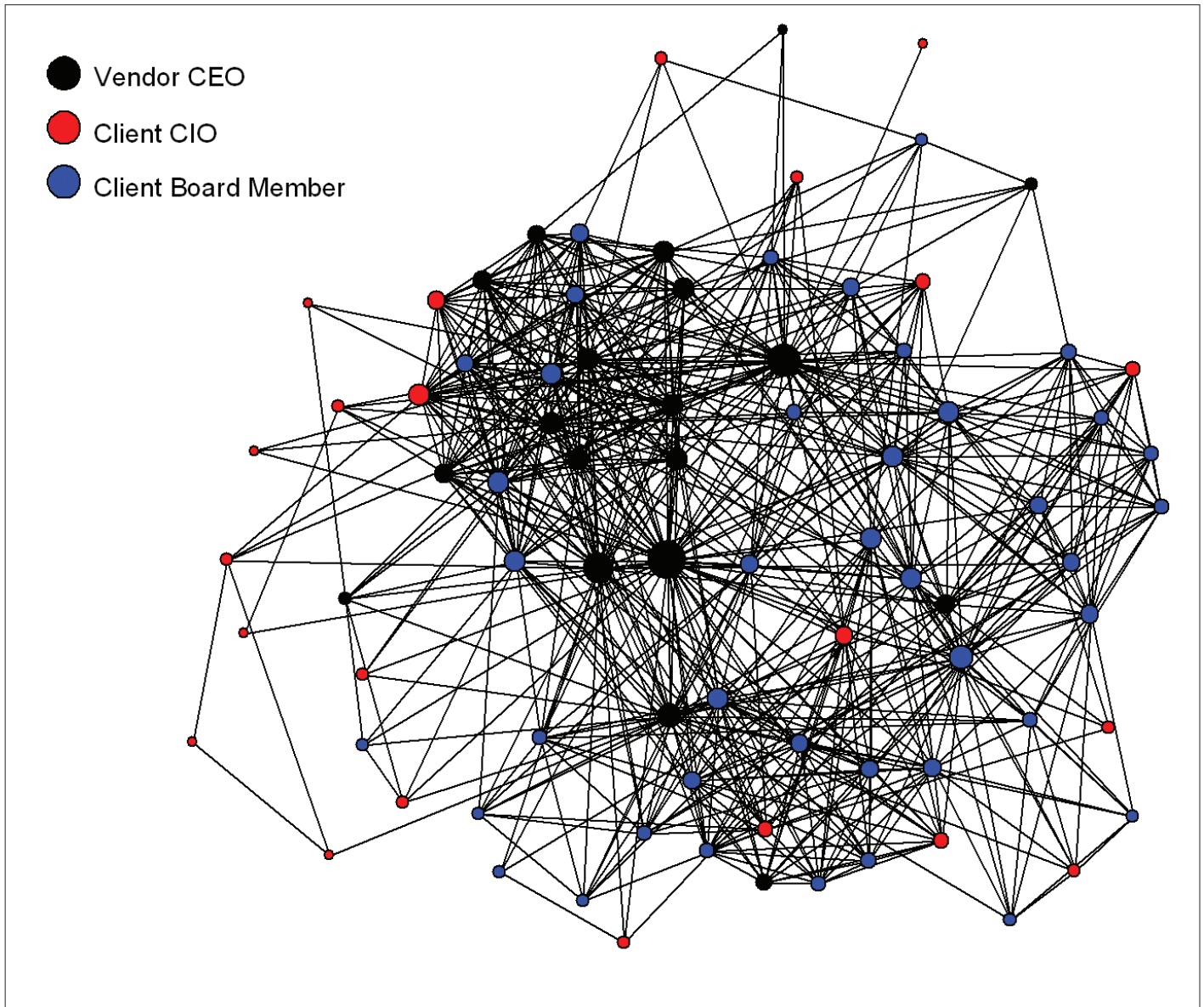


Figure 8 – Personal affiliations, vendor CEOs, CIO, Directors

With just a few exceptions, the vendor CEOs tended to be clustered in one area, indicating that their strongest affiliations were with each other through sharing common clients, further demonstrating the impact of multi-sourcing and co-operative competition. The vendor CEOs in the cluster also make up the bulk of the top 10 vendors by contract value. This shows that being able to work

effectively together for common clients is now becoming more important. There are however large territories of the map occupied by directors and CIOs which have little penetration from vendor CEOs, reinforcing a view that relationships at the board level are not impacting IT sourcing decisions. The implication is that either IT sourcing decisions are not important enough to warrant board

attention or vendors have not been able to leverage the board level relationships of their clients.

In terms of the level of connectedness, the Australian IT market characteristics appear consistent with the global market. The next section looks at the results of the research on the global IT market.

Corporate Social Capital and the Global IT Services Market

Writing in the *American Journal of Sociology* in 1981, former Harvard Professor Harrison White proposed markets as self-producing social structures, where producers and buyers formed separate networks of cliques, and whose respective behaviours could be predicted by social structures within the market place. Since this time, White's proposition is being played out, particularly in the growing services markets, where differentiation between providers is often ill-defined and often temporary. To analyse the social structure of firms in the global IT

Services market, social network analysis techniques were used to visualize and then analyse the connections between IT vendor firms in the market place. Connections were defined as either joint venture or alliance relationships and/or contractual relationships between vendor firms. Connections were identified through business press reports. Also derived from these reports were the human capital, absorptive capacity (measured as R&D activity) and internal capital components of corporate social capital of the firm. Combined with this was a

financial soundness measure derived from accounting data. Regression analysis techniques were then used to identify the impact of corporate social capital and its components on total shareholder return, ROI and market to book valuation. The results of this analysis are provided in the final section of this report. In this section the connectedness of the global IT services market is illustrated.

The following schematic shows an example of the use of SNA to illustrate the IT services market structure:

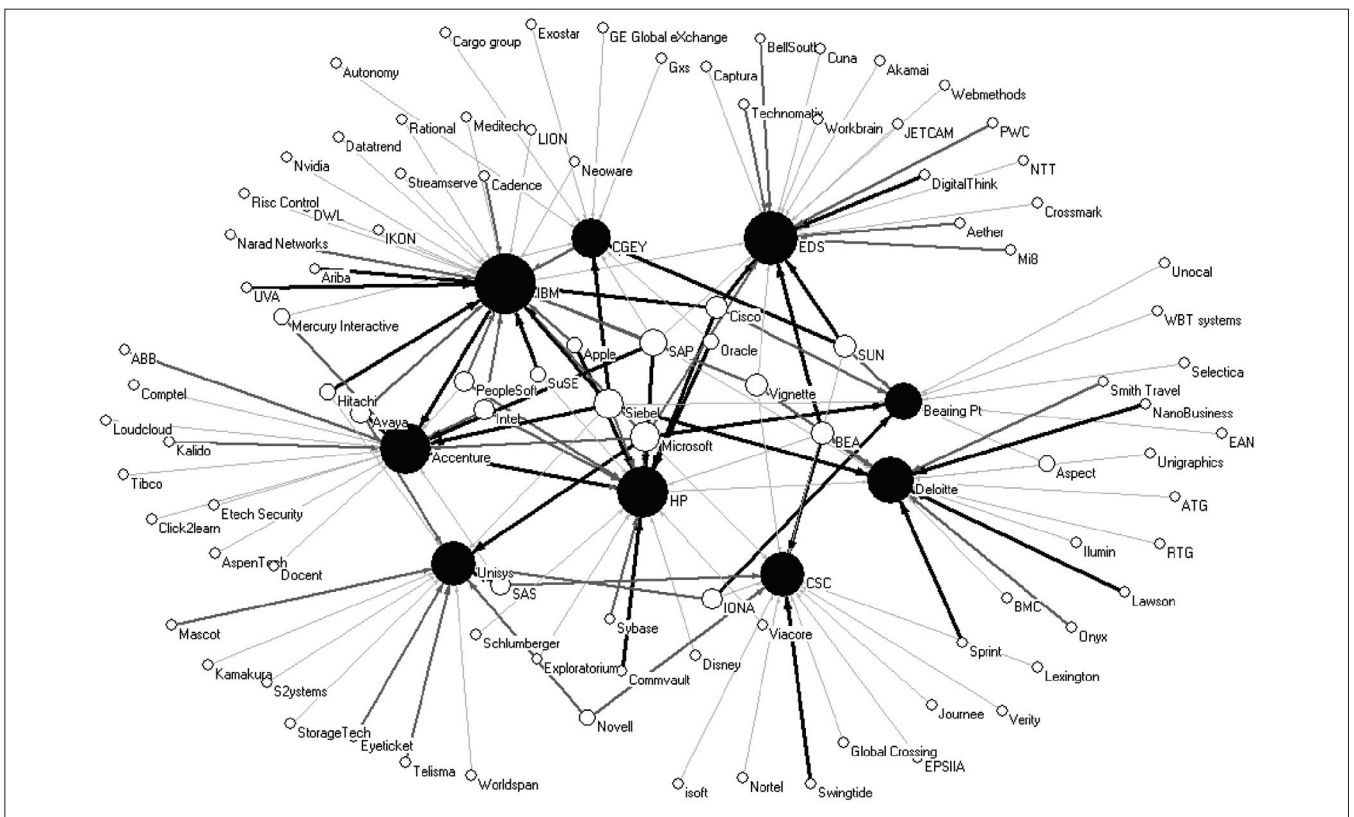


Figure 9 – Sample Industry Map of the Global IT Services Market

The dark circles are the selected systems integration firms that were surveyed in the literature. The size of the nodes is scaled according to the number of connections they have. The lines represent identified alliance relationships. The thickness of the lines represents a strength of relationship based on the number of documents identified mentioning the connection. What is evident from this map is that those firms in the centre of the map appear to have an advantageous position by having multiple relationships with the systems integrators, who often act as gatekeepers to the end clients. For example, one can see that IBM is a

centrally connected node where the size of its node is dictated by the large number of connections IBM has. The larger white circle firms towards the centre of the map usually have connections to one or more of the surveyed firms. These vendors could be seen as being advantageously connected because of the multiple paths they have available to customers, via the systems integration firms. The firms on the outside of the map appear to have less powerful positions due to having more limited access to the end clients through the systems integrators.

Based on the analysis above a network measure of centrality was developed for

each firm which calculated the degree to which a firm is connected to other highly connected firms i.e. the more well-connected firms that a firm was allied with, the better the centrality score. The centrality score was then combined with other elements of corporate social capital i.e. the human capital, internal capital, absorptive capacity and financial soundness for testing against firm performance. These other elements of corporate social capital were seen to be attributes that would influence other firms being attracted to joint venture or alliance with a firm.

Research Results and Recommendations for Prospering in the Globally Networked IT Market

The global information technology sector is arguably one of the most networked of industry sectors. The dotcom bust was the first time the industry had experienced a substantial recession, signaling maturation from a start-up growth sector to a maturing industry sector. Management practices now need to be adapted from a situation where growth was almost guaranteed, to one where growth and prosperity have to be earned in an increasingly competitive and global market place. The global IT services market has also been traditionally characterised by rapid growth in market valuations. First Microsoft and now Google can claim market valuations that exceed industrial stocks that have existed for generations. These valuations are also many times the size of the book values of these firms, making an understanding of what contributes to a growing market to book gap critical. At the less glamorous end, the sector is populated by many unprofitable firms with languishing share prices. The need to understand the impact of intangibles like corporate social capital is therefore significant for the global information technology sector.

Looking firstly at the social structure of the IT market place from a buyer's perspective, one can observe that a "best of breed" approach to multi-sourcing can be somewhat naïve. As illustrated in Figure 4, the vendor community is highly interconnected through contractual arrangements, and even more so if non-contractual vendor alliances are included. A more astute approach to multi-sourcing would be to give due consideration to the pre-existing relationships that vendors have, looking for clusters of "pre-allianced" vendors to suit your services needs, rather than potentially inviting competing vendors into your business, with the resulting requirement for increased governance to then manage these relationships. Additionally, buyers

are able to learn from other buyers as to what mix of services vendors might provide in terms of complementary services. From the vendor's perspective, understanding the social structure of the vendor side of the market will enable them to best develop their services and position their alliance relationships to maximize their attractiveness to the buying community as illustrated in Figure 9. As the use of multi-sourcing as a strategy⁴ increases, the onus is on the vendors to self-organise themselves into clusters to make themselves most attractive to the buying community.

Looking beyond the structural market elements to the empirical research results around corporate social capital, it was found that corporate social capital does indeed have a positive influence on firm performance. However, it was also found that the different elements of corporate social capital have different effects depending on a firm's size, profitability and IT industry sub-sector. Financial soundness was by far the biggest predictor of firm performance. However, the larger, more mature firms in the sector have seen their share prices stagnate despite posting consistent ROI. This research indicates that for these firms, financial soundness does not necessarily correlate with improved total shareholder return. One interpretation of these results is that these firms may have reached a plateau, and the market can't see where their next level of growth will come. Perhaps these firms need to consider a complete revamp of their current alliance relationships, in order to present a more innovative image to the market.

In terms of market centrality, the research indicates that software firms and smaller start-up firms can benefit from building a larger number of alliances and becoming more centrally connected in the market place.

However, the reverse is true for the larger, more established firms in the non-software sectors. These companies can be penalised for being overly-connected, potentially signalling that they are locked into a suite of alliances that would ultimately limit their capacity to innovate and grow.

For the smaller, potentially loss-making firms, the research indicates that investment in human capital is potentially the only investment strategy that could result in improvements in profitability and shareholder return. Investments by such firms in R&D or internal capital developments are likely to depress shareholder value and therefore should be minimised in favour of human capital investments. For the larger, more established firms, investment in human capital is beneficial for both ROI and total shareholder return.

Another important contribution to practice related to the above is that investments in areas like R&D and internal capital are only beneficial to those firms who have the financial capacity to afford it. Firms that do not appear to have the financial resources to support the level of investments they are making in R&D and/or internal capital would be penalised in the market, with lower total shareholder return and market to book value performance.

Overall, the research provides specific guidance on how firms can improve their performance through appropriate investments in corporate social capital. However, guidance in terms of total shareholder return is guarded, as the research also identifies that there are many factors outside the confines of corporate social capital that can impact total shareholder return. Most of these factors are still unknown and in fact could be attributable to random noise effects beyond the control of firm management.

⁴ For a closer examination of Multi-sourcing networks see http://www.optimice.com.au/upload/LEFJournalDec05_Multi_sourcing.pdf

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Laurence Lock Lee is a principal and co-founder of Optimice Pty Ltd. Prior to forming Optimice, Laurence had undertaken research, consulting and management roles with BHP Billiton and more recently, Computer Sciences Corporation (CSC), where he led the Knowledge Management consulting practice and was a research member of the Global Leading Edge Forum. He has helped pioneer the use of electronic collaboration data to generate industry relationship maps for analysis. He has carried this work into his PhD research at the University of Sydney on the links between a firm's corporate social capital and performance. He has published over 40 papers, book chapters and articles and presented at international forums in the USA, Europe, Asia and Australia. *Email: llocklee@optimice.com.au*

About Optimice Pty Ltd (www.optimice.com.au)



Optimice's objective is to help our clients optimise their internal and external business relationships. Optimice has extensive experience in researching, analysing and facilitating improved business relationships.

In particular, Optimice aims to assist its clients to successfully navigate their way through the growing complexity of alliance networks, multiple sourcing contracts, offshore relationships, organisational restructures and the like, as well as help their staff to become more astute networkers.

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