

ANNUAL SURVEY ON INFOCOMM MANPOWER FOR 2003

EXECUTIVE SUMMARY

Introduction and Key Findings

The Annual Survey on Infocomm Manpower for 2003 was the latest edition in a series of infocomm manpower surveys carried out by IDA. It was intended to track infocomm manpower profile and requirements of the Singapore industry. The 2003 survey covered a total of 2,914 organisations comprising 732 infocomm organisations and 2,182 end-user organisations.

The survey provided inputs for Singapore's infocomm manpower planning and policy formulation. It also provided useful information on the demand for each occupational category.

The survey showed that the current pool of infocomm manpower stood at 104,320, an increase of 0.42% from the year before. About half of the infocomm manpower worked in the infocomm sector and the other half in supporting end user organisations in other industry sectors.

Infocomm Sales and Marketing (27.4%) was identified as the infocomm occupational category with the highest vacancies, followed by Technical Support (22.0%) and Programming & Applications/Software Development (14.8%).

The survey showed a decrease, both in vacancies and retrenchments between 2002 and 2003. On the other hand, the number of employed persons had increased. This shows that the rate of hiring new infocomm workers was higher than the rate at which infocomm workers was released.

Outsourcing remained a threat towards the employment of infocomm manpower in Singapore as organisations sought to locate jobs where it offered best value for money in order to achieve long term productivity gains to counter the ever-changing market conditions. However, most companies which had outsourced infocomm jobs, indicated that they did not reduce the number of infocomm manpower due to outsourcing.

Overall Infocomm Manpower Numbers

The number of infocomm manpower in employment in 2003 was 104,320 which represented an increase of 0.42% from 2002. It comprised about 4.9% of the labour force¹ in Singapore, as shown in Table 1. Approximately half of the infocomm manpower was employed by infocomm organisations. The number of infocomm manpower in infocomm organisations decreased by 0.4% from 2002 whereas for end-user organisations, it increased by 1.2%.

Table 1: Number of Employed Infocomm Manpower for 2001-2003

Organisation Category	2001	2002	2003
Infocomm Organisations	50,710	51,790	51,600
End-User Organisations	51,360	52,090	52,720
Overall	102,070	103,880	104,320

Occupation Categories

Technical Support, Programming & Applications/ Software Development and Infocomm Sales & Marketing were the top three occupational categories with the highest number of employed infocomm manpower.

Number of employed infocomm manpower in Technical Support had substantially increased from 2002 to 2003. because this was still an occupation category which could not be easily outsourced as they had to be located onsite to support customer. Both user organisations and infocomm organisations required such manpower as there was an increasing need to ensure users' systems were running efficiently and well protected from security threats such as viruses and cyber-terrorism.

¹ Labour force figure from Report on Labour Force in Singapore 2003, Ministry of Manpower.

Table 2: Distribution of Infocomm Manpower Across Occupational Categories

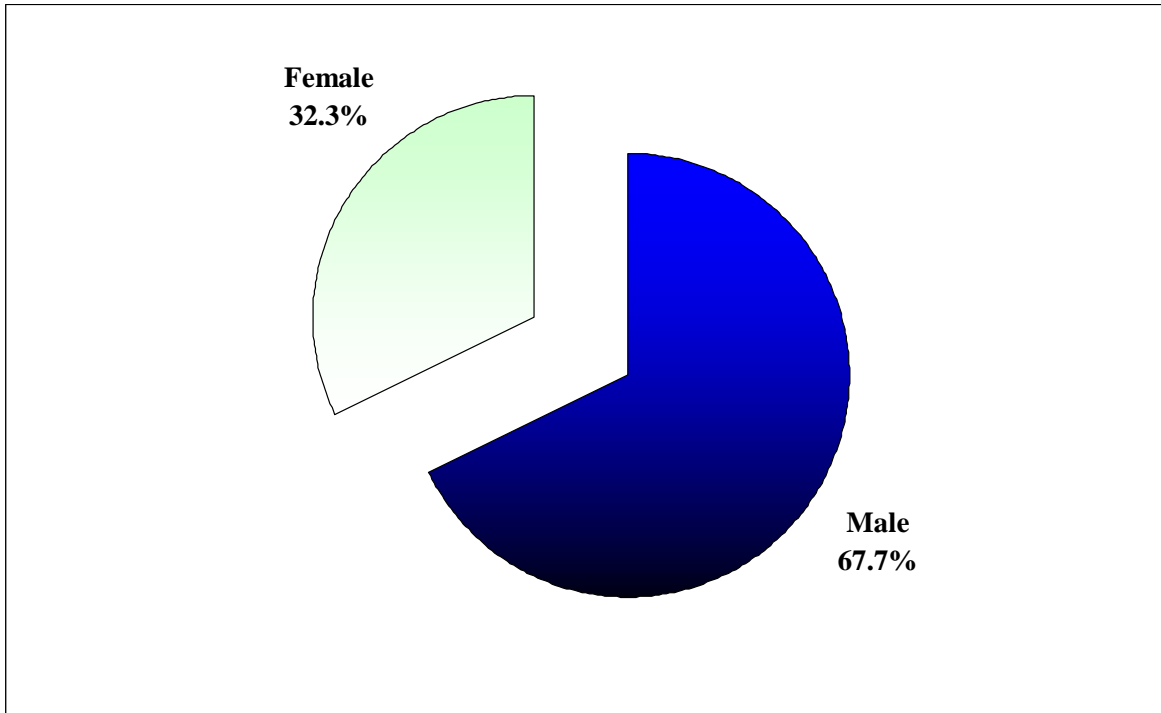
Occupations	2002 (%)	2003 (%)
Technical Support	11.9	16.0
Programming & Applications/ Software Development	26.0	14.9
Infocomm Sales & Marketing	11.4	13.7
Infocomm Management	16.1	12.7
Systems/ Software Design & Administration	9.7	11.8
Technical Helpdesk/ Call Centre	4.0	8.5
Network Design & Administration	4.9	5.5
Specialist Support Services	3.0	3.6
Infocomm Education & Training	1.8	3.5
Infocomm Consultancy	2.1	3.0
Digital Media	4.6	2.6
Communications Design & Administration	1.6	1.7
Infocomm Research	1.3	0.7
Others	1.6	1.8

Base: All infocomm manpower (104,320)

Profiles

In 2003, slightly more than two-thirds (67.7%) of the total infocomm manpower in Singapore were males (see Figure 1). This percentage was higher than the percentage of males in the Singapore labour force which was 55.3% for 2003².

Figure 1: Profile of Infocomm Manpower by Gender

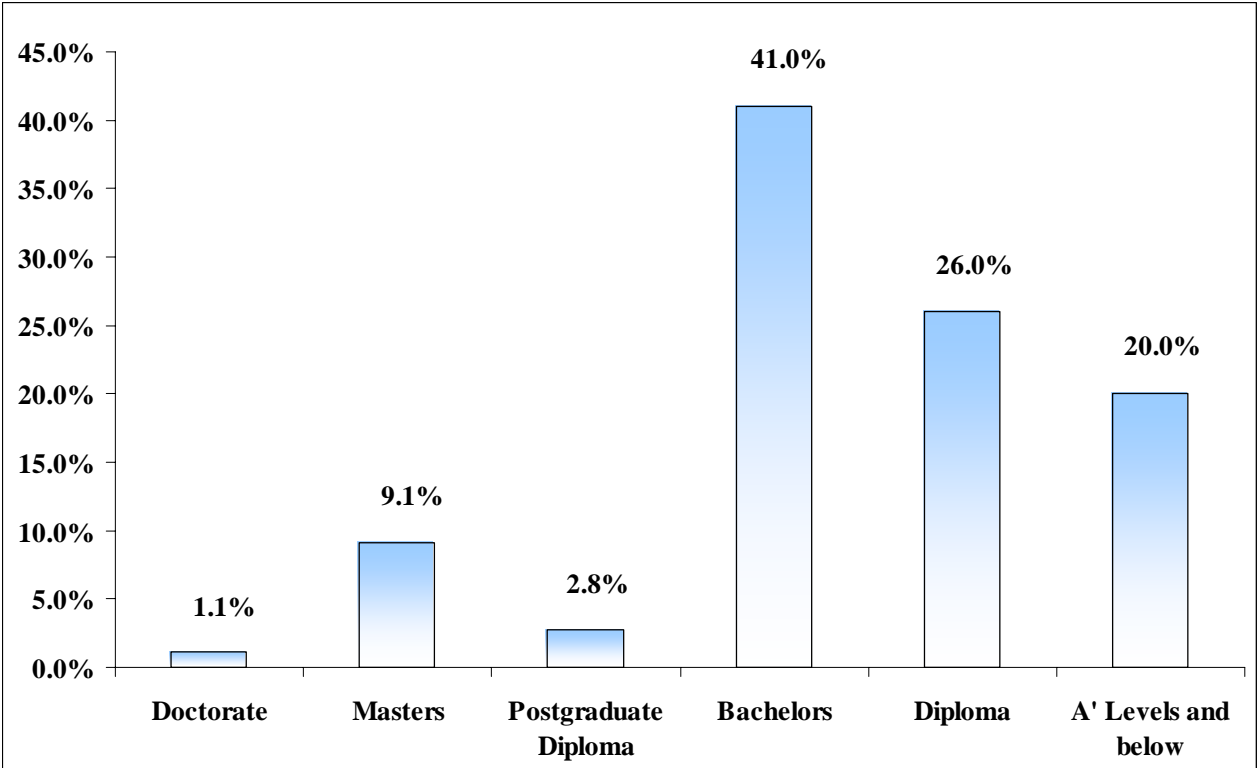


Base: All infocomm manpower (104,320)

² Labour force figure from Report on Labour Force in Singapore 2003, Ministry of Manpower.

In 2003, at least eight out of ten infocomm manpower had tertiary qualifications with more than two-fifths (41.0%) possessing a basic degree, 13.0% with postgraduate qualifications and 26.0% were diploma holders (see Figure 2). This percentage was significantly higher than the percentage of employed persons in the labour force aged 15 years and above and with tertiary qualifications (29.5%)³.

Figure 2: Profile of Infocomm Manpower by Highest Qualifications Achieved

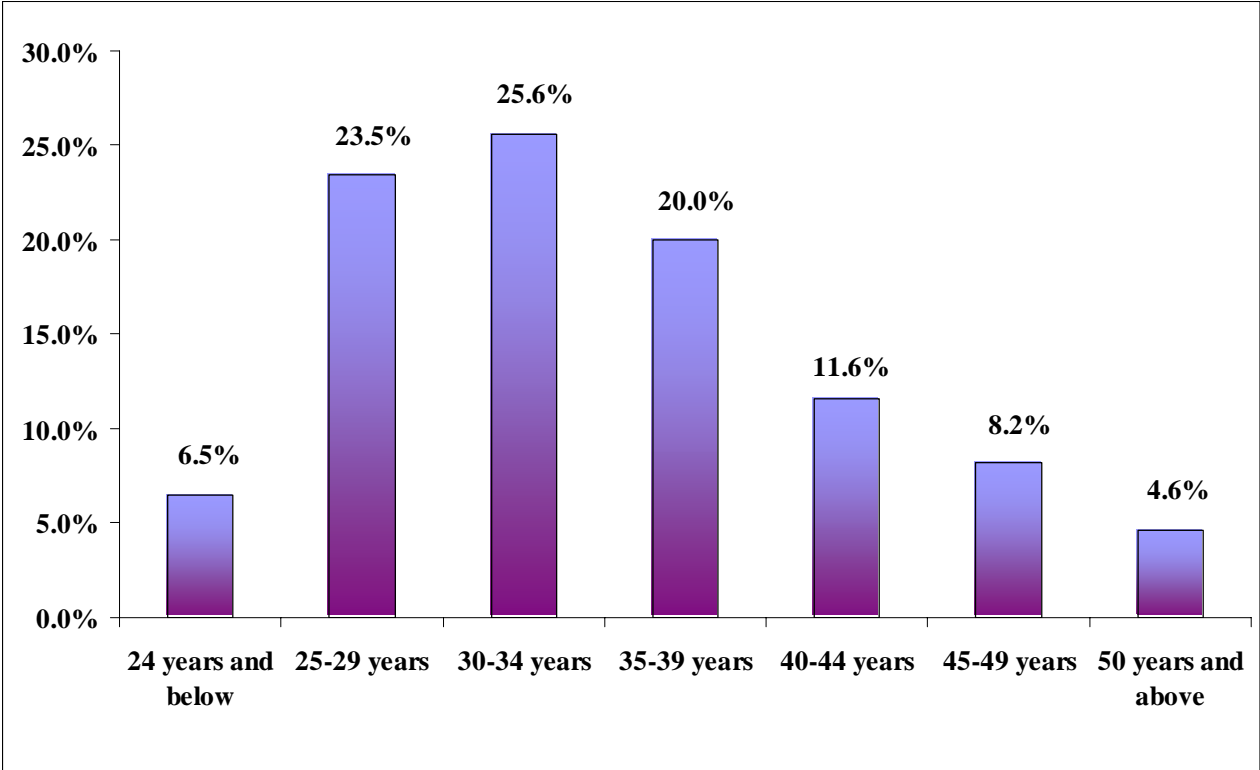


Base: All infocomm manpower (104,320)

³ Labour force figure from Report on Labour Force in Singapore 2003, Ministry of Manpower.

More than 75% of infocomm manpower were less than 40 years old; this was a significantly higher percentage than the Singapore labour force of about 54.7% as shown in Figure 3.

Figure 3: Profile of Infocomm Manpower by Age



Base: All infocomm manpower (104,320)

Top Five Essential Skills and Top Five Skills With Greatest Shortage

The top five essential skills selected by respondents were Sales and Marketing, Business Continuity/Disaster Recovery Management, IT Project Management, Quality Assurance & Management and Database Management.

IT Project Management, Database Management, Sales and Marketing, Quality Assurance Management and Business Continuity/Disaster Recovery Management emerged as skills with the greatest shortage of skilled manpower.

This year saw the emergence of Business Continuity/Disaster Recovery Management as one of the top five essential skills. This might be due to greater awareness of, and action to counter security threats such as viruses and cyber-terrorism.

Table 3: Top Five Skills

Skills	Essential Skills	Skills with Highest Shortage
Sales & Marketing	1	3
Business Continuity/Disaster Recovery Management	2	5
IT Project Management	3	1
Quality Assurance & Management	4	4
Database Management	5	2

Note: The ranking above was derived by weighting the responses given by organisations when asked to rank the top five skills which they considered as the most essential or with the greatest shortage, according to the level of importance.

Vacancy

The number of job vacancies had decreased from about 3,000 in 2002 to about 1,000 in 2003 (see Table 4). This could be due to organisations being more careful in their estimation of number of job vacancies since 2002, with uncertainties brought about by SARS, terrorism and Iraq war.

Table 4: Distribution of Vacancies Across Occupational Categories

Year	2002	2003	Percentage Change
Infocomm organizations	760	410	-46.1%
End-user organizations	2,240	620	-72.3%
Overall	3,000	1,030	-65.7%

In terms of occupational categories, the highest number of vacancies was in Infocomm Sales and Marketing (27.4%), followed by vacancies in Technical Support (22.0%) and Programming & Applications/Software Development (14.8%) (see Table 5).

Job vacancies in 2003 were predominantly in Infocomm Sales & Marketing, reflecting Singapore's status as a major centre for sales and distribution of infocomm products and services. The percentage of job vacancies in Programming & Applications/ Software Development dropped significantly from 29.7% in 2002 to 14.8% in 2003. This could be a result of companies becoming more cautious with their new investments and thus, being more likely to purchase off-the-shelf applications and software rather than developing from scratch.

Table 5: Distribution of Vacancies Across Occupational Categories

Occupations	2002 (%)	2003 (%)
Infocomm Sales & Marketing	10.2	27.4
Technical Support	20.6	22.0
Programming & Applications/ Software Development	29.7	14.8
Infocomm Education & Training	13.5	10.2
Infocomm Consultancy	0.5	5.1
Infocomm Management	9.7	4.5
Systems/ Software Design & Administration	1.2	4.0
Digital Media	3.9	3.3
Technical Helpdesk/ Call Centre	1.3	3.3
Network Design & Administration	5.7	1.7
Communications Design & Administration	1.5	1.3
Specialist Support Services	1.5	1.2
Infocomm Research	0.5	0.4
Others	0.2	0.8
Total	100.0	100.0

Base: Total infocomm manpower vacancies in 2002 (3,000) and 2003 (1,030).

Retrenchment

The job situation has shown improvement in 2003 with more than 50% decrease in the number of infocomm manpower retrenchment from 2002, indicating that infocomm business environment had improved slightly (see Table 6).

Table 6: Estimated Number of Retrenchments By Organisation Type

Year	2002 ⁴	2003	Percentage Change
Infocomm organisations	1,180	350	-70.3%
End-user organisations	1,470	540	-63.3%
Overall	2,650	890	-66.4%

Growth

Organisations had projected better growth over the next two years. The demand for infocomm manpower jobs was expected to rise marginally over the next two years i.e. 3.84% in 2004 and 4.00% in 2005 (see Table 7). This positive but cautious outlook was possibly boosted by the revival in the global economy. This was also in tandem with the expected growth in infocomm industry revenue which was 5.7% in 2003 and 7.4% in 2004.

Table 7: Projected Demand Growth of Infocomm Manpower

Year	Growth Rate (%)
2004	3.84
2005	4.00
CAGR⁵ for 2004-2005	3.92

⁴ 2002 refers to the period of retrenchments from 1st June 2002 to 31st May 2003. Similarly, 2003 refers to the period of retrenchments from 1st June 2003 to 31st May 2004.

⁵ CAGR represents compound annual growth rate.

Outsourcing

The majority of organisations (89.6%) did not outsource any infocomm jobs in 2003. There was a higher percentage of infocomm organisations which outsourced their infocomm jobs than end-user organisations (see Table 8).

Overall, organisations preferred to outsource their infocomm jobs (85.8%) to companies based locally. Comparing infocomm organisations to end-user organisations, a slightly higher percentage of end-user organisations preferred to outsource their infocomm jobs to companies based locally (see Table 9). This was possibly due to end-user organisations preferring to have greater control and contact with their vendors to ensure that their core business operations were not compromised.

Table 8: Number of Organisations Which Outsourced Their Infocomm Jobs

Percentage of Organisations	Overall (%)	Infocomm organisations (%)	End-User Organisations (%)
Do Not Outsource Their Infocomm Jobs	89.6	80.5	89.9
Outsource Their Infocomm Jobs	10.4	19.5	10.1
Total	100.0	100.0	100.0

Base: All organisations.

Table 9: Type of Companies Which Organisations Outsourced Infocomm Jobs To

Percentage of Organisations	Overall (%)	Infocomm organisations (%)	End-User Organisations (%)
Companies Based Locally only	85.8	68.7	87.1
Companies/Subsidiaries Based Overseas only	3.1	11.6	2.5
Both Companies Based Locally and Companies/Subsidiaries Based Overseas	11.1	19.7	10.4
Total	100.0	100.0	100.0

Base: All organisations which outsourced their infocomm jobs in 2003.

Comparing infocomm organisations to end-user organisations, 22.7% of infocomm organisations had reduced their infocomm manpower as a result of outsourcing, while only 7.7% of end-user organisations had done so (See Table 10).

Table 10: Reduction of Infocomm Manpower As A Result of Outsourcing

Percentage of Organisations	Overall (%)	Infocomm organisations (%)	End-User Organisations (%)
Yes	8.7	22.7	7.7
No	91.3	77.3	92.3
Total	100.0	100.0	100.0

Base: All organisations which outsourced their infocomm jobs in 2003.

Conclusion

The survey findings showed that the number of employed infocomm manpower had been slowly increasing since 2001. This provided an indication that the prospects of the infocomm industry had steadily improved.

The prospects for infocomm manpower are bright over the next two years with organizations perceiving that they would require more infocomm manpower in future. However, outsourcing remained a threat towards the employment of infocomm manpower in Singapore.