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The IT Manager: an Endangered Species?

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Abstract

Information Technology is generally acknowledged to be an indispensable part of business today, so it might be thought that companies generally employed IT staff. A survey was carried out on a large sample of New South Wales companies to discover how many companies had any IT staff. It showed that only about 25% of the sample had such staff. About a quarter of companies turning over $5m - $10m and half the companies turning over $10m - $50m had IT managers. These figures suggest that the most NSW companies have no IT staff, which has implications for a wide range of governance issues.

Keywords

IT governance, IT manager, Australian companies.

INTRODUCTION

The Australian Computer Society recently produced its Information Technology (IT) Employment survey for 2004 (ACS 2005), which showed that unemployment rates in the Australian IT industry ran above the overall unemployment rate for the third year in succession. One contributory factor may be the enthusiastic use by Australian companies of outsourcing, especially outsourcing IT jobs offshore. According to the Whitehorse Study of ICT Outsourcing and Offshoring in Australia published in April 2004, an estimated 7000 Australian IT jobs have moved offshore to date, and this figure is expected to rise to 11,000 by 2008 (Whitehorse 2004). Despite this, in the period between January 2003 and January 2005, the Department of Immigration, Multicultural and Indigenous Affairs issued visas to 6,685 foreign IT workers to enter Australia (Maslog-Levis 2005). Perhaps, then, it is not surprising that Australian parents and young people do not see the IT industry as offering a viable career (Information Age 2004). However, there seems to be little in the literature that indicates the number of Australian companies that actually employ IT staff. This paper describes a survey that was intended to fill this gap in the literature.

INFORMATION TECHNOLOGY IN BUSINESS

The literature generally argues that IT is pervasive in business. This certainly seems to be true in Australia; according to the latest figures from the Australian Bureau of Statistics, 85% of Australian businesses used information technology in 2003 – 2004 (ABS 2005). It can confidently be assumed that this figure will continue to rise. In fact, Australia is one of the highest ranking countries in the world in terms of its IT investment. According to the Productivity Commission, the Organisation for Economic Co-operation and Development (OECD) found that Australia had the third highest level of IT investment as a percentage of GDP in the OECD countries (PC 2004). However, there is a difference between investment in IT and the achievement of IT objectives. A detailed study of eleven major IT-using countries[1] found that, on overall benchmarks of IT sophistication, Australia came eighth in the 2004 survey, and had not improved its score over the 2003 figure (DTI 2005). Moreover, Australia performed poorly against the other countries in every one of the eight categories that made up the overall benchmark (DTI 2005).

There is also evidence that IT investment alone does not ensure successful IT projects. A UK survey of 1,500 IT project managers (Sauer and Cuthbertson 2003) found that just 16% of UK IT projects met all of their objectives. Moreover, Sauer and Cuthbertson (2003) found that, while 15% of projects were completed ahead of budget and 26% of the projects were completed to budget, the balance of 59% of projects went over budget.

1 UK, USA, Canada, Japan, France, Sweden, Ireland, Germany, South Korea, Italy and Australia

Closer to home, a survey of 42 of the top 100 companies in Australia and New Zealand (EQuest 2004) found that

- In 54% of organisations surveyed, more than half of the projects were delivered late, and
- In 32% of organisations surveyed, more than half of the projects were over-budget.

As the respondents to EQuest (2004) were from some of the largest companies in Australasia, it is probable that the companies were well-resourced; smaller, less well-resourced companies may fare more badly. The US does not fare much better; an authoritative report on US IT projects said that more than 60% of such projects are considered unsuccessful (Standish 2003). As Feld and Stoddard (2004) note:

> *"It's been 40 years since the advent of modern IT, yet few companies do it well" (p. 72).*

As the foregoing figures show, IT is risky. There is some evidence to suggest that management of this risk is poor. Jordan and Silcock (2005) note:

> *"The emphasis on IT has historically been one of exploiting the opportunities that are available…the way IT risks are managed is poor" (Jordan and Silcock 2005, p.4).*

Given that IT investment is a large proportion of a company's total investment and that poorly performing systems can jeopardise the entire organisation (see, for example, the role of IT in the collapse of One.Tel (Avison 2003, Avison, Wilson and Hunt 2003)), it might be expected that companies took steps to ensure that their IT investments were properly managed. "Properly managed" in this context, means that a properly qualified, experienced IT manager is appointed, both to

- Oversee acquisition and operation of the company's IT, ensuring that the IT strategy is aligned with business strategy, and
- Advise the board on IT issues.

The literature generally asserts that strategic alignment of IT and business strategies is essential to ensure a company's competitive advantage (Henderson and Venkatraman 1993, Reich and Benbasat 2000). The importance of IT planning in the achievement of alignment is stressed by Kearns and Lederer (1997). Failure to achieve alignment will result in a reduced return on IT investments and in decreased competitive capabilities for the company (Tallon, Kraemer and Gurbaxani 2000). The alignment literature does not generally distinguish businesses by size, but other writers have suggested that the size of a business has a bearing on its ability to achieve alignment. Small and medium companies (SMEs) often have an implicit, not an explicit business strategy, thus hampering alignment (Levy and Powell 2000), although Levy et al (2001) found that SMEs did at least partly align their IT strategy with their business strategy. According to the literature, alignment requires an IT strategy and, preferably, an IT orientation by senior management. Igbaria et al (1998) found that SMEs generally did not have IT staff, and Rothwell and Beasley (1989) found that most SME management had neither IT skills nor any interest in IT. Rizzoni (1991) found that the interests of SME management are critical in determining the company's attitude to IT. It would appear to follow that most SMEs do not have an explicit IT strategy.

On the one hand, then, the literature asserts that IT is a crucial part of business today and thus that skilled IT staff and IT-aware management need to work together to ensure that IT is fully exploited by the business. On the other hand, SMEs may lack explicit an IT strategy, IT staff and an interest in IT by their management. Australia is predominantly a country of small businesses, according to ABS (2004) and the number of small and medium businesses is growing, so it is possible that only a small proportion of Australian businesses have IT staff.

This research had the modest objective of discovering the extent to which Australian companies employed one or more members of staff to look after their IT. It did not seek to discover the qualifications of such staff, which would probably be difficult to achieve. The question that drove this research, then, was:

> *How many Australian companies employ an IT manager or IT staff?*

The literature does not appear to include any similar survey from another country, with which to compare results.

THE SURVEY

This is a brief account of the methodology; a fuller account is given in the Appendix. A random sample of 333 NSW proprietary companies was taken. 24 of the companies (7%) were listed on the ASX, based on ASX (2005). Each company in the sample was telephoned and asked the name of the person in charge of their IT. In three cases, the person nominated was part-time; these were counted in the survey. Where no IT person was

identified, a senior person within the organisation was contacted to enquire how their IT was looked after and what the company did in the event of an IT failure. Companies were also asked whether they were family-owned.

KEY FINDINGS OF THE SURVEY

Sample by number of employees

The sample by number of employees is shown in Table 1.

No. of employees	Count	% of sample
1 - 4	18	5
5 – 19	119	36
20 - 99	141	42
100 – 199	34	10
200 – 299	8	3
300 and more	13	4
Total	333	100

Table 1 Sample by number of employees

The ABS defines businesses according to their industry and the number of employees. For the purposes of this paper a small business is one in any industry that employs less than 20 employees and a medium business is one that employs 20 –199 employees. Small and medium businesses together thus comprise 93% of the total number of proprietary companies in NSW.

Industry class and IT staff

The companies in the sample was allocated an Industry Coding, based on the ANZSIC (ABS 1993) codes A – Q, written as numbers 1 – 17, and with an extra code, 18, allocated to IT companies. The sample analysed by ANZSIC code is shown in Table 2. This table also shows the number and percentage of companies having IT staff (ITS) in each code class. For the avoidance of doubt, the term IT staff does not refer to the total number of IT staff employed by a company; rather it is a binary condition, where any number of IT staff in a company is counted as a 1 and the absence of IT staff as a 0.

Table 2 shows that the percentage of companies having IT staff is low in most industries and that, overall, only 32% of companies have IT staff. Some of these industries are heavily information-intensive, such as finance and insurance, property and business services and manufacturing.

ANZSIC code class	Total	Approx. % of total sample	ITS	No ITS	% ITS
Agriculture, Forestry and fishing	8	2	1	7	13
Mining	7	2	2	5	29
Manufacturing	82	25	18	64	22
Electricity, Gas and Water supply	3	1	1	2	33
Construction	33	10	4	29	12
Wholesale trade	40	12	7	33	18
Retail trade	30	9	5	25	17
Accommodation, cafes and restaurants	6	2	2	4	33
Transport and storage	6	2	0	6	0
Communications services	25	8	11	14	44
Finance and insurance	18	5	10	8	56
Property and business services	31	9	11	20	35
Government administration and defence	1	1	1	0	100
Education	2	1	1	1	50
Health and community services	6	2	3	3	50
Cultural and recreational services	4	1	0	4	0
Personal and other services	4	1	1	3	25
IT-related companies	27	8	27	0	100
Total	**333**		**105**	**228**	**32**

Table 2 ANZSIC codes, also showing number and percentage of IT staff

Sample by geographic location

The geographical location of IT staff within NSW is shown in Table 3. This shows that companies in Greater Sydney[2] are almost twice as likely to appoint IT staff as country companies.

	Total	ITS	No ITS	% ITS
Greater Sydney	258	91	167	35
Rest of NSW	75	14	61	19
Total	**333**	**105**	**228**	

Table 3 IT managers by location

2 Greater Sydney was defined as within the area with the Hawkesbury River to the north, Penrith to the west and the Sutherland Shire to the south.

Comparison of family and non-family companies

178 or 53% of the sample were family companies. The breakdown of the total sample by family and non-family companies is shown in Table 4.

No. of employees	Family	Non family	% of family companies	Total
1 - 4	9	9	50	18
5 – 19	83	36	70	119
20 - 99	77	64	55	141
100 – 199	7	27	21	34
200 – 299	2	6	25	8
300 and more	0	13	0	13
Total	178	155		333

Table 4 Sample by family and non-family companies

As Table 5 shows, family companies were much less likely to employ IT staff.

	ITS	No ITS	% ITS
Family company	27	151	15
Non-family company	78	77	50
Total	**105**	**228**	

Table 5 IT staff by company type

Results excluding IT companies

Table 2 shows that 27 of the companies in the samples were IT companies. As the objective was to study the number of companies who employed IT staff, it was decided to omit IT companies in the following tables. Tables giving the complete figures including IT companies are shown in the appendix.

The number of IT staff ranked by employee numbers is shown in Table 6.

No. of employees	Count	% of sample	ITS	No ITS	% ITS
1 - 4	13	4	0	13	0
5 – 19	112	37	0	112	0
20 - 99	128	42	34	94	27
100 – 199	32	10	24	8	75
200 – 299	8	3	7	1	88
300 and more	13	4	13	0	100
Total	**306**	**100**	**78**	**228**	

Table 6 IT staff by employee numbers, excluding IT companies.

These results are somewhat dismaying. No small business had IT staff, although the ABS reported that 94% of Australian companies employing between 5 and 19 staff used IT in 2003 (ABS 2004). About 25% of companies overall have IT staff, and only companies with more than 100 staff are more likely than not to employ IT staff. Just 27% of the largest category of company, with 20 – 99 employees, has IT staff. A number of companies in this category having no IT staff operated from multiple sites, with networks linking the sites, so their IT systems were far from basic.

This table, however, does not give a complete picture, for two reasons. Firstly, more than twenty companies in the financial services, retail and property industries reported having few staff but high turnovers. One factor here, which was not followed up, is that these industries use self employed or casual staff, neither of which count as employees but who work beside employees and use IT equipment. Secondly, during the survey, I encountered one "IT manager" who said that she had been given the title in addition to her other title of Office Manager and that she was neither qualified nor interested in IT. In another case, the name given by the receptionist was that of an IT manager whose office was in another division of the company some 30km away. There were no IT staff on the premises, which employed more than 50 people, but the manager interviewed said that IT decisions were referred to the IT manager. I was unable to ascertain how the IT was serviced and supported. In both cases these were recorded as having IT managers.

One of the 24 listed companies in the sample had no IT staff. This was a division of the company who employed 200 people in Greater Sydney. According to the Administration Manager, the company had a Group CIO, but he and his team were almost 100km away, and had no staff on site. The division sourced its own IT systems, service and support from vendors.

To complete the picture, Table 7 shows IT staff by company revenue. The number of companies not disclosing their revenues prevents this data being especially useful, but Table 7 suggests that companies with revenues of more that $50m are significantly more likely (Chi square, p = 1.28E-05) to employ an IT manager than are larger companies.

Turnover	Count	ITS	No ITS	% ITS
< $5m	37	2	35	5
$5m - $10m	17	4	13	24
>$10m - $50m	27	14	13	52
>$50m - $200m	10	8	2	80
> $200m	6	5	1	84
Not disclosed	209	45	164	22
Total	**306**	**78**	**228**	

Table 7 IT staff by revenue, excluding IT companies.

As noted earlier, where the company had no IT staff, I asked what they did in the event of an IT failure. In most cases, the hardware was serviced by one or more companies, generally the company or companies that sold it, and the software was serviced by its vendors. There was, however, no-one with any IT experience or qualifications within these companies who coordinated the tasks. One receptionist said that each employee in her company had to look after their own IT, adding that she had an IT-based telephone directory system that broke down regularly. In some 12 cases, the answer was that they were "outsourced", but this did not mean they had a single point of contact in the event of failure; the outsourcer generally only maintained the hardware. Again, none of these companies had an IT person who could oversee the work and provide information to the directors on IT issues. Finally, one response came from the company secretary of a 12-person Greater Sydney-based import and export company who said they bought everything from Harvey Norman, and sourced their service through them, too. In most NSW companies, then, the directors have no in-company advice on IT issues; instead, they appear to rely on vendors (often probably retailers), a matter that has substantial implications for IT governance.

CONCLUSIONS

Because the use of IT is so widespread in Australian companies, it might reasonably be assumed that many businesses employ IT staff; the literature suggests that IT failure can prevent a business from operating efficiently and possibly from operating at all. The survey results suggest that the majority of NSW companies have no serious interest in information technology, and that only about a quarter of all NSW businesses (or less than 4,500 companies) actually employed IT staff. One category of business, small business (5 – 19 employees) did not employ IT staff at all, even though some of these companies were heavily information-intensive. Only companies with more than 300 staff (4% of the total) all had IT staff. This lack of Australian companies employing IT professionals may explain the poor showing by Australia in international benchmarks of IT use. It also means that the directors of most NSW companies have no internal source of guidance on IT governance issues such as data security and privacy, IT-related risk and business continuity. Many companies appear to rely on vendors for support and service, who are unlikely to provide unbiased guidance, and who probably know little or nothing of a company's strategy or competitive position. Assuming that the NSW survey results indicate the state of IT employment across Australia, the IT manager is indeed an endangered species.

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APPENDIX

Methodology

The survey is based on a sample taken from the on-line version of Dunn and Bradstreet Business Who's Who of Australia database on Saturday 17th April 2005. The revenue figures refer to the 2003 – 2004 financial year. There were a total of 16,670 NSW companies listed at the time of the survey. The listings are presented in pages of 50; the sample is number 18 of every page. The total number of companies in the sample was 333. The survey database used the following fields

- Number
- Company name
- Location
- Telephone number
- Principle products or services
- ANZSIC code
- Number of staff
- Whether or not a family company
- Whether listed on the ASX
- Revenue
- IT Manager name

Survey data was obtained in April and May 2005. Each company was telephoned, and, after an introduction, the person answering the phone was asked who looked after their company's IT. If the company had an IT manager or, failing that, another IT person, either full or part-time, the name of that person was recorded. In about 40% of cases, the Dunn and Bradstreet data included the name of the IT manager. This was checked against the response given to the telephone query; it was correct in every case. Where the response was that no-one was responsible for IT, a senior person within the organisation was contacted to enquire how their IT was looked after, and what the company did in the event of an IT failure. Each company was also asked whether theirs was a family-owned company; the Dunn and Bradstreet directors listing for the company was used as a check on the answer. For the purposes of this survey, a family-owned company is one in which a family has a majority shareholding and, usually, one or more members of the family are office bearers within the company.

Results including IT companies

The count of IT managers by number of employees is shown in Table 8.

No. of employees	Count	ITM	No ITM	% ITM
1 - 4	18	5	13	22
5 – 19	119	7	112	6
20 - 99	141	47	94	33
100 – 199	34	26	8	76
200 – 299	8	7	1	88
300 and more	13	13	0	100
Total	**333**	**105**	**228**	

Table 8 IT Managers by employee numbers

Table 9 shows the number of IT managers by company revenue. This table is incomplete because a number of companies did not disclose their revenues; inspection of the data of these non-disclosing companies suggests that they are mostly small companies.

Turnover	Count	ITM	No ITM	% ITM
< $5m	41	6	35	12
$5m - $10m	20	7	13	35
>$10m - $50m	27	14	13	52
>$50m - $200m	10	8	2	80
> $200m	6	5	1	84
Not disclosed	229	65	164	28
Total	**333**	**105**	**228**	

Table 9 IT Managers by company revenues

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